

Disaster resilience, vulnerability and adaptive capacity of street children in Manila

A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University

Shelby Higgs Howarth

30 August 2016

© Shelby Higgs Howarth 2016

All Rights Reserved

Declaration

Except where stated, this is my own original work undertaken during September 2012 - August 2016 as a PhD candidate at the School of Demography, The Australian National University (ANU).

Except for some personal information on supporters in the acknowledgments where I quote their real names, the names in the quotations in the thesis are not the real names of the research participants or key informants.

I certify that the Human Ethics protocol 2013/447 on “Identities forged by Disaster: The demography and adaptive capacity of street children in Manila” was approved by the Chair of the Human Research Ethics Committee (HREC) on 19 December 2013. A variation was entered on 14 February 2016 and approved on 12 April 2016.

This PhD was funded by the Australian Research Council (ARC) pursuant to DP120100606, “Demographic Consequences of Asian Disasters: Family Dynamics, Social Capital and Migration Patterns” (2012 – 2015) led by Chief Investigator, Professor Helen James, Department of Anthropology, College of Asia Pacific, The Australian National University, and a Merit Scholarship from the College of Arts and Social Sciences (CASS), The Australian National University.

Shelby Higgs Howarth

Canberra, ACT, Australia

30 August 2016

Acknowledgements

I would first like to acknowledge the Australian Research Council for its generous support, without which this research would not have been possible. Similarly, I would like to acknowledge the College of Arts and Social Sciences, the Australian National University, for the provision of a Merit Scholarship that enabled me to pursue this research.

I am further indebted to my esteemed panel for their guidance and support throughout this journey. My Chair and Primary Supervisor, Professor Helen James, and supervisory panel members Associate Professor Bruce Smyth, Professor Zhongwei Zhao, and Associate Supervisor Professor Douglas Patton (Charles Darwin University) provided invaluable advice and assistance for which I am very grateful. I would also like to acknowledge Emeritus Professor Peter McDonald, now with the University of Melbourne, who was instrumental not only in my decision to come to the ANU in the first place, but also in my ability to pursue this wonderful opportunity when he was Director of The Australian Demographic and Social Research Institute, ANU (2008 – 2013). I would also like to acknowledge the staff and students of the School of Demography (formerly The Australian Demographic and Social Research Institute) for their companionship and guidance.

In order to conduct this research in the Philippines, I relied heavily on support from Professor Cynthia Zayas who facilitated a Visiting Fellowship in 2014 at the University of the Philippines Diliman through the Center for International Studies. I am grateful for her support as well as that of Professor Josefina Natividad of the UP Population Institute.

I cannot adequately express my gratitude to the NGO representatives and street children who participated in this research. Though many are only identified as pseudonyms, I wish to convey my admiration and appreciation for their generosity, courage, and spirit that inspired me to complete this thesis. I hope I have done justice to their efforts.

Last but certainly not least, I would like to acknowledge Adam and my family. I am eternally grateful for your enduring patience and support throughout these past years.

Abstract

This thesis investigates the resilience of street children in Manila, the Philippines, who are exposed to multiple natural disasters. Despite their longstanding presence and high visibility in urban areas, street children have attracted little scholarly attention. However, a surge of interest in the global street child phenomenon spurred by the 1989 United Nations Convention on the Rights of the Child seeks to produce more nuanced contextual analysis of the social, economic and political processes that affect the demography of street children in a specific geographic area. Despite such efforts, the street child discourse continues to be dominated by contrasting, and at times competing, government and civil society interests, while academic inquiry remains stifled by typological, methodological and ethical dilemmas.

The following study contributes to addressing that void by exploring these research challenges and investigating them with a mixed method examination of street children and their health, education and resilience in Manila, the Philippines. While most academic inquiry has been limited to investigating the children's vulnerability, this study applies a strengths-based, adaptive capacity framework to examine the resilience of Manila's street children in spite of the multiple stressors of street life and frequent natural disasters. Manila, home to an estimated 50,000 street children, is prone to frequent natural hazards including floods, typhoons, and landslides. Disaster vulnerability in Manila is exacerbated by political corruption and socio-economic inequalities, which provide a particularly dynamic lens through which to examine the influence of governance and civil society on the adaptive capacity of this population. While adaptive capacity is generally studied at a systems scale, this research explores how street children's adaptive capacity may vary spatially by the resources available to them and their cognitive social capital, defined here as their perceptions of trust and belonging to a community. In addition to the exploration of the children's adaptive capacity, this study seeks to identify and analyse current strategies, methodologies, and gaps in the research on street children to provide guidance for future studies. Understanding and fostering the capacity of this highly adaptive population of street children may prove invaluable to generating the larger scale transformations necessary

for residents of Manila to better adapt to natural disasters and other stressors in the future.

Abbreviations

4Ps	Pantawid Pamilyang Pilipino Program
ADB	Asian Development Bank
ARMM	Autonomous Region of Muslim Mindanao
ASEAN	Association of Southeast Asian Nations
BMC	BayanMap Corporation
CBDP	Community Based Disaster Preparedness
CBDRM	Community Based Disaster Risk Management
CPH	Census of Population and Housing (Republic of the Philippines)
CRVS	Civil Registration of Vital Statistics
CSC	Consortium for Street Children
CSO	Civil Society Organisation
DOH	Department of Health (Republic of the Philippines)
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
HFA	Hyogo Framework for Action
IGO	Inter-governmental Organisation
ILO	International Labour Organization
IPCC	International Panel on Climate Change
ISF	Informal Settler Family
LGU	Local Government Unit
MCCT	Modified Cash Conditional Transfer Program
MNLF	Moro National Liberation Front
NGO	Non-governmental Organisation
NHA	National Housing Authority (Republic of the Philippines)
NHMRC	National Health and Medical Research Council (Australia)
NSCB	National Statistics Coordination Board (Republic of the Philippines)
NSO	National Statistics Office (Republic of the Philippines)

PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services
PSA	Philippine Statistics Authority
RAC	Reception and Action Center
UNCRC	United Nations Convention on the Rights of the Child
UDHR	Universal Declaration of Human Rights (United Nations)
UNICEF	United Nations Children’s Emergency Fund
UNISDR	United Nations Inter-Agency Secretariat of the International Strategy
WHO	World Health Organization
YAFS	Young Adult Fertility and Sexuality Study

Table of Contents

Declaration.....	i
Acknowledgements.....	ii
Abstract.....	iii
Abbreviations.....	v
List of Tables	x
List of Figures	xi
CHAPTER 1. Introduction: Street children and natural disasters in Manila.....	1
1.1 Background and Research Context.....	1
1.2 Research Aims and Objectives	7
1.3 Research Questions.....	7
1.4 Research Risks and Challenges.....	8
1.5 Significance of the Thesis	14
1.6 Conclusions	16
CHAPTER 2. A review of the literature: Rethinking vulnerability and resilience through the lens of adaptive capacity	17
2.1 Introduction	17
2.2 Vulnerability still matters.....	20
2.3 The expanding role and challenges posed by resilience.....	22
2.4 What can resilience offer analyses of street children?.....	25
2.5 Linking vulnerability and resilience to adaptive capacity	29
2.6 Towards a framework for analysing the adaptive capacity of street children	31
2.7 Conclusions	39
CHAPTER 3. Methodology: Designing and conducting ethical, rights-based research with street children	41
3.1 Introduction	41
3.2 Promoting the rights of street children in ethical research.....	43
3.3 The postmodern paradigm in practice.....	44
3.4 The mixed methods approach	46
3.5 Qualitative data collection	49
3.6 Qualitative data analysis	59
3.7 Quantitative data collection	60
3.8 Quantitative data analysis	72
3.9 Conclusions	73
CHAPTER 4. Call me askal: The capital and capacities of street children in Manila	74

4.1 Introduction.....	74
4.2 Defining the street child in Manila	77
4.3 Demography of street children: Gender, age, livelihoods and ethnicity	88
4.4 Children’s transitions to the streets in Manila: Push and pull factors	96
4.5 Street children’s health and the impact of natural disasters	111
4.6 Street children’s education and the impact of natural disasters	120
4.7 Conclusions	124
CHAPTER 5. Street children’s differential adaptive capacity: Exploring the contributions of demography and social capital.....	127
5.1 Introduction.....	127
5.2 Survey locations.....	128
5.3 Participant demographics.....	130
5.4 Street children’s social capital	137
5.5 Experience of natural disasters	143
5.6 Street children’s health and the impact of natural disasters	145
5.7 Street children’s education and the impact of natural disasters	148
5.8 Street children’s adaptive capacity	151
5.9 Conclusions.....	153
CHAPTER 6. Fostering street children’s adaptive capacity: The critical need for inclusive data	156
6.1 Introduction.....	156
6.2 Civil registration: The first step to including street children	158
6.3 Street children in national Census and surveys.....	164
6.4 Quantitative research on street children	170
6.5 Qualitative research on street children.....	178
6.6 Other research challenges.....	179
6.7 Conclusions	180
CHAPTER 7. Conclusions and policy implications	181
7.1 Introduction.....	181
7.2 Contributions of the thesis	185
7.3 Research limitations	185
7.4 Conclusion: Moving forward: Improving the evidence base.....	187
Appendices	181
Appendix A: HREC Approved Ethics Application	189
Appendix B: Stage 1 Participant Information Sheet.....	210
Appendix C: Stage 1 Consent form	212

Appendix D: Stage 1 Primary approach email	213
Appendix E: Stage 1 Semi-structured interview guide for stakeholders	214
Appendix F: Stage 1 Semi-structured interview guide for street children	216
Appendix G: Stage 2 Participant information sheet	217
Appendix H: Stage 2 Survey of children in Manila	220
Appendix I: Stage 2 Survey instructions for interviewers	228
References	230

List of Tables

Table	Title	Page number
2.1	Coping versus transformative strategies for street children	38
3.1	Stage 2 quota sample	61
3.2	Stage 2 sample goals and outcomes	62
3.3	Measure of street child classification	67
3.4	Measure of cognitive social capital	69
3.5	Measure of adaptive capacity	70
4.1	Interview participants by sex and entity	76
5.1	Description of survey locations	129
5.2	Participants by location and sex	131
5.3	Classifications of street child by sex	135
5.4	Classification of street child by location	136
5.5	Classification of street child by age	137
5.6	Street children's level of cognitive social capital	138
5.7	Associations with cognitive social capital	138
5.8	Street children's trust of people in the community %	140
5.9	Types of disasters street children experienced by barangay	144
5.10	Classification of street child by years of school and literacy	148
5.11	Street children's adaptive capacity by sex, location and classification	152
6.1	Sampling procedure used in the 2000 CPH	166
6.2	Street children estimates in Manila by reporting entity and method	171
6.3	Comparison of capture recapture assumptions	176

List of Figures

Figure	Title	Page number
2.1	Norris et al.'s (2007) networked capacities	30
2.2	Berman et al.'s (2012) integrated framework	35
2.3	Children's transition from coping to adaptive capacity	36
3.1	Sequential procedure of the mixed methods research	48
3.2	Stage 1 stakeholder sampling diagram	51
4.1	Street children in Manila: Classifications and definitions	88
4.2	Macro push factors for street children in Manila by classification	110
5.1	Participant age by sex	132
5.2	Participant birthplace by current location	132
5.3	Reasons for leaving birthplace	133
5.4	Reasons for leaving by birthplace	134
5.5	Street child classification	135
5.6	Types of hazards experienced by street children in Manila	143
5.7	Children's report of physical and emotional health after disasters	147
5.8	Street children's reasons for not attending school	149

CHAPTER 1

Introduction: Street children and natural disasters in Manila

Bahala na si Lord sa inyo, busy ako.” – Current President Benigno Aquino speaking to a Filipino community in Tokyo in response to criticism of his administration’s response to Typhoon Yolanda, 12 December 2013.

Translation: Let God help you, I am busy.

1.1 Background and Research Context

Rapid urbanization combined with natural population growth has contributed to unprecedented numbers of children¹ in Asian cities, and particularly in the Philippines where roughly 50% of the population live in urban areas. In Manila², the country’s capital, and cultural and economic hub, the population aged 19 years and younger constitutes 39% of the total household population (National Statistics Office, 2012a).

Until recently the so-called ‘urban advantage’ was thought to ensure better outcomes for urban children over their rural peers due to proximity to better quality education, sanitation and health infrastructures. However, scholars caution not to confuse proximity with access to such resources; the urban advantage may erode when cities become overcrowded and access to resources is mismanaged or denied to a large and growing population of urban poor (Bartlett, 2008; Brown & Dodman, 2014; Mugisha, 2006).

There is much we do not know about the conditions of Manila’s most disadvantaged. Often eclipsed by the vastness of the cities where they reside, the urban poor are often invisible in aggregated data that masks their dire circumstances (Bartlett, 2008; UNICEF, 2012). More disconcerting is that a large population of the most destitute urban dwellers, street children, are “not usually counted, nor subject to census” (Ruiz, 2006, p. 11). Their absence from national survey data has been noted in the Philippines (Brown

¹ This research adopts the legal definition of a child in the Philippines as a person (girl or boy) who is below eighteen (18) years of age.

² For the purpose of this thesis, Manila refers to Metro Manila and not the city of Manila.

& Dodman, 2014), where street children are estimated to number over 50,000 in Manila alone (Njord, Merrill, Njord, Pachano & Hackett, 2010; Ocampo, 2002).

Their absence in the data is paradoxical to their high visibility in Manila and in the public consciousness. From their prominence in classic literature such as Dicken's *Oliver Twist* to their presence in cities across the world, street children are an enduring testament of structured inequalities in both developed and developing countries since the industrial revolution. Despite their prominence, there is still much about street children we do not know, likely because most of our information about them comes from government and civil society sources with varying, and at times, competing mandates, goals, and perceptions of the children.

Street children have not wholly escaped the attention of academics, and there has been a surge in scholarship fuelled by the 1989 United Nations Convention on the Rights of the Child (UNCRC) charged with understanding this global phenomenon. However, research on street children has been hindered by methodological challenges, and more fundamentally, the very definition of a street child. Literature on the typological debate over the definition and operationalisation of street children abounds; the most enduring definitions do little to distinguish street children from other children, and instead distinguish between groups of street children. The most commonly cited classifications comprise *street living children* who have run away from their families and live alone on the streets; *street working children* who spend most of their time on the street but return home on a regular basis; and *children from street families* who live on the streets with their families (Bhaskaran & Mehta, 2011, p. 19)³.

Universally, street children are exposed to multiple, interrelated stressors associated with their low socioeconomic status and the practical implications of living on the street. In Manila the high risk of multiple natural hazards poses additional challenges to street populations. The Philippines is one of the most disaster prone countries in the world (Global Facility for Disaster Reduction and Recovery, 2014; Guha-Sapir, Hoyois, & Below, 2013, 2014). According to the Global Facility for Disaster Reduction and Recovery (GFDRR), over "60% of the country's total land area and 74% of the population [are]

³ Chapter 4 presents an analysis of the adequacy of these distinctions for street children in Manila and proposes a new definition grounded in qualitative enquiry.

exposed to multiple hazards including typhoons, floods, landslides, droughts, volcanoes, earthquakes and tsunamis” (GFDRR, 2011, p. 2). In an average year, the archipelago is affected by twenty typhoons and prolonged rainfall, which contribute to flooding, landslides and mudslides (GFDRR, 2011). In 2013 the Philippines had the highest disaster mortality in the world (7,750 deaths), and the second most disaster affected people (25.67 million) (Guha-Sapir et al., 2014). According to UN reports, Manila is the only Asian mega-city at high risk of three different types of disasters: cyclones, earthquake and flood (UNDP, 2012; UN-HABITAT, 2015). Given the high risk of hydrological hazards and a pronounced wet season, it is perhaps surprising that the city is also at risk of drought (UNDP, 2012; UN-HABITAT, 2015).

Natural disasters have become highly politicised in the Philippines; each time a disaster strikes, the blame dialogue reignites. Such dialogue was particularly evident after Typhoon Ondoy, known internationally as ‘Ketsana’, which struck Central Luzon on 26 September 2009. The typhoon caused widespread inundation in Manila particularly around the Marikina River, and the situation was exacerbated shortly thereafter by Typhoon Pepeng (Parma) in October. The combined devastation resulted in 1,040 dead and missing, and 736 injuries (World Bank, 2011). Such loss was all the more incredible in light of the fact that Ondoy, which means ‘little boy’ in Filipino, was not one of the ‘super typhoons’ to which the region is accustomed, nor was it a particularly strong storm. In fact, in terms of sustained wind speed, it was equivalent to the least destructive storm on the Saffir-Simpson scale of Category 1 (Gulle, 2010; World Bank, 2011). So how could a Category 1 storm cause so much devastation?

1.1.1 The social construction of disaster vulnerability

Situated along the Pacific Ring of Fire and typhoon belt, one would be tempted to blame the Philippines’ disaster susceptibility wholly on its geographic location. However, to do so would be to ignore a vast and growing body of literature dedicated to distinguishing the geophysical underpinnings of natural hazards from the social phenomena of disasters. The United Nations International Strategy for Risk Reduction (UNISDR) report “Living with Risk” (2004) clarifies this distinction. Natural hazards are “*potentially* damaging physical event[s] ... that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation” arising from geological,

hydro-meteorological and biological causes (UNISDR, 2004, p. 16). Disasters, in turn, are the realization of that potential when capacities are exceeded, resulting in significant human, material and environmental destruction (UNISDR, 2004, p. 16).

The distinction between hazards and disasters shifts the focus from the 'naturalness' of natural hazards to the social processes that underlie a population's vulnerability to disasters. As defined by Wisner, Blaikie, Cannon and Davis (2004, p. 11), vulnerability is "the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard". Intrinsic to the concept of vulnerability is the disproportionality in the frequency and extent to which some people are affected by disasters. Cannon (1994, p. 14) explains that the socio-economic system drives these differentials: "there are no real generalized opportunities and risks in nature; instead there are sets of unequal access to opportunities and unequal exposures to risk". Thus disaster vulnerability, driven by these inequalities, is largely predetermined and intricately related to the same processes that drive vulnerability in people's everyday lives (Cutter, 2008; Cutter, 2003; Wisner et al., 2004).

1.1.2 'Glaring and scandalous' social inequalities

The social inequalities underpinning disaster vulnerability are palpable in Manila. Disparities in the quality of housing, livelihoods, and wellbeing between the rich and poor are visible throughout the city. In his visit to the Philippines in January 2015, Pope Francis called these social inequalities "glaring and scandalous" and pointed to political corruption as a primary culprit. The pontiff's link between corruption and social inequalities in the Philippines is substantiated in the empirical data. According to the World Bank (2013), the Philippines is ranked 117th in the world in income inequality, just ahead of Syria. Corruption likely hinders the country's ability to close income gaps. "Most social protection programmes in the Philippines, particularly the most significant ones in terms of budget, suffer from high leakages" (Arulpragasam, Fernandez, Matsuda, Olfindo & Stephens, 2011, p. 2). Hutchcroft and Rocamora (2003, p. 259) relate corruption in the Philippines to institutional weaknesses and a state of 'democratic deficit', a term which encapsulates "the enormous need for responding to pent-up

demands and pressures from below, as well as the incapacity of the country's democratic institutions to do so with any degree of effectiveness".

This phenomenon has been noted across Asia, where despite overall gains in average income and poverty reduction, income inequality has been on the rise for the past two decades (Asian Development Bank [ADB], 2012). In cities such as Manila, this exclusive, or 'hollow', growth occurs when data relating overall gains is skewed by the disproportionate amount of wealth held in the hands of a few (ADB, 2014a).

For children of the urban poor, inequalities manifest in much more than a simple difference of dollars and cents. For them, income inequality is related to inequality of opportunity, particularly in education and health, which not only limits their individual potential but also the contribution they can make to their families and communities. ADB's (2012, xviii) report entitled "Confronting Rising Inequality in Asia" asserts that Asian children from the "poorest income quintile were three to five times as likely to be out of primary and secondary school as their peers in the richest quintile". This report also emphasises disparities in health. Amongst its findings were that infant mortality rates among the poorest households were double or triple that of the richest quintile for some Asian countries (ADB, 2012). Less examined are the inequalities that arise from the most fundamental aspects of citizenship, including a birth certificate that permits access to public health and education services.

1.1.3 Children and disasters: Their vulnerability and capacity to adapt

We know that children, especially poor children, are particularly vulnerable to the impacts of natural disasters and climate change (Peek, 2008; UNISDR, 2012b; Save the Children, 2008; Zoleta-Nantes, 2002). Children are not only more susceptible to the impacts of climate change to which they are less able to physiologically or metabolically adapt, such as heat and other exposures, but they are also more likely to contract disease during disaster events, and more likely to die (UNICEF, 2011, p. 11).

On the other hand, few studies have explored the resilience of children to disasters, and even fewer street children, despite evidence of highly adaptive behaviours. Studies have shown street children to fare better than children who live with their families in some indicators (Bender, Thompson, McManus, Lantry, & Flynn, 2007; Connolly & Ennew,

1996). This gap in the literature may be attributed to the challenges of researching this population as well as the lack of theoretical frameworks suited to address a population with such limited forms of capital at their disposal.

Adaptive capacity presents an under-utilised lens through which to explore this co-existence of vulnerability and resilience. Adaptive capacity, broadly defined as the ability of a system to adjust to change, is a concept widely used in the resilience literature, but less understood in the vulnerability literature. Engle (2011) advanced adaptive capacity as a tool for bridging resilience and vulnerability research; however, thus far, many frameworks adopt a capital perspective that is primarily suited for large, complex systems with various types of capital from which to draw. Discussions of adaptive capacity have primarily occurred at the community level with frameworks such as that developed by Norris, Stevens, Pfefferbaum, Wyche & Pfefferbaum (2008), who see adaptive capacity as comprised of four sets of networked resources (economic development, social capital, information and communication, and community competence).

However, the variables used in this and other frameworks may be ill-suited to explaining an individual's, and much less, a street child's ability to adapt. For example, given the hardships of financial savings while living on the street (as it could prove more dangerous than useful), intangible forms of capital such as social capital may be more important for street children. Ingenuity, related to information and communication, is one of their networked resources on which street children rely heavily, as demonstrated by their survival strategies in research from the Philippines and Ghana (Orme & Seipel, 2007; Zoleta-Nantes, 2002).

However, street children's adaptive capacity cannot be wholly explained by endogenous traits; the capacity of individuals must be examined within the context of the resources and capacities of the larger social system in which it exists (Lorenz, 2013; Smit & Wandel, 2006). Governance and civil society impact on how individuals perceive and act on information and communication from varying sources as well as on the development and maintenance of social capital to obtain the resources needed for resilience (Norris et al., 2008). For the purposes of this research, governance incorporates the way power is diffused through society (Pierre & Peters, 2000, as cited in Huitema et al., 2009, p. 27).

This includes laws, policies, organizational structures as well as the power relations and practices that have developed and the rules that are followed in practice (Huitema et al., 2009, p. 27). Civil society, on the other hand, comprises the formal and informal structures that serve to balance the power of the state and to protect individuals from the state's power and are imperative for a modern democracy (Fukuyama, 2001, p. 11).

The following study uses a mixed method⁴ approach to explore the dynamics of street children and natural disasters in Manila. The study first uses a qualitative approach to investigate the demography of street children, focusing on their education, health and transitions to the street. It then explores if and how those characteristics are impacted by natural disasters, and the strategies that children use to confront disasters and other stressors. Importantly, the study distinguishes between coping and adaptive strategies, and recognises the ways in which governance and civil society can impact on those strategies. Based on analysis of the initial qualitative stage, I develop and apply an analytical framework for understanding street children's adaptive capacity using a quantitative strategy, and test a hypothesis about its association with cognitive social capital.

1.2 Research Aims and Objectives

The primary aims of this project are to (1) ascertain the impact of natural disasters on street children's health and education; (2) identify and distinguish the ways in which street children cope and adapt to natural disasters; (3) identify the factors that influence the children's adaptive capacity, particularly as they relate to government and civil society; (4) determine if a relationship exists between the cognitive social capital of street children and their adaptive capacity; and (5) identify ways in which the adaptive capacity of street children can be fostered.

1.3 Research Questions

This research was guided by five research questions:

- (1) How are street children impacted by natural disasters in Manila?
- (2) How do street children cope and adapt to natural disasters in Manila?

⁴ This study utilises a sequential mixed method design comprised of qualitative interviews with key stakeholders and street children, and quantitative interviews with street children as detailed in Chapter 3.

- (3) What factors influence street children's adaptive capacity?
 - i. How do governance and civil society foster or reduce street children's adaptive capacity?
- (4) Is there a relationship between street children's cognitive social capital and adaptive capacity in Manila?
- (5) How can the adaptive capacity of street children in Manila be fostered?
 - i. What are the critical gaps in our knowledge of street children in Manila?
 - ii. How are government, civil society, and the research community closing these gaps?

1.4 Research Risks and Challenges

As noted in the introduction, the study of street children is a challenging and controversial field. Even after resolving the typological issues of defining and operationalising a 'street child', ethical and practical issues abound for researching this vulnerable and elusive population. Many of the ethical dilemmas posed by this study pertain to the broad issue of consent which is of particular interest when participants⁵ are both children and highly vulnerable for reasons in addition to their age. Moreover researcher and respondent safety are also preeminent ethical issues which pose broader practical challenges for the researcher. These issues were exacerbated by the fact that the primary researcher, an American citizen, was conducting the study in Manila, which raised additional cultural, logistical and safety concerns. Participant recruitment was also a challenge that may have been impacted by the researcher's nationality. The following subsection addresses these risks and challenges individually and describes how each was mitigated or resolved.

1.4.1 Ethical Considerations

The ethical implications of researching children, and street children in particular, have been noted since the inception of the study and have informed, guided and driven every aspect of the research. The most critical ethical issues involved in research on street children are that of consent and the researcher's duty to do no harm.

⁵ Participants in this study included key stakeholders and street children as detailed in Chapter 3.

Children's consent to participate in research

Whether or not a child should ethically be permitted to participate in research is a question of consent. The [Australian] National Statement on Ethical Conduct in Human Research specifies that consent to participate in research hinges on a child's capacity to understand what the research entails and can be affected by "coercion by parents, peers, researchers or others" (National Health and Medical Research Council [NHMRC], 2007, revised May 2015, p. 55) The capacity to consent is not determined by age, but rather by level of maturity; and consent is required, but not sufficient, for the participation of young people "who are able to understand the relevant information but whose relative immaturity means that they remain vulnerable" (NHMRC, 2009, p. 55).

The researcher has sought to mitigate this risk by making a careful assessment of the child's maturity based on the advice of adults who have had previous interactions with the child such as school teachers, and NGO or government workers. The maturity assessment is taken into account in the research design in which participant recruitment is done in successive stages using the informant sampling method and flexible design. A common research practice in determining the maturity of children to consent to participate in medical research is the "babysitter test". Underlying this practice is the notion that a child who has the requisite maturity to take responsibility for another being must also have the maturity to act in his or her own welfare when consenting to participate in research.

In addition to applying the babysitter test, the researcher restricted the age range of street children informants to 14 to 17 years of age inclusive. The upper age limit of 17 is in accordance with the UNCRC and the Philippine government's definition of a child as a person below 18 years of age (National Statistical Coordination Board of the Philippines [NSCB], n.d.; UNCRC, 1989); though the government's definition also permits the inclusion of individuals over age 18 who are "unable to fully take care of herself/himself from abuse, neglect, cruelty, exploitation or discrimination because of a physical or mental disability or condition" (NSCB, n.d., definition of a child). Based on the requisite maturity assessment, the adherence to the age 17 and under limitation is justified. The lower limit of 14 is more conservative than prior research on street

children in other countries, but consistent with street children research in the Philippines (Njord et al., 2010).

A second consent issue is the requirement that a child's consent accompany the consent of at least one parent. In this research in which parental consent may not be available or may even be adverse to the best interest of the child, parental consent was not sought. In these instances, NHMRC subsection 4.2.7.b.ii allows for the consent to be given by "a guardian or other primary care giver, or any organisation or person required by law" (2007 – updated May 2015, p. 55). This research sought the consent of a parent or guardian, primary care giver, or any organization or person required by law only after a careful assessment of any potential impact on the child and only with the consent of the child. In the research on street children, it was considered likely that there would not be an adult to grant consent. The NHMRC has several provisions which allow an ethical review body to approve research in which only the young person consents. One such provision is 4.2.8 which permits a child to consent "if it is satisfied that he or she is mature enough to understand and consent, and not vulnerable through immaturity in ways that would warrant additional consent from a parent or guardian" (NHMRC, 2007 – updated May 2015, p. 55). Given that this research only recruits street children participants through informants from NGO's, schools or government organizations, and that the babysitter test has been satisfied, consent of the child was considered sufficient to meet ethical standards. Subject to 4.2.14, all participants were given oral and written instructions of their right to refuse to participate, though none availed themselves of this right during the research.

Compensation presents another grey area in the street child literature. No study of street children reviewed offered the children compensation for participation in the research. Ethically, compensating a child for their time could amount to coercion, if the compensation is high enough. However, it does not seem appropriate to not compensate children who are already time poor for their assistance. Further, prior studies have noted that children requested compensation for their time, or they refused to participate (Defence for Children International – Palestinian Section, 2007). This study requested the advice of stakeholders in determining a culturally appropriate compensation that would benefit children who participated and those who could not participate for various reasons. Each stakeholder organisation involved in administering

interview surveys to street children was issued a voucher of \$50 to a local pizza delivery establishment to host a pizza party for the children. This one off 'treat' for all children of the stakeholder organisation was considered an adequate compensation for participants' time while not being enough to constitute coercion to participate.

Beneficence and obligation to 'do no harm'

Though consent is required, it is not sufficient for a child to participate in research. A second potential risk stems from the ethical obligation to act in the best interest of the child pursuant to 4.2.13 which requires researchers to "establish that there is no reason to believe that such participation is contrary to that child's or young person's best interest" (p. 55). This issue was raised by Young and Barrett (2001) in relation to the researcher's duty to disseminate research outcomes and the potential for harm to street children if their identities and/or sleeping/hiding spots were revealed to others. "For example, identifying the urban niches used by street children to hide after stealing, or to consume drugs, may result in children being 'discovered' and evicted or arrested" (Young & Barrett, 2001, p. 133). This example emphasizes the great need to protect the privacy of the street children in the dissemination of research outcomes. To that end, great caution will be exercised to store data securely throughout the research and particularly in the storage and transport of data. Mitigation of this risk will be achieved by establishing procedures to ensure data security as specified in subsection 3.6.

Additionally, ethical committees often apply a balancing test in which the potential for harm is weighed against the potential benefit of the research. In this case, the potential benefits of the research outweigh the potential for harm. First, this study has two major potential benefits for street children. A key objective of this study is to emphasize the capacities of street children (participants) in order to change perceptions and guide more appropriate care strategies. This research also endeavours to provide recommendations for improving estimates of the children in order to understand better the scope and type of resources necessary to address the needs of this population. Second, this research adheres to the emerging principles guiding street child research which posit that children's participation in research about themselves is both necessary and a right (Ennew & Swart-Kruger, 2003; Thomas de Benitez, 2011). Drawing on a decade of research and review of over 400 papers, the Consortium for Street Children

asserted unequivocally in its seminal “State of the World’s Street Children” report that “[s]treet children should participate, as standard practice, as informants and co-researchers in research about themselves” (Thomas de Benitez, 2011, p. ix). These principles arise from the 1989 United Nations Convention on the Rights of the Child (hereafter UNCRC), which was ratified by all countries in the world except the United States and Somalia, forging universal acceptance of children as holders of rights to survival, protection, development and participation in family, cultural and social life (O’Kane, 2002; UNCRC, 1989). Additionally, the UNCRC asserts respect for the views of the child as a central, guiding principle of the convention, and asserts children’s “right to say what they think should happen and have their opinions taken into account”, provided participation decisions are “appropriate to the child’s level of maturity” (UNCRC, 1989, Article 12).

In addition to these ethical challenges, several practical challenges were posed which are outlined in the subsequent sections.

1.4.2 Participant recruitment and response rates

A major challenge in the research was participant recruitment and overcoming low response rates. Response rates after the initial primary approach via email were low (~5%). As explained by a Filipino colleague at the University of the Philippines, Diliman, “we are a face to face people”, and I was encouraged to follow up with face to face introductions at the participant’s place of business. In keeping with the ethical principle of consent, I did not interview at this point of the introduction, but rather left a participant information sheet and consent form and arranged a time to meet at the participant’s convenience. This approach was far more successful and, of those approached in this manner, resulted in a 100% response rate.

Additional challenges were posed in the recruitment of street children, who are elusive or may otherwise be distrustful of authority and researchers. The exclusionary restrictions further diminished the potential respondent pool. This challenge was met by seeking out as many stakeholder participants as necessary in the first phase of research in the hopes of identifying street children participants for subsequent phases.

1.4.3 Logistical challenges of conducting research in Metro Manila

Conducting research in any densely populated urban area with inadequate infrastructure presents logistical challenges of its own, particularly when data is collected from disparate areas of the city. Given that observation is one of my methods of data collection, I felt strongly about using public transportation when it was available and safe to do so as street children are often present in public transportation terminals. Public transportation in Manila is as creative as it is varied and includes busses, tricycles (motorised rickshaws), FX (mini-vans) and jeepneys (jeep-busses, a perpetual reminder of the enduring legacy of World War II and American occupation on the nation).

1.4.4 Researcher health and safety

A final consideration, researcher health and safety, presented a challenge with both ethical and practical implications. From an ethical standpoint, researcher health and safety is important to ensure that the research output is delivered. The NHMRC (2007, revised May 2015) Section 5.1.2, charges institutions with assessing the safety risks posed to researchers.

When contemplating practical considerations, anticipated risks pertained more to researcher safety than health. These risks included the risk of threat or violence given the urban location of the research, and particularly in the high risk areas where street children and street children outreach centers are found. Many precautions were taken to ensure that I was not victim to theft or violence including dressing similar to local residents, not carrying items of high value, taking public transportation so as not to attract attention, traveling with a local guide when necessary, and generally trying to fit with the setting. Not being able to carry items of value presented the most difficulty, as useful tools such as multiple recording devices in the event of failure of one was not possible lest I lose both. I struggled with the idea of taking my mobile phone, but ultimately decided that it was necessary for safety and logistical reasons. This proved to be extremely important, particularly when navigating the city's vast sprawl.

Such precautions may have meant little given that I drew attention from local residents who were notably curious as to why I was in these locations. However, such attention did not result in any danger to my safety. Health issues became a larger obstacle to the

research, mostly due to exposure to the same unsafe and unhygienic conditions as the children themselves, including contaminated water, extensive heat exposure, lice and insect bites. Some of these challenges were overcome by avoiding remote sites at the hottest times of the day, and carrying bottled water at all times while in the field. Additionally, conducting fieldwork during dry season reduced my exposure to the worst of these conditions.

1.5 Significance of the Thesis

This research contributes to knowledge in four key ways. First, this research will contribute theory-driven research on street children. Though street children are present in nearly every country in the world and widely recognized as a growing concern, peer-reviewed research is scarce and has thus far been dominated by interest groups with undeniable bias in both their estimates of street children and in their depictions of street child life. On these topics, demographers have remained silent for the most part, though demographic training would make them uniquely qualified to address these urgent research needs. This researcher hopes to fill that void by researching the demography of street children in Manila, an Asian megacity prone to frequent natural disasters with an estimated population of 50,000 street children (Njord, Merrill, Njord, Pachano, & Hackett, 2010; Ocampo, 2002). In light of the evidence that childhood across Asia, and indeed across the world, is an experience that is becoming increasingly urban, a better understanding of the demography of street children is necessary to gauge changes in this population, understand the demographic characteristics of the children at risk, and guide policies that provide adequate resources for this population.

Secondly, this research will investigate how the demography of Manila's street children is influenced by disasters, a dynamic which has not been explored and could significantly impact on our understanding of this vulnerable group. Though Manila residents experience several natural disasters each year resulting in mortality, morbidity and other demographic impacts, these impacts have not been sufficiently investigated, and much less on the street children. Mortalities following disasters are taken from official registries, but are not disaggregated by age or sex, making it impossible to know the impact on street children. Other demographic consequences of disasters including morbidity, education and family dynamics have been studied to an even lesser extent

for the general Filipino population, and so far no research has been found of these impacts on street children in Manila.

Third, informed by qualitative research, this study will provide a theoretical framework of the adaptive capacities demonstrated by the street children. Recognition of both the capacities and the heavy burden of future climate change that children will bear have sparked a new wave of emphasis on child-centred disaster risk reduction research. The HFA recognises children as “effective communicators, building their own skills and abilities as bases for sustainability” (UNISDR, 2005, p. 11). Though street children have the narrowest range of resources to confront disaster (Zoleta-Nantes, 2002), some studies have provided evidence of highly adaptive behaviours on some indicators (Bender et al., 2007; Connolly & Ennew, 1996). Future research would benefit greatly from a theoretical framework from which to analyse such capacities, which may not only have lessons and implications for street children, but also for the general population which has benefited greatly from child-centred DRR in the past (Peek, 2008). The proposed framework will also examine how such capacities are influenced by governance, civil society and culture in an effort to improve current intervention strategies which have often been regarded as harmful to the children they are intended to help. This research is in keeping with the trend in disaster management towards community-based disaster preparedness (CBDP) which places more value on local people and resources with the ultimate goal of vulnerability alleviation and self-reliance (Allen, 2006).

Finally, this research will attempt to generate innovation in methodologies for estimating the street children population. Estimations of street children are critical for several reasons. First and foremost, estimates are needed to assess the level of children’s unmet rights to survival, protection, development, participation, health and education as guaranteed to them by the UNCRC (Bhaskaran & Mehta, 2011). Second, from a policy perspective, estimates are critical in order to inform “on the intensity of the issue” (Bhaskaran & Mehta, 2011, p. 16). Without reliable estimates, it is impossible to gauge the magnitude of the issue and provide adequate resources to the organizations and departments charged with providing intervention and rehabilitation strategies for the children. Furthermore, this research may also be useful for estimating

homelessness or other elusive or highly mobile populations for which there is currently no robust methodology (Australian Bureau of Statistics, 2012).

1.6 Conclusions

While the population exposed to risk from such hazards in Manila is increasing, so too may be their vulnerability to such hazards as population pressures interact with already adverse economic, social, political and historical circumstances that have created deep divides in Manila society (Gaillard, Liamzon, & Maceda, 2005). Of these circumstances, widespread political corruption and socio-economic inequalities stemming from its colonial past are all commonly cited aspects of the Philippines which are thought to contribute to disaster vulnerability, a process which is now known to be intricately connected with the vulnerability created for many people through their normal existence (Cutter, 2008; Cutter, 2003; Wisner et al., 2004, p. 3). This research will draw on the experiences of street children, a population known to be highly adaptive, to foster understanding of adaptive capacity and how such capacity operates in resource-scarce environments. The following chapter presents a review of the literature in an effort to establish a theoretical framework for bridging our knowledge of street children's vulnerability and resilience through the lens of adaptive capacity.

CHAPTER 2

A review of the literature: Rethinking vulnerability and resilience through the lens of adaptive capacity

2.1 Introduction

Though humans have successfully adapted to changing environmental conditions throughout history, the combination of demographic pressures and the related increase in frequency and intensification of climatic events are likely to challenge our adaptive systems as never before. While the world's population continues to increase and become more concentrated through the processes of urbanisation and globalisation, more people are exposed to the impacts of geophysical, hydro-meteorological and climatological events.

Increasing awareness and concern for the future impacts of climate change has fuelled an interest in understanding how adaptation occurs and strategies to foster adaptation. Scholars distinguish mutation and natural selection, which occur at a genetic level, with adaptation, which occurs at a behavioural level, and involves the propensity for learning and adjustment (Engle, 2011). This behavioural propensity to adapt is often explained through the concept of adaptive capacity. Simply stated, adaptive capacity is the ability of a system to adjust to change. As conceptualised in the climate change discourse, adaptive capacity more narrowly refers to the cumulative set of resources, characteristics, and processes that enable adaptation to occur (Newman, Carroll, Jakes, & Higgins, 2014).

Adaptive capacity has been examined at various system scales. Scholars have contemplated the adaptive capacity of food systems (Martin & Magne, 2015); communities (Norris et al, 2008); and households (Maller & Stengers, 2011). Though the different elements that comprise adaptive capacity vary across scales (Vincent, 2007), little attention has been paid to individual adaptive capacity, and almost none has focused on children.

Natural disasters affect about 66 million children annually, a figure that is expected to rise to 175 million over the next decade, due in part to population growth and climate

change (La Greca, Lai, Joormann, Auslander, & Short, 2013). Examining the adaptive capacity of children is important because of the disproportionately large size of this population in the most disaster affected areas of the world, the dynamism of the group, and the transformational power they possess as agents of change. The recently established Sendai Framework for Disaster Risk Reduction 2015-2030 acknowledges this role:

“Children and youth are agents of change and should be given the space and modalities to contribute to disaster risk reduction, in accordance with legislation, national practice and educational curricula.” (UNISDR, 2015, p. 20)

International evidence is mounting of children’s contributions to planning, preparedness, response and recovery as well as the positive benefits they can derive from their participation (Gibbs, Mutch, O’Connor, & MacDougall, 2013). Investing in the resilience of this profoundly under-utilised resource could translate to major gains for communities (Fernandez & Shaw, 2014). It is becoming increasingly apparent that natural disasters can be a catalyst for change (James & Paton, 2015; Lorenz, 2013), and children may very well be a key for harnessing the transformational power of disasters in many parts of the world.

Street children provide a particularly interesting lens through which to explore adaptive capacity. Though they lack the resources typically identified in frameworks, street children are known to be highly adaptive, as demonstrated by certain psychological, physical and cognitive indicators in which they have outperformed peers living at home (Orme & Seipel, 2007; Bender et al., 2007; Baker, Panter-Brick, & Todd, 1996; Connolly & Ennew, 1996). Unfortunately, where there has been rigorous research on street children, the studies often focus on the vulnerability of this population. While universally there is a growing trend to move from discussing vulnerability to resilience, the few examinations that have emerged of street children’s resilience tend to emphasise coping strategies rather than adaptive capacities. For example, a study of street children in Burundi identified the exercise of appetitive aggression as a ‘useful’ adaptation that contributed to their psychological resilience, specifically in relation to the development of Posttraumatic Stress Disorder (PTSD) in violent environments (Crombach & Elbert, 2014). While short-term strategies such as aggression, substance abuse and illegal activities help the children to cope with the multiple stresses of street life, placing greater emphasis on understanding and fostering their adaptive capacity

could lead to practices more appropriately geared towards achieving sustainable, transformative outcomes for themselves and their communities.

Examinations of street children focused on their resilience are marred not only by their short-sightedness but also by the conceptual limitations and shortcomings throughout the resilience literature. Though proponents of the resilience dialogue across disciplines remain optimistic, resilience is a concept “caught between the abstract and operational” (Matyas & Pelling, 2014) and may not be the best mechanism through which to explore a holistic model of change from children’s experience of natural disasters. Adaptive capacity, on the other hand, remains an under-utilised tool that may hold greater promise for research translation, provided steps are taken towards identifying the vectors of resources available to vulnerable groups that can promote different levels of post-disaster change.

Though scholars disagree on the fundamental outcome of resilience, some distinguish the strategies through which resilience is achieved using resistance, incremental adjustment or transformation (Matyas & Pelling, 2014). While transformation, which involves a more comprehensive system change, may not always be the best strategy if it threatens the viability of a functioning system, it is undoubtedly a desired strategy when the system is inherently dysfunctional. In many ways the presence of street children in urban spaces provides de facto evidence of dysfunction; their presence is symptomatic of underlying social, political, and economic disadvantage that generates vulnerability to natural disasters and other stressors.

The following chapter will first discuss the global shift from studying vulnerability to resilience. It will then address the relationship between resilience and adaptive capacity and propose a way forward for understanding and analysing the adaptive capacity of street children, an understudied, highly vulnerable and adaptable population. In keeping with Cutter et al.’s (2015) call for holistic solutions and integrated disaster-risk research, one key objective of the chapter is to plant the foundations of a cross-disciplinary framework that marries the disaster risk management (DRM) literature with what we know of children’s resilience and adaptive capacity from fields such as child development and psychology.

2.2 Vulnerability still matters

The rise to prominence of the resilience concept has made examining vulnerabilities unfashionable. The movement is grounded in notions of empowerment, focusing on the strengths and ‘assets’ that vulnerable populations have, rather than what they lack. The focus on resilience “refram[es] the mission from reducing symptoms or ‘fixing problems’ to promoting healthy function and development” (Masten, 2011, p. 495).

While the shift in focus from vulnerabilities to resilience appears grounded in benevolent intentions, it may be detracting from the role that governments and societies play in generating vulnerability. Though children’s vulnerability to natural hazards is often articulated, it is rarely grounded in theory and more often situated in anecdotal rather than empirical evidence. The literature also largely ignores the distinction between the different factors and processes that generate vulnerability, particularly social vulnerability.

Acknowledging the interrelated systems at play, the Sendai Framework (2015) reaffirmed the definition of vulnerability established by the Hyogo Framework for Action over a decade prior as: “the conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards” (UNISDR, 2015; UNISDR, 2004). Despite widespread knowledge of these distinct influences, children’s socially constructed vulnerability to disasters is rarely examined. This common omission is indicative of a more endemic problem in the DRM literature; it is suggested that these socially constructed vulnerabilities are ignored due to widespread disagreement over the underlying theory and applicable measurement (James & Paton, 2015; Cutter & Corendea, 2013).

Future research is needed to identify the socially constructed vulnerabilities that underpin the vulnerability of children that are too often solely attributed to their physical and developmental characteristics. It is understood that all children at certain developmental stages, particularly infants and toddlers, may be at higher risk than other individuals to certain impacts of flooding such as drowning, malnutrition, and ingesting contaminated water due to their relatively immature physical and cognitive capacities. However, disaggregated data and further research is still needed to distinguish which children are most vulnerable to these impacts and why. For example, Martin (2010) uses

the community based disaster risk reduction (CBDRR) approach to explore the impacts of flooding on children in Bangladesh, where children comprised 90% of the 816 victims of the 2007 monsoon season. While Martin acknowledges that this can partially be explained by the absence of caregivers and lack of good swimmers, the analysis does not account for the socioeconomic distinctions between children who survived and those who did not, nor other contextual factors that are needed to fully understand why children bore the brunt of the floods. Identifying the ways in which vulnerability is socially constructed discredits the notion that children are vulnerable to disasters simply because they are children, and instead shifts the focus to systems that are capable of change. For example, while children's physical growth is constrained by biological processes mostly beyond our control, we can change practices and policies to address underlying faults in our social, political, and economic systems that generate child vulnerability to disaster.

Despite the rise of resilience, examinations of vulnerability are still useful not only for distinguishing between systems that can or cannot be changed, but also for what they can offer the developing resilience dialogue. Our understanding of the relationship between vulnerability and resilience has become more nuanced over time. Once positioned as opposites (Norris et al., 2008; Masten et al., 1999), vulnerability and resilience are no longer viewed as mutually exclusive (Matyas & Pelling, 2014). Paton et al. (2010) emphasise that characteristics linked to vulnerability do not preclude a population's ability to emerge resilient to a hazard; indeed, these characteristics may coexist with factors that contribute to resilience. Some scholars insist that steps to enhance resilience directly counterbalance vulnerability (Abramson et al., 2015); while others argue that enhancing resilience is not necessarily a positive-sum game, and vulnerability and resilience are better understood as discrete concepts (Matyas & Pelling, 2014). While it could be argued that if the two concepts are related they should both be incorporated into comprehensive conceptual frameworks, it is undoubtedly an easier analytical strategy to focus on one or the other. However, this should not preclude the continued examination of vulnerability for its own merit.

Future examinations of street children's vulnerability would benefit from theory-driven analysis of socially constructed vulnerabilities as well as from positioning these vulnerabilities within broader frameworks. Adaptive capacity may provide one such

framework through which to explore characteristics and processes related to both vulnerability and resilience. Positioning vulnerability within a comprehensive framework is necessary to enhance our understanding of how highly vulnerable groups, such as street children, can often be resilient as well.

2.3 The expanding role and challenges posed by resilience

Understanding street children's resilience to natural disasters is hindered by the ubiquitous and contentious nature of resilience studies. The long life and rising popularity of the concept to explain different phenomena across disciplines has endeared it to many different interpretations over time. After a long history in mechanics, manufacturing and medicine, the concept of resilience was introduced into the social sciences through the study of the developmental psychopathy of children in the 1950s (Alexander, 2013). Many would attest that the integration of the concept into the social science vernacular has not been seamless; literature on the complexities of this translation and the epistemology of the term abound (Matyas & Pelling, 2014; Alexander, 2013; Hunter, 2012; Masten, 2011).

Some definitions of resilience are discipline specific. The DRM literature frequently refers to the definition established by the Hyogo Framework for Action:

“the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.” (UNISDR, 2009, p. 24)

This definition encompasses various systems across scales, but specifies a hazard as the stressor. From the psychological perspective, Norris et al. (2008, p. 130) decline to specify a stressor, placing greater emphasis on the idea that resilience is a process rather than a characteristic, defining resilience as “a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance”.

Broader definitions of resilience that similarly resist identifying specific stressors and units of analysis are emerging from different fields to promote “translational synergy” of resilience research across a broad range of disciplines and systems (Masten, 2011; Sapienza & Masten, 2011). One such definition offered by Masten (2011, p. 494) is “[t]he capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability or development”. Such definitions purport to cover

systems ranging from individuals and fish populations to computer systems (Masten, 2011).

Proponents of broad, cross-system conceptualisations of resilience argue that doing so is necessary given that “major disasters can threaten many levels of function at the same time” (Masten, 2011, p. 494). However, it is unlikely that an individual’s experience of disaster would be analysed in tandem with the analysis of an ecosystem affected by the same disaster. Moreover, the same authors offering systems definitions of resilience still revert back to more discipline-specific operationalisations of resilience at different scales, leaving it unclear as to what these ubiquitous definitions of resilience can offer the general dialogue as well as specific niches of research.

Many would argue that ‘translational synergy’ across the universe of resilience research is not a goal worth pursuing for two primary reasons. First, while such broad definitions are intended to advance our understanding of resilience, these efforts instead appear to be perpetuating a highly theoretical conversation with little empirical evidence of its value thus far. Matyas and Pelling (2014, p. S2, citing Miller et al., 2010) argue that “there is a risk that the usefulness of the concept will be undermined by a continued lack of conceptual specificity and absence of practical evidence.” Achieving conceptual specificity is highly constrained by cross-discipline disagreements over the intended outcome of the resilience process. For example, returning to homeostasis can be an exercise of resilience for some systems, but not for humans and communities (Alexander, 2013).

Researchers of human resilience to disasters should be cautious. An obvious reason for concern is that humans, especially children, are more dynamic and multidimensional than most systems. Individuals are capable of responding to disaster and other stressors in many ways that do not align with the rigid trajectories of less dynamic systems. There is no real way for humans to return to a pre-disaster state once they have experienced the crisis event (Matyas and Pelling, 2014).

Specifically, humans and other dynamic systems have a wider range of post-disaster strategies and trajectories due to their capacity for anticipation and to learn from past experiences with hazards and other stressors (Matyas & Pelling, 2014). Matyas and Pelling (2014) identify three distinct options for clarifying the type of change that

resilience can represent for social systems: resistance, incremental adjustment, and transformation. Resistance involves blocking a stressor with resources in such a way that the system does not experience any dysfunction (Norris et al., 2008). Regarded by some as an unlikely option for humans in the aftermath of disasters (Norris et al., 2008) and by others as the most utilised strategy in DRR (Matyas & Pelling, 2014), resistance provides one pathway to stability. The other is incremental adjustment, which involves a temporary adjustment following the impact of disasters but a desire to return to 'normalcy' or 'pre-disaster conditions' (Matyas & Pelling, 2014, p. S7). Transformation, on the other hand, encompasses more significant systematic adjustments that "push the system towards a different status quo" (Matyas & Pelling, 2014, p. S8).

Though all three strategies can have positive outcomes, there will likely be trade-offs in the timing and areas of such outcomes, necessitating critical reflexivity in DRR decision making to determine the most beneficial strategy (Matyas & Pelling, 2014). For example, resistance in the short-term may require diverting resources away from long-term endeavours; transformation in the aftermath of one disaster may bring about much needed change, but can lead to instability if used repeatedly (Matyas & Pelling, 2014). These distinctions may help to stem the rising tide of literature eager to categorise disaster responses into overly simplistic dichotomous outcomes: resilient or vulnerable. However, the oversaturation and inconsistencies of the concept within the literature continue to threaten its utility.

I argue that while there is merit in creating cross-disciplinary synergies in resilience frameworks for specific units of analyses to various stressors, the utility of broad cross-system definitions and conceptualisations across dynamic and less dynamic systems unnecessarily confounds the analysis. These inconsistencies are more tolerable if we heed the advice of Norris et al. (2008) to imagine the disaster resilience of humans as a metaphor for its natural science counterparts that is here to stay. If resilience is a metaphor (albeit a poorly adapted one) that will not go away, it seems clear that operationalising resilience across systems and within systems should be a priority in order to establish an empirical evidence base to substantiate its utility.

2.4 What can resilience offer analyses of street children?

While there are arguments to suggest that certain disciplines should resist the resilience concept altogether (Alexander, 2013), there is still cause to believe that the framework can benefit the analysis of children's response to disaster. One cause for hope is that children have been the focus of resilience since the concept was first introduced into the social sciences. There is a long history of scholarship on the topics of children's psychological, psychosocial and developmental resilience that can inform disaster frameworks, but have thus far failed to integrate the knowledge accumulated from decades of DRM literature. In turn, the DRM literature has similarly failed to apply a rich body of child's resilience scholarship to its conceptual frameworks. This may be partially attributed to the different scales and disciplinary languages at play. DRM is primarily concerned with communities rather than the individual and has adopted a complex multi-disciplinary language that is not always compatible with child resilience language.

Given the lack of overlap in the child resilience and DRM architecture, creating a holistic conceptual framework of children's resilience to disasters and related stressors necessitates an exercise in marrying the resilience literature from across the DRM, child development and psychology, and broader development disciplines. The process reveals that there are common themes of resilience across disciplines that can be expounded upon in future work to foster a conceptual understanding of street children's resilience to disasters.

The first common theme is the notion that resilience is a process rather than an outcome (Ungar, 2012; Zolkoski & Bullock, 2012; Masten, 2011; Norris et al., 2008). Willingness to identify specific, outcome-oriented manifestations of resilience are embedded in reluctance to impose normative assumptions in cross cultural contexts and recognition that there can be outcomes "only in the sense that they are patterns of behaviour that are desired" (Ungar, 2012, p. 387).

Similarly, the second theme acknowledges that children's pathways to resilience following disaster are not homogenous; resilience is influenced by culture and context (Ungar, 2012). Ungar defines culture as "a socially constructed pattern of mutual identification with a set of values and everyday practices that are privileged" (Ungar, 2012, p. 387). Culture can positively promote resilience for some groups. The Hakka

spirit, which incorporates “self-reliance, capacity to serve others, spiritually and well-established social support networks”, is credited with being a large part of the Taiwanese minority’s resilience (James & Paton, 2015, p. 13). For other groups, however, culture may impede DRR efforts, if that culture denies children the right to participate in DRR activities and places more emphasis on reactive responses, such as relying on external assistance, over long-term investments (Martin, 2010). Matyas and Pelling (2014) similarly believe that cultural values can inhibit the scope of adaptation strategies if actors are not permitted flexibility in the management of activities or capitals. Culture can similarly shift the burden to specific populations based on values and hierarchies. For example, girls and black children were more likely to show symptoms of PTSD following Hurricane Hugo (Lonigan et al., 1991). Sapienza and Masten (2011) note that while girls may be more likely to report internalising or stress symptoms, these responses are likely entangled in culturally influenced interpretations of sex differences.

Another theme is the notion that children’s social connections to other individuals such as parents, peers, relatives, and teachers can mitigate risk and promote resilience. In the social sciences these connections are identified as social capital, defined as “the horizontal and vertical networks of relationships which provide access to resources within a community and external to the community” (James & Paton, 2015). Different types of networks, both informal and formal, horizontal and vertical, can support the exchange of different types of information, knowledge, and experience. Some connections may have more value to children, with the presence of a parent or caregiver often considered one of the most preeminent protective factors. Research has demonstrated not only that adolescents consider their parents as the most important people in their lives, but also that without such influences, children are likely to be disadvantaged in many regards even when controlling for socioeconomic factors (Marshall et al., 2014). McFarlane (1987) demonstrated the importance of a caregiver’s presence as a predictor of children’s psychological wellbeing following exposure to a bushfire in Australia. Culture may exaggerate the importance of social capital for some groups of children, as emphasised in a finding by Marshall et al. (2014), demonstrating that girls were more reliant on social capital where there were barriers to accessing other resources. However, scholars also point out that social capital is not always

positive. At times social capital can exacerbate existing inequalities within a society when leadership fails to distribute resources in an equitable way (James & Paton, 2015). The ambiguity of social capital is also apparent for street children who rely on bonding social capital grounded in criminal activity in order to attain critical resources such as food and protection. Stephenson (2001) examined this phenomenon in Russian street children, finding that the children had constructed complex social hierarchies to meet their needs, and these were often based on aspirations to eventually join 'adult' criminal institutions that would confer similar benefits.

Where the bodies of literature diverge most is on the identification of specific traits of resilient children. While the literature on child development and psychology is more likely to identify broad characteristics of resilient children than those of DRR and climate change, even scholars within those fields disagree whether or not certain traits can be tied to resilience. Zolkowski and Bullock (2012, p. 2296), for example, identify five broad attributes that make resilient children: social competence; problem solving skills; critical consciousness; autonomy; and a sense of purpose. There is even emerging evidence to suggest that neurobiology may have clues for genetic predisposition towards psychological resilience (Ungar, 2012). Others, such as Masten (2014), insist that there are no resilience traits, and put more emphasis on the experiences that brings about specific traits and the context in which the experience occurs.

There are personality (or temperament) dimensions consistently associated with resilience, such as conscientiousness; however, there is evidence that experiences shape personality traits, that traits can influence exposure to adversity, and also that the same trait can function as a vulnerability or protective influence, depending on the domain of adaptation, the physical or sociocultural value and meaning of the trait, and the age or gender of the individual. (Masten, 2014, p. 14)

The experience of natural disasters or other forms of adversity presents a further commonality in the resilience literature. Many scholars agree that the resilience process involves the capacity to learn from prior experience of natural disasters. In psychology, this notion is expressed as steeling effects, "where engagement with stress serve[s] to prepare the individual for better subsequent adaptation" (Masten, 2014, p. 8). Experience of a stressor, in the form of a disaster or otherwise is a prerequisite for resilience in the first place, but the timing and degree to which a person or community is exposed to a stressor has important implications for the resilience process. The timing

of exposure to disasters or other adversity may be particularly important for children, as child development scholars note the possibility of positive or negative ‘cascading effects’ into other domains of adaptive functioning and encourage well-timed interventions (Sapienza & Masten, 2011).

“[O]lder youth typically have different exposures in disaster and bring different awareness, capacities for coping, and support systems to the tasks of adaptation than young children, resulting in complex age patterns of response.” (Sapienza & Masten, 2011, p. 271)

Meanwhile, younger children, particularly infants and toddlers, have been found to fare worse when exposed to the atomic bombs in Japan, explosion at Chernobyl, and famine in the Netherlands (Masten, 2014).

The degree and extent of exposure also has significant implications for children’s resilience. Lonigan, Shannon, Finch, Daugherty and Taylor (1991) measured children’s exposure to Hurricane Hugo by asking children about their perceptions of the severity of the hurricane, degree of home damage and parental job loss. The study found that the severity of the exposure was strongly associated with manifestations of posttraumatic stress and anxiety. McFarlane (1987) similarly found evidence of dose-response gradients in children impacted by bushfire in Australia, with those with higher degrees of exposure showing greater propensity for negative psychosocial symptoms. However, in a follow-up of the participants twenty years later, McFarlane & Van Hooff (2009) found that the individuals exposed to the fires as children had similar rates of PTSD as the control group. Interestingly, the bushfire-exposed children who recalled an event other than the bushfire as being the most traumatic in their lifetime were at greater risk of PTSD, again emphasising the impacts of cumulative risks over time. Children who experienced a tsunami in Sri Lanka were less likely to be able to adapt if also exposed to ongoing war and family violence (Sapienza & Masten, 2011, citing Catani et al., 2010). On the other hand, the challenge model of resilience advances the idea that “[w]ith continued exposure to adversity as youth age and mature, their capacity to thrive despite risks increases,” provided that the amount of stress is not extreme (Zolkowski & Bullock, 2012, p. 2299). Despite widespread agreement on the significance of these ‘dose’ effects, scholars note the difficulty in assessing ‘true’ exposure to adversity given individual differences in previous trauma experiences, cultural beliefs and context (Masten, 2011).

While the literature remains fragmented, it is clear that using resilience as a conceptual framework for analysing street children and disaster may have varying success. Past attempts to do so have failed to contemplate the theoretical underpinnings provided by the vast DRR and child development and psychology literature, and also neglected to utilise the explanatory tool of adaptive capacity.

2.5 Linking vulnerability and resilience to adaptive capacity

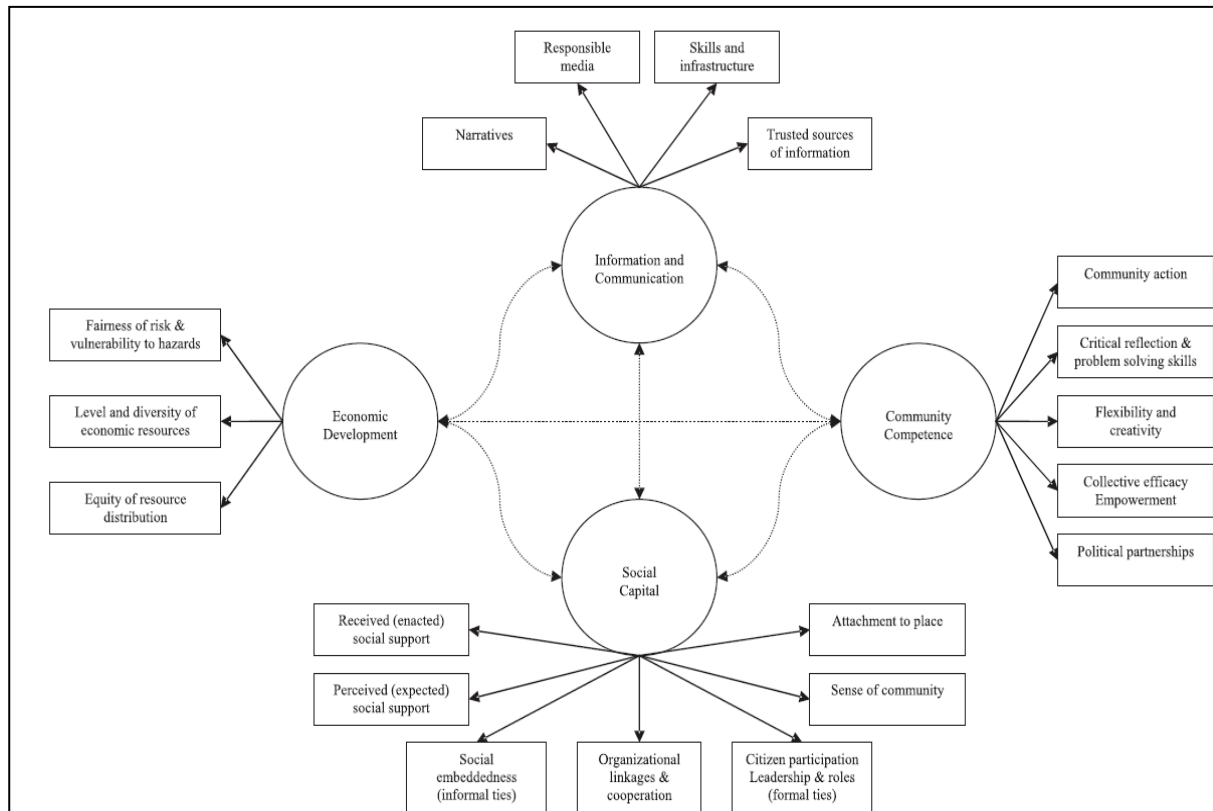
Despite calls to promote adaptive capacity as a link between the vulnerability and resilience literature, it is usually conceptually limited to one discussion or the other (Berman, Quinn, & Paavola, 2012; Engle, 2011). While relatively scarce in the vulnerability literature, adaptive capacity plays a more significant role in the resilience dialogue, though the relationship between the two concepts remains unclear. While some DRR scholars contend that adaptive capacity is the desired outcome of resilience (Klein, Nicholls, & Thomalla, 2004) others position it as the set of resources on which the process of resilience draws (Norris et al., 2008).

Scholars generally agree on a broad interpretation of adaptive capacity as the ability of a system to adjust to change. Conversely, adaptive capacity is constrained when there is a lack of economic wealth, technology, information and skills, infrastructure, institutions, social capital and equity (Brown, Smit, Somorin, Sonwa & Nkem, 2014; Smit & Pilifosova, 2003). “Developing nations and poorer communities are the least capable of adapting because they lack the resources and institutions to mobilise these resources” (Engle, 2011, p. 649).

As interest in adaptive capacity grows, more nuanced conceptualisations have emerged that represent adaptive capacity as a sum of its parts. Vincent (2007, p. 13) defines adaptive capacity as “a vector of resources and assets that represents the asset base from which adaptation actions and investments can be made”.

For Norris et al. (2008), adaptive capacities are composed of four sets of networked resources (economic development, social capital, information and communication, and community competence) linked with three dynamic attributes (robustness, redundancy, and rapidity), as illustrated below.

Figure 2.1: Norris et al.'s (2007) networked capacities



Source: Norris et al., 2008, p. 136

The four sets of networked resources resemble the resilience attributes of other frameworks. The Resilience Activation Framework, for example, proposes human, economic, social and political capital as the attributes which permit the system to “conserve or marshal its resources” and is premised on the idea that “a resilient individual or community has the capacity and capability to maintain, re-establish, acquire, or exchange these critical resources” (Abramson et al., 2014, p. 44). Social capital and economic development are common to both. Community competence closely resembles the political capital Abramson et al. (2014) discuss at an individual level as including the ability to vote and to access people in leadership who distribute resources.

The primary difference is Norris et al.'s (2008) inclusion of the information and communication element at the expense of human capital. Information and communication pertains not just to the type of information or communication received before, during and after a disaster, but also to the source of such information and/or communication. For such sources, trust is the crucial element and influences the way in

which people interpret information from sources based on perceptions of fairness and empowerment, which is impacted by a state's relationship to civil society (Paton et al., 2010, p. 18). Longstaff (2005, p. 62) asserts "[a] trusted source of information is the most important resilience asset that any individual or group can have".

The following section adopts the capital framework to analyse the adaptive capacity of street children. While incorporating the critical element of information and communication, this function is thought to exert itself through social connections considered in social and political capital and cognitive capability expressed through human capital, which involves the critical components of education and mental and physical health.

2.6 Towards a framework for analysing the adaptive capacity of street children

It seems paradoxical that assessing a population's adaptive capacity may be obstructed by their highly adaptable nature, though that appears the case with street children. They represent a population difficult to study at any other level than the individual case. They are mobile, defiant of a singular identity or membership in formal institutions, diverse in ethnicities and experiences, and united only as a group because scholars have yet to come up with a better construction.

Operationalising and measuring adaptive capacity for any group is a controversial and uncertain task that involves making value judgments about positive adaptation (Masten, 2014; Vincent, 2007). Though daunting, engaging with ideas about such capacity and the components that make up adaptive capacity are necessary to further understanding of the resources needed to face future stressors. Further, as Matyas and Pelling (2014), emphasise in their discussion of resilience, leaving such concepts purely as processes can have the unintended effect of abstracting policy agendas and goals.

Efforts to produce meaningful frameworks for street children's adaptive capacity should be guided by, and reflect the broader goals and resource base from which their own capacity is determined. By nature, street children are predisposed to communities with low levels of economic development and community competence. Their ability to participate in political and income-producing activities is likely constrained by the less tangible, but more significant influence of social capital.

2.6.1 Social capital

Though the concept of social capital can be traced back to 1916, scholars disagree about its definition, measurement and usefulness (Krasny, Kalbacker, Stedman & Russ, 2015). While there is ample evidence of the linkages between social supports and networks and positive outcomes for individuals, a lack of conceptual specificity and use of circular logic confounds the measurement and analysis of social capital (Krasny et al., 2015; Poortinga, 2012). Despite ambiguity, it is widely accepted that different types of social capital exist to explain different relationships: bonding social capital refers to the relationships between individuals “who share social identities”, while bridging social capital represents relations between dissimilar individuals (Poortinga, 2012, p. 287).

Social capital is also thought to comprise two complimentary dimensions: “structural (engagement in civic activities) and cognitive (perceptions of social relations, trust, and reciprocity)” (Greene, Paranjothy, & Palmer, 2015, p. 1792). Interestingly, studies have shown that perceived relations expressed by cognitive social capital are an important predictor of well-being, while actual social contact through participation and frequency of contacts (structural capital) is not (Nygqvist et al., 2008). Despite this frequently cited finding, cognitive social capital has received relatively little attention in the literature, perhaps due to its interconnectedness and perceived overlap with other aspects of social capital, or because of the diverse ways in which cognitive social capital has been interpreted and measured.

Cognitive social capital has been found to be significantly associated with depression in the elderly (Forsman, Nyqvist, Schierenbeck, Gustafson, & Wahlbeck, 2012); and to be the strongest psychosocial predictor of mental wellbeing (Jones, Heim, Hunter, & Ellaway, 2014). Elements of cognitive social capital have been aggregated to produce community-level measures of social cohesion associated with psychological resilience to disasters (Greene et al., 2015, p. 1794). However, cognitive social capital has been operationalised and measured very differently in each. Forsman et al. 2012 (p. 773) operationalised cognitive social capital as perceptions of interpersonal trust and base their measure on one item (i.e., ‘how much confidence do you have in the following persons?’). Heim et al. (2010, p. 6) apply a more robust measure, incorporating four questions about the extent to which people felt they could rely on others in their area.

Jones et al. (2014, p. 191) expanded that measure to seven questions that went to a person's sense of trust; feeling of belonging to the local community; and feeling valued.

Studies have shown that cognitive social capital is particularly important for the elderly (Forsman et al., 2012; Jones et al. 2014). Jones et al. (2014, p. 191) proposes that this could be because the elderly may be at particular risk of loneliness and isolation; for similar reasons, cognitive social capital may also be important to street children who often lack the broader base of social capital on which other children rely.

Street children's social capital is likely constrained in a number of ways. A systematic review of social capital and health inequality found evidence to suggest that people with lower socioeconomic status have lower levels of social capital and that disadvantaged groups similarly have limited opportunities to obtain and use social capital (Uphoff, Pickett, Cabieses, Small, & Wright, 2013). Nonetheless, support structures are indicated as being deterministic of street children's resilience; social support from other street children as well as supportive relationships with parents, relatives, teachers or peers are deemed critical (Le Roux & Smith, 1998). In essence, social capital helps the children procure resources that cannot be attained through other avenues. Marshall et al. (2014) illustrate a similar finding following Hurricane Hugo in which girls relied more heavily on social capital for resources given culturally imposed barriers to academic and work achievement. A study in Ghana showed that street children relied heavily on each other "for money, protection, encouragement and emotional support" (Orme & Seipel, 2007, p. 493). Studies indicate a similarly high level of bonding social capital among street children, but studies on street children's networking social capital are sparse. One study demonstrated that street children in Ghana were more likely to turn to civil organizations rather than government (public) ones and relied on their organisations every day (Orme & Seipel, 2007). In other instances, street children can neither turn to community nor government for support (Le Roux & Smith, 1998, p. 685). Distrust of authority figures may prevent networking social capital that could otherwise foster adaptation. This is particularly true in places such as Manila where the children have experienced violence at the hands of police and other government agents or when rehabilitation efforts have exposed the children to more harm (Scerri, 2000). While few studies have honed in on this element, the information and communication received by street children is likely highly constrained by their limited stock of social capital.

Street children's mobility is similarly detrimental to the formation of social capital. Not only are street children more likely to be urban migrants without the established networks of other children, but their mobility may also put increased strains on their ability to establish new networks. Moving to different locations necessitates learning about new risks inherent in their new environment and the strategies to adapt to such risks. We also know that their diversity may be problematic; Wisner (2003) speaks to the troubles involved in building cohesive communities when there is a multitude of dissimilar voices.

2.6.3 Coping versus adaptive capacity

An effective framework for the analysis of street children should also distinguish between coping capacity involving short term survival strategies and long-term adaptive capacity (Berman, Quinn, & Paavola, 2012). Historically, coping has been in the domain of DRM while adaptation has been discussed in climate change. However, as the domains of climate change and DRM continue to merge to produce more meaningful and integrated discourse, so too are the two concepts. The need to meaningfully distinguish the two remains. Some scholars distinguish the two capacities based on expectations.

“Contrary to adaptive capacity, coping capacity does not serve the adaptation of the structure relationships to environmental change but rather the coping with failed expectations and the securing of the connectivity to the structures of expectation that have been evolved by the system.” (Lorenz, 2013, p. 15, citing Voss 2008)

For others the key difference is temporal with coping capacity involving short term response and adaptive capacity more long term⁶ (Berman, Quinn, & Paavola, 2012; Davies, 1993). The extent of the response is also key; coping provides a response to an immediate problem, while adaptive capacity involves a more fundamental, large scale transformation to tackle long-term stresses (Pelling, 2011; Eriksen et al., 2005; Kelly & Adger, 2000).

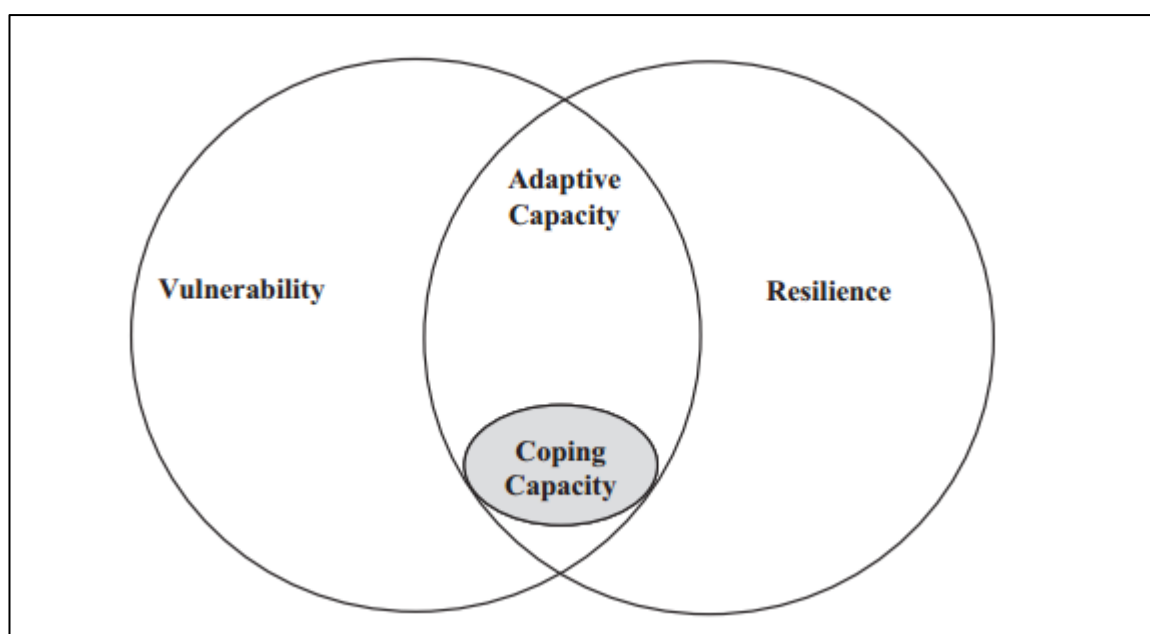
Coping can reduce vulnerability in the short-term, but may not always be sustainable or foster the long-term adaptive capacity needed to meet future challenges (Berman,

⁶ In contrast to these sources, Lorenz (2013) views adaptive capacity as short-term and coping as long-term.

Quinn, & Paavola, 2012). For the very vulnerable, such as street children, coping is sometimes the only strategy available. Distinguishing coping capacity from adaptive capacity similarly resolves the need to resort to normative classifications of strategies as adaptive or maladaptive for highly vulnerable groups.

Berman et al.'s (2012) integrated framework provides clarity on the positioning of adaptive capacity at the intersection of vulnerability of resilience.

Figure 2.2: Berman et al.'s (2012) Integrated Framework



Source: Berman et al., 2012, p. 92

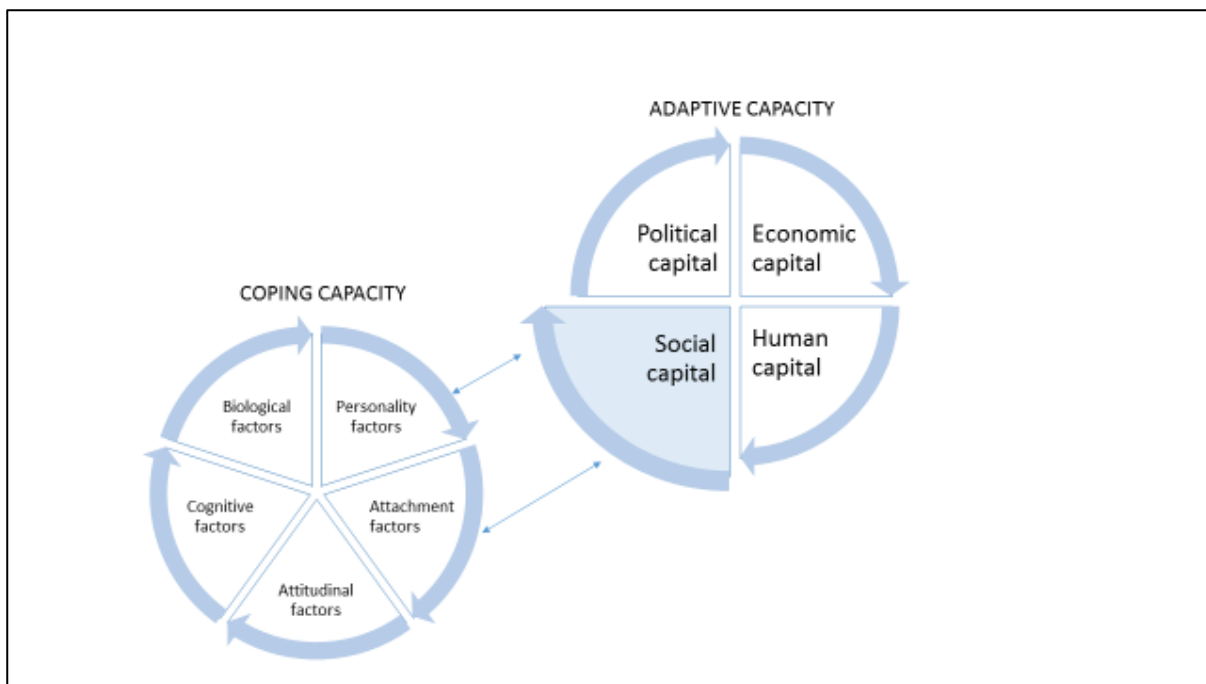
The framework recognises the role of coping capacity as an element in building long-term adaptive capacity and emphasises the critical role of institutions in the transformation process. Berman et al. (2012, p. 87) argue that such “transformations must not take away existing coping capacities, but build on these present strategies to enable a longer term, sustainable, adaptive capacity to be generated”.

Recognising coping capacity as a pathway to adaptive capacity provides a way forward for vulnerable groups with limited resources. However, it is unclear how some coping strategies employed by street children (e.g., drug use) can also be adaptive as positioned in Berman et al.'s (2012) framework. Regardless, it is clear that street children's capacity to cope should be recognised as a vital asset that can be drawn upon to foster their adaptive capacity.

Though adaptive capacities will likely be context specific, the following conceptual framework endeavours to bridge knowledge accumulated from empirical research with street children with the theoretical underpinnings of resilience previously established. The framework fills a critical gap by distinguishing coping from adaptive capacity.

Coping capacity, often the only strategy available to street children due to their limited resources, comprises the individual traits and characteristics of the child that enable them to access critical resources necessary for survival. Building on notions of child resilience established in developmental psychology, individual coping capacity incorporates personality (e.g. self-efficacy, self-esteem, self-regulation), attitudinal, attachment, and biological (e.g. genetic and physical attributes) traits, as well as cognitive factors. Some of these traits or constructs may contain overlapping or inter-dependent elements; for example, secure attachment in children can predict externalising behaviours incorporated into attitudinal or personality factors.

Figure 2.3: Children's transition from coping to adaptive capacity



Source: prepared by author

The framework acknowledges the central role of social capital, particularly through the mechanisms of personality and attachment characteristics, in translating street children's individual coping capacity to adaptive capacity. Social capital is centrally placed as street children rely heavily on parents, surrogate parents, peers, and other

individuals in order to procure access to other forms of capital (i.e., human, political and economic). While establishing social networks may well be the resource most within the children's control, the formulation and maintenance of social capital is also influenced by extraneous factors such as the previously discussed influence of trust exerted through political forces. As recognised by Ungar (2012), the ability to access these resources will also likely require negotiation with policy makers and competing disadvantaged groups.

As previous frameworks have suggested, resilience requires more than the presence of these capacities. It is not enough to possess these resources or that these resources exist within the individual's parameters; the resources must be 'activated' or mobilised by dynamic attributes in order to reach distinct levels of functioning. At the community level, Norris et al. (2008) identify these attributes as robustness, redundancy and rapidity. At the individual level, these attributes are generated through the cognitive, attitudinal, and personal characteristics of the child. For street children, these characteristics are manifest in their ingenuity, resourcefulness and the steeling effects from daily survival in a landscape of multiple stressors and uncertainty.

The feedback between coping and adaptive capacity is critical; coping capacity is necessary to fuel adaptive capacity, and adaptive capacity can enhance coping capacity to generate different strategies for manifestations of resilience. Without the resources captured in adaptive capacity, street children must rely on their limited resources to either resist or incrementally adjust to various stressors; transformation cannot occur without the critical feedback and functioning of both coping and adaptive capacity.

Identifying manifestations of resilience in children has often been narrowly confined to psychological wellness. Developing a multi-disciplinary view of adaptive capacity in response to multiple stressors necessitates attention to a broader spectrum of children's wellness. Working deductively, the first point of departure may be in establishing a set of positive developmental outcomes for children that coincide with broader, sustainable long-term development and DRR goals. For street children, these outcomes should push for transformative strategies as their very presence indicates fundamental weaknesses in the system that need to be addressed to ensure long term sustainability of the system.

Linking outcomes across and within various system scales is critical to fostering transformation and ultimately sustainability. Generic transformative outcomes for children, established by mirroring the negative outcomes supplied by Zolkowski and Bullock (2012), include avoiding risks associated with substance use, violent behaviour, poor academic achievement or school dropout, teenage pregnancy, juvenile crime, mental health disorders or emotional stress. Drug use is one of the most common coping strategies mentioned in the street child literature, and perhaps the one most detrimental to adaptive capacity given the various flow-on effects of its use. UNESCO (2001) describes the conditions that contribute to the children's drug use:

“Street children are susceptible to drug/alcohol addiction and to inhalants that offer them an escape from reality, take away hunger and cold and give them the ‘courage’ to steal and engage in survival sex. As a result, they get into a lot of physical and psychological problems” (p. 20).

When coupled with broader development and DRR goals, these outcomes could be expanded to include those listed as transformative strategies in Table 2.1.

Table 2.1: Coping versus transformative strategies for street children

Coping strategies	Transformative, adaptive strategies
Using harmful drugs/substances to “escape” the stress of street life	Abstaining from harmful drugs or substances
Engaging in anti-social behaviour in order to achieve status or procure vital resources (e.g., drug use, stealing)	Abstaining from anti-social behaviour; establish the bridging capital necessary to procure vital resources
Not attending school in order to work or be with friends	Participation in education, educational achievement
Engaging in unprotected sex for profit or otherwise	Abstaining from or practising safe sex
Utilising unsustainable waste practices	Utilising sustainable waste disposal practices
Cope with hazard risks as they occur	Preparing for hazards in advance (e.g., storing food or other vital commodities); participating in DRR activities

Source: prepared by author

Rather than address these outcomes as positive or negative, the focus is instead placed on whether the strategies will contribute to individual coping or long-term

transformative strategies that fuel the adaptive capacity of larger systems (e.g., households, communities, nation states). While it has been argued that “a collection of resilient individuals does guarantee a resilient community” (Norris et al., 2008, p. 128), positioning the adaptive strategies of street children within the objectives of larger scale systems is likely the only way to achieve collective, sustainable development for highly vulnerable communities. In such communities, street children may prove to be powerful agents of change that remain an untapped resource.

2.6.3 Fostering the adaptive capacity of street children and transformation

Nonetheless, by investing in resources that promote adaptive rather than coping strategies, resilience need not represent a zero sum game; enhancing the adaptive capacity of street children can lead to transformation across system scales. This is particularly true for investments in the children’s human capital, understood here as education and health. Access to resources that promote the education and health of street children not only bolsters their individual coping and adaptive capacity, but also enhances their ability to contribute to the political, economic and social fabric of a community. Of course, the relationship works both ways.

“The scales of adaptive capacity are not independent or separate: the capacity of a household to cope with climate risks depends to some degree on the enabling environment of the community, and the adaptive capacity of the community is reflective of the resources and processes of the region.” (Smit & Wandel, 2006, p. 287)

Thus, while street children’s adaptive capacity can contribute to the adaptive capacity of their households and communities, it can also be constrained or bolstered by the resources of their respective societies.

2.7 Conclusions

There is a growing recognition that our innate propensity for resilience is ordinary rather than extraordinary (Matyas & Pelling, 2014; Bonanno & Diminich 2013; Zolkoski & Bullock, 2012); it is just something we do. However, for street children, their developmental and socioeconomic limitations present such obstacles that their capacity for resilience remains extraordinary and worthy of examination for a multitude of reasons.

While prior examinations of their resilience have emphasised the coping strategies utilised to survive the impacts of natural disasters and other stressors, this work presents a way forward to acknowledge the means by which their adaptive capacity can be explored and fostered to influence the transformation of inherently dysfunctional systems. As articulated in the resilience literature, such conceptualisations and frameworks are meaningless if they cannot be explored through empirical research. Conceptualising the distinction between coping and adaptive capacity as well as identifying manifestations of coping and transformative strategies, this framework may serve to bolster a small but growing body of research on the disaster resilience of children.

Linking individual resilience, and the adaptive capacity required to achieve such resilience, to larger social scales is necessary to promote sustainable processes. Further work is needed not only to build holistic models that align development strategies across scales, but also to identify manifestations of such processes in various cultural contexts.

The present study explores the hypothesis that cognitive social capital is key to street children's adaptive capacity. I hope to demonstrate how children's ideas of trust and reciprocity in their communities is related to their ability to adapt to natural disasters, and in turn, contribute to more sustainable societies. The next chapter outlines the study's methodology and theoretical perspective.

CHAPTER 3

Methodology: Designing and Conducting Ethical, Rights-based Research with Street Children

3.1 Introduction

Designing and conducting just, ethical and methodologically-sound research with street children is a formidable challenge. Above all, it requires a deep understanding of the rights of children, core ethical principles involving research with children, existing research methods, and the creativity to apply and adapt this knowledge to the socio-cultural, political and linguistic context of the street child's environment as well as his/her development stage. It also involves two critical decisions to be made early in the research: whether to involve street children as participants, and the scope of their involvement. While the decision to involve children as participants in research about themselves is often grounded in principles of justice and ethics, the way in which children are involved in research is guided by ethical and methodological concerns and practicalities.

Social research is not often overly concerned with participants' rights, possibly because the ethical practice of research is usually also just. However, for children, 'just' research may require going a step further than abiding by the ethical principles that guide children's participation. Specifically, most ethical committees, including Australia's National Health and Medical Research Council (NHMRC), place the burden on the researcher to demonstrate that the child has the requisite maturity and corresponding capacity to participate in the research, while a liberal interpretation of children's rights shifts the burden and gives children the right to be involved in research about them *unless* they lack the requisite maturity to do so.

Rights-based approaches to children's participation in research are grounded in the United Nations Convention on the Rights of the Child, hereafter 'UNCRC'. Ratified by 194 countries (all but Somalia and the United States), the UNCRC "is the most widely and rapidly ratified human rights treaty in history" (UNICEF, 2014a, para 9) and reflects

the view that children “are neither the property of their parents nor are they helpless objects of charity. They are human beings and are the subject of their own rights” (UNICEF, 2014b, para 3). Of particular relevance to their participation in research are Articles 12 and 13, which outline the rights of children to have a say in matters that affect them.

Rights-based approaches that advocate for children’s participation in research and ethical principles that limit children’s participation in research are not mutually exclusive. Abiding by the ethical principles of consent and the researcher’s obligation to ‘do no harm’, it is ethical to include children as participants if they demonstrate the requisite maturity to consent to participate, and if their participation does not result in any foreseeable risk. Similarly, the UNCRC takes into account children’s maturity when determining if it is appropriate to engage the voice of a child.

Once the decision to involve street children in research has been made based on both the rights of the child and relevant ethical principles, the ways in which children can participate in research should be guided by other ethical and methodological concerns and practicalities. Specifically, decisions about research design and method(s) should be guided by the socio-cultural, political and linguistic context of the street children as well as their individual developmental stage. This involves consideration of their relationships with family and peer groups, educational background and literacy level, and their diverse ethnicities and native languages. When little is known of street children in certain areas, or if information is outdated, researchers typically advocate for a preliminary qualitative enquiry that explores these contexts prior to attempting methods involving more large-scale numbers of street children (Connolly & Ennew, 1996). For this reason, a mixed methods approach involving a preliminary qualitative stage of data collection and analysis is best suited for any research on street children incorporating quantitative enquiry.

This chapter outlines the research design and methodology of the present study of Manila street children impacted by natural disasters. It will articulate the rights-based approach and ethical principles involved as well as the study’s underpinnings in the postmodern paradigm and feminist perspective. The chapter will then identify the strengths of mixed methods research for the study and address the two stages of

research undertaken – qualitative and quantitative – and discuss the procedures in detail.

3.2 Promoting the rights of street children in ethical research

While guidelines on ethical human research implore researchers to ‘do no harm’ and exercise beneficence, researchers may have the opportunity to go a step further and promote the human rights of participants. This is particularly relevant to research about children, and the decision to include children as participants.

While most research conducted in academic settings is subject to ethical review by institutional committees, such reviews do not always account for the human rights of research participants. Ethics committees often defer to the principles laid out in standardised, national guidelines, such as the National Statement on Ethical Conduct in Human Research (2007, revised May 2015), hereafter ‘National Statement’, by the NHMRC; however, such guidelines may not be as wholly encompassing of the human rights of individuals as specified in international treaties. This is particularly true of the human rights afforded to children by the UNCRC.

The National Statement asserts that the guidelines are “intended to be consistent with international human rights instruments that Australia has ratified” (2007, p. 8). Though Australia has ratified the Convention on the Rights of the Child, the National Statement says little about the researcher’s duty to include children as participants in research about themselves. Instead, the National Statement lists the various restrictions on children’s participation in research. Article 12, section 1 of the UNCRC flips the burden of proof, and states that:

States Parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child.

Though especially applicable to judicial and administrative proceedings, this right to express their views freely would certainly apply to research which has the potential to shape policy relating to children’s welfare. Further, Article 13 of the UNCRC sets out children’s right to freedom of expression:

13.1. The child shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas

of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of the child's choice.

13.2. The exercise of this right may be subject to certain restrictions, but these shall only be such as are provided by law and are necessary:

(a) For respect of the rights or reputations of others; or

(b) For the protection of national security or of public order (ordre public), or of public health or morals.

Most of the rights articulated in the UNCRC were already afforded to all individuals through the United Nation's Universal Declaration of Human Rights (UDHR) enacted in 1948 and now adopted in every country of the world. However, one of the great strengths of the UNCRC is its accessibility to children through simplified language and child-friendly formats. I was pleased to find that the UNCRC is alive and well in Manila; many stakeholder organizations cited the UNCRC in interviews and had included UNCRC in their curriculum to ensure children knew the rights afforded to them.

However, despite widespread knowledge of the UNCRC and efforts to disseminate the rights of children, the Convention is virtually unenforceable. Many countries continue to deny children the rights afforded to them by the UNCRC, and the Philippines is no exception, as will be evinced in the following chapters.

While it may seem uncontroversial to assert that street children should have the rights afforded to them by the UNCRC, is it the place of the researcher to promote such rights? Or should the researcher, following the traditional positivist paradigm, remain an objective reporter? I understand that there is no correct answer to these questions; the answer will depend on the individual's choice of paradigm, or "worldviews of beliefs, values, and methods for collecting and interpreting data" (Grbich, 2013, p. 5). The following section describes the postmodern paradigm adopted in this research to investigate street children and promote their rights in an ethical manner while ensuring that the reliability of the research was not comprised.

3.3 The postmodern paradigm in practice

The present study has been guided by the postmodern paradigm and is informed by the feminist perspective. Choosing the postmodern paradigm was less a choice and more of a predetermination based on my previously held worldviews and beliefs. Though it is understood that there are other ways in which the research could be approached, the

postmodern paradigm seemed most appropriate given my personal views, the inductive nature of the research, and the aim of producing innovative ways of approaching the topic of natural disaster resilience.

Situated opposite the positivist tradition that argues for the existence of a 'real reality' that can be approximated without 'human contamination' (Guba & Lincoln, 2005, p. 203), postmodernism accepts and even embraces the role of the researcher as a contaminant of the research setting. Holiday (2007, p. 19) describes a postmodernist as one who "reflexively seeks to acknowledge in what way she is the arch designer of data collection, and how she disturbs the surface of the culture she is investigating". My approach is less apologetic; she views the postmodernist approach as recognition of the catalytic potential of each human encounter with the optimistic, and arguably naïve, notion that each encounter could and should be positive for all parties.

Though postmodernism is sometimes characterized as an umbrella term for distinct paradigms such as critical theory, constructivism, and participatory approaches (see Guba & Lincoln, 2005), the distinctions between genres are invariably blurred (Geertz, 1993; Guba & Lincoln, 2005). It is beyond the scope of this thesis to investigate such distinctions, but they can be thought to fall along a spectrum of the ideal outcome of the researcher's engagement with participants: from the positivist tradition where the researcher intends to be an objective voice for the data without disturbing the order of things to the moderate postmodern paradigms where researchers acknowledge their biases interpreting the participants' data; and finally to more liberal paradigms such as participatory inquiries where researchers seek to proactively foster "emancipation, democracy, and community empowerment, and redressing power imbalances such as that those who were previously marginalised now achieve voice" (Guba & Lincoln, 2005, p. 202; see also Mertens, 1998).

The worrying part of postmodernism when a researcher from a developed country is conducting research in a less developed country, is that it may imply the adoption of a normative stance on who is in need of empowerment and how that empowerment can be achieved. I struggled with that notion, but I would argue that it does not necessarily matter whether the researcher views herself as a neutral, objective reporter of fact, or a biased, freedom fighter (for freedoms perceived that others do not have and freedoms

perceived to be freedoms they should have); what matters is that 'truth' is solicited from participants through scientific method, and that participants impart that truth in circumstances most beneficial to themselves, and that their truths are conveyed to as large an audience as possible in the way most beneficial to society.

The feminist perspective also informed this research. Feminism guided the stance of the researcher towards the researched. Feminism forces us to think more critically about the power we knowingly or unknowingly possess as researchers and "destabl[ises] the insider-outsider model of inquiry" (Denzin & Lincoln, 2005, p. 185). For this research, though gender differences mattered and were explored through the feminist lens, the feminist perspective was more influential in the exploration of the "diverse situations and institutions" (Creswell, 2013, p. 29) that frame each child's circumstance. By adopting the postmodern paradigm and the feminist perspective to underpin this research, I was able "to dig deeper and reveal the hidden and the counter" (Holiday, 2007, p. 19).

It could be argued that working within the postmodern paradigm would call for a purely qualitative methodology; yet this thesis utilises a mixed methods approach. Though some scholars view mixed methods as a paradigm on its own (Grbich, 2013) or as being associated exclusively with the pragmatist paradigm (Tashakkori & Teddlie, 2003), I believe that grounding quantitative work in preliminary qualitative enquiry is compatible with the ideals of postmodernism. Further, I saw value in using the mixed methods approach as a means of enhancing the reliability of the qualitative findings through triangulation. The following section further details the rationale for choosing the mixed methods design and how it was applied in the study.

3.4 The mixed methods approach

This study utilises a cross-sectional, mixed methods design to address the research questions and to ethically and justly incorporate the participation of street children in research about themselves.

Mixed methods involves the collection, analysis and use of both quantitative and qualitative data. Also called 'triangulation of method', this mixing of qualitative and quantitative research and data is noted for yielding "richer and more comprehensive" studies (Neuman, 2011, p. 165) and overcoming the limitations and biases of using one

method (Creswell, 2003). Mixed methods are particularly warranted when examining complex social phenomena about which little is known (Greene & Caricelli, 1997).

The decision to adopt a mixed methods design was bolstered by the literature. Creswell (2003, p. 21) asserts that the decision to choose between quantitative, qualitative or mixed methods approaches hinges on three considerations: match between problem and approach; expertise of the researcher; and the audience of the report. Creswell's (2003) first consideration, in matching the problem with the approach, was given the most deference in the design choice. Little is known of the 'problems' outlined in my research questions; namely, the determination of the impacts of disasters on street children and the relevant processes influencing adaptation had not been previously explored in the context of Manila. Due to the context-specific nature of these inquiries, an exploratory, inductive approach was necessary to develop theory, then a deductive approach to test emerging theory. Further, researchers advocate for a mixed methods approach when researching resilience as it can provide both a local construction of resilience and generalisability of the protective processes identified (Ungar, 2012).

Despite the practical and ethical reasons for applying a mixed methods approach in this research, weaknesses in the chosen design are acknowledged. Johnson and Onwuegbuzie (2004, p. 21) note that while mixed methods designs can be more costly and time consuming, and require more expertise in both quantitative and qualitative approaches, mixed methods can be "*superior under different circumstances*" and the research must decide which approach or combination of approaches is suitable for a specific study. The many perceived advantages of the mixed methods approach outweighed the additional time and expense; the need to develop and test theory; the precedent and preference for mixed methods designs among seasoned street child scholars; the ethical and rights-based stance adopted by this research; and my desire to acquire more experience in both approaches.

Moreover, mixed methods research is strongly advocated by researchers of street children. Connolly & Ennew (1996) assert that quantitative methods alone are inadequate and propose qualitative research as an entry to understanding cultural context and in developing culturally-appropriate surveys. Thus, a mixed methods design made sense on both an ethical and practical level; I could not answer the deductive-

oriented questions without first establishing measures and refining constructs through a separate and prior inductive inquiry. These considerations resulted in the adoption of the sequential procedure detailed in the following section.

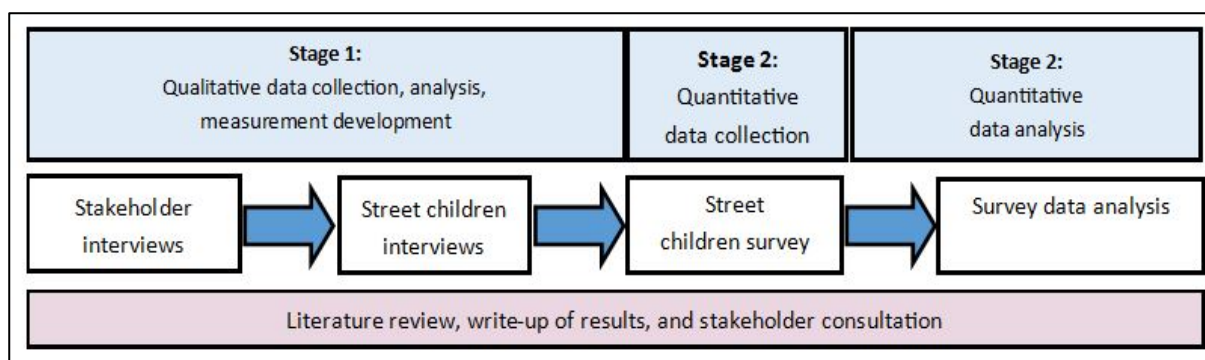
3.4.1 Sequential procedure

Mixed methods designs can vary in the priority given to one approach over the other, the timing in which the quantitative and qualitative data are collected (concurrently or sequentially), and the timing of integration of the data (Creswell et al., 2003, p. 212).

Building on prior research on street children, and guided by the primarily exploratory nature of the research questions, this study adopted a sequential design with preference given to the qualitative approach in order to gather critical contextual information necessary for a larger-scale, quantitative inquiry. The preliminary qualitative stage also enabled recruitment and engagement of street child participants in an ethical and just way.

The sequential design utilised for this research is illustrated in the following diagram, Figure 3.1.

Figure 3.1: Sequential procedure of the mixed methods research



Source: prepared by author

As indicated in Figure 3.1, qualitative data collection, analysis and development of the measures for Stage 2 occurred simultaneously in Stage 1. Qualitative data collection occurred in two steps. Interviews were first conducted with stakeholders and later with street children in order to ensure that the children met the ‘baby-sitter maturity test’ discussed in subsection 1.5.1 regarding the ethical issue of consent for children’s participation in research. In Stage 2, quantitative data collection using a survey of street children was conducted, followed by a separate period of analysis of the survey data.

The processes of revising and updating the literature review, stakeholder consultation and the write up of results were ongoing throughout the research process.

As illustrated, each phase of the research not only served to answer the respective research questions, but also to develop constructs and identify informants for subsequent phases of research. A similar strategy was utilised by Bhaskaran and Mehta's (2011) study of street children in Delhi, and the design is in keeping with Connolly and Ennew's (1996, p. 140) firm recommendations:

All questionnaires should be based on long term, prior observation and the use of exploratory methods that will help to define the research problem, the way questions should be asked and the language to be used.

Following the diagram in Figure 3.1, the following section outlines each stage of the research and addresses the rationale and procedure followed for each.

3.5 Qualitative data collection

The first stage of this study focused on the first two research questions which explore the impacts of disaster on the education and health of street children, and the processes and entities that contribute to their adaptive capacity.

Few studies have explored these topics in the context of Manila and, to my knowledge, none has grounded their inquiries in the adaptive capacity framework. In the absence of prior work, a qualitative approach was best positioned to address these research questions and establish a base of knowledge to guide further stages of research.

Qualitative research as "an inquiry process of understanding" (Creswell, 1998, p. 15) enables the extraction of "meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things" (Berg, 2007, p. 3). For this research, a qualitative approach permitted me to explore the experiences of street children at a more profound level and explore the themes that would eventually culminate in a conceptual framework of their adaptive capacity.

The qualitative portion of this research included two distinct phases of data collection: in-depth interviews of stakeholders, and in-depth interviews of street children. The following sections outline the method and procedure used in the first stage of this research.

3.5.1 In-depth interviews with stakeholders

Face-to-face, in-depth interviews were first conducted with stakeholders in Manila in order to explore the impacts of disasters on street children's health and education, as well as to build a broad base of knowledge on which the rest of the research could rely. Engagement with community leaders and service providers in order to reach marginalised groups of children is strongly advocated by scholars for ethical and practical reasons (Gibbs et al., 2013).

These partnerships provide essential expertise in relation to language and targeting of research materials (e.g. to ensure age appropriateness), assistance with recruitment and data collection, and contribution to interpretation and dissemination of findings. (Gibbs et al., 2015, p.136)

Building relationships with key stakeholders through these initial interviews also served to identify participants for subsequent phases of data collection.

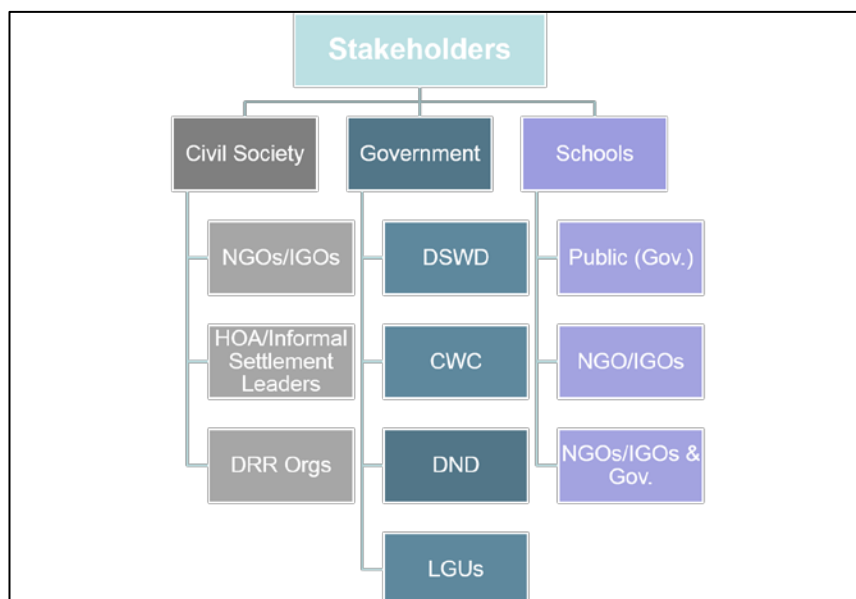
Interviews were conducted face-to-face and limited to one hour in length so as to minimize respondent burden. Where consent to do so was afforded, interviews were audio recorded. Additionally, observational notes were taken by the primary investigator.

Population and sampling

A non-random, purposive sample was used to identify stakeholder interview participants. This non-probability technique was appropriate given the exploratory nature of the research questions, the flexibility needed to engage with the responses provided by participants, and the lack of knowledge of this broader population from which the sample was taken (Neuman, 2011, p. 267).

The population considered for this stage of research was all stakeholders in Manila engaged with the care, rehabilitation, policy-making, and support of street children. A purposive sample was drawn in order to gather perspectives from distinct groups, and triangulate perspectives from representatives from government, civil society and educators. The following diagram, Figure 3.2, represents the entities from which the sample was drawn. The entity type and rationale for including each in the sample is provided below in reference to the three classifications of stakeholders.

Figure 3.2 Stage 1 stakeholder sampling diagram



Source: prepared by author

1. Civil society organisation representatives

A purposive sample of civil society organisation (CSO) representatives involved with street children and disasters included non-governmental organisations (NGOs) and intergovernmental organisations (IGOs); homeowner association members from informal settlements (HOA) and informal settlement leaders; and civil disaster risk reduction (DRR) organisations.⁷

It is noteworthy that the NGO and IGO category consisted of both volunteers and paid employees, primarily from faith-based organisations as they constitute the vast majority of organisations in Manila. These CSOs provided a wide range of services to street children including, but not limited to, drug and alcohol rehabilitation, peer counselling, informal primary education, disaster risk reduction education, sanitation and health care.

The rationale for interviewing this group was to explore civil society's role in fostering or reducing the resilience of street children, triangulate findings from other groups and

⁷ Given the relative dearth of such organisations in the locations mentioned, specific organization names are not provided to protect the confidentiality of participants.

enhance knowledge of the realities of street children in Manila through the perspectives of people who have substantial, regular interactions with the children.

2. Government representatives

Representative organisations from government included: the Department of Social Welfare and Development; the Council for the Welfare of Children; the Department of National Defense (the governmental administrator of the National Disaster Risk Reduction & Management Council, composed of civil, private, and governmental agencies); and local government units (LGUs), which included barangay officials whose duties involved formulating policy relating to street children and/or natural disasters.

Inclusion of government representatives was considered important for achieving the aims of this research, specifically as they relate to the role of government in fostering or reducing the resilience of street children. The government perspective also permitted the triangulation of findings from other groups and, ultimately, a means of understanding the disconnect between policy and practice in terms of street child support.

3. School representatives

Educators from government and CSO schools were also included in the sample to add an additional perspective from people who see the children regularly. School teachers added a 'middle-ground' perspective to the research as their funding is often from both government and civil society organisations.

Recruitment

Stakeholder interview participants were initially recruited by an opt-in procedure initiated through a primary approach e-mail. E-mail addresses were obtained through publicly accessible websites of the government departments and CSOs identified in Figure 3.2. The primary approach e-mail, the text of which is provided in Appendix D, consisted of a brief introduction of myself, the research procedure, and my contact information. Attached to the e-mail were the participant information sheet (Appendix B), and the consent form (Appendix C).

As discussed in section 1.5.2, response rates using the e-mail primary approach were low (~5%). Following up the emails with face-to-face introductions at the recipient's place of business and adopting a snowball approach to identify more potential participants were used to improve response rates. The snowball approach involved recruiting additional participants by using pre-existing networks established through initial interviews and contacts at the University of the Philippines Diliman.

Interview Guide

In-depth, face-to-face interviews were used to explore stakeholders' perceptions of the impacts of natural disasters on street children in Manila and their adaptive strategies. I approached interviews in this study using Berg's (2007, p. 89) simplistic notion as "a conversation with a purpose", the purpose being to gather information. The decision to gather information from interviews, rather than by other inductive approaches such as focus groups, was determined by pragmatic and ethical considerations as well as the influence of the postmodern and feministic perspectives. The representatives recruited to participate in this study were from various parts of Metropolitan Manila where heavy traffic and inadequate public transport would have imposed a heavy burden on participants to travel to a group in terms of their time, money and comfort. Conducting individual interviews minimised respondent burden because I was able to travel to each participant's place of business (or nearby). This strategy also permitted me to gain invaluable observational data on the participants' 'natural environments' and the extent of their interaction with street children. Going to the participants' natural or chosen environments also helped to minimise any perceived power imbalances and to build rapport between researcher and participant. Additionally, in an environment of scarce resources, many of the CSO participants were competing against other participants for funding and would likely not have been comfortable speaking openly about their services in a group setting. More importantly, fear of government reprisal for participating in this research was noted by many CSO representatives. One-on-one interviews were determined to be the best option for protecting stakeholder confidentiality.

The semi-structured conversations followed the thematic guide provided in Appendix E. Interviews can fall along a continuum that ranges from unstructured interviews with

non-standardized, open-ended questions and maximum flexibility to structured interviews which consist of pre-determined questions and minimum flexibility (Tashakkori & Teddlie, 2003, pp. 305-306). The semi-structured nature of the interviews adopted for this research permitted flexibility to explore topics in depth and to accommodate the diverse perspectives of the participants according to the nature of their involvement with street children. It also permitted the opportunity for the interviewer to make clarifications, which proved important for resolving misinterpretations of the questions resulting from cultural and linguistic differences between the researcher and participant.

These interviews explored, these included the emerging concepts and themes brought out by participants in interviews: the participant's basic demographic information and role at entity; the entity's involvement with street children; the children's education and health statuses; barriers involved in street children's access and participation in education and health services; perceived impacts of disasters on street children; and street children's strategies and resources to adapt.

3.5.2 In-depth interviews with street children

In-depth, semi-structured interviews were utilised to gain the perspectives of street children. As previously discussed, semi-structured interviews permit the flexibility to probe respondents for additional information. A semi-structured interview has the additional benefit of retaining the structure necessary to cover a broad scope of inquiry while allowing for the clarification or exploration of themes necessary when speaking with children. The ability to clarify questions was judged particularly critical in this research, which engages children with ethnic, linguistic, and cultural backgrounds distinct from that of the interviewer.

Interviews were conducted face-to-face, in English, and limited to half an hour in length so as to minimize respondent burden and retain the interest and attention of the children. Interviews were recorded, and observational notes were taken by the primary investigator.

Population and sampling

A non-random, purposive sample was used to identify street children interview participants. This non-probability technique was appropriate given the exploratory nature of the inquiry and the flexibility needed to engage with a diverse range of participants. Additionally, purposive sampling is useful when researching street children as it accommodates a “wide range of methods to locate all possible cases of a highly specific and difficult-to-reach population” (Neuman, 2011, p. 267).

The population considered for this stage of research were street children in Manila, aged 14 to 17 inclusive. Only children who were identified by stakeholders in the first round of interviews and deemed to have the requisite English language capability and maturity to offer consent were invited to participate.

Recruitment

Recruitment took place through contacts established in the first round of interviews with stakeholders. At the end of the first round of interviews, participants were contacted via email, thanking them again for their participation, and asking if they knew of any children who met the criteria and might be willing to participate in an interview. They were advised to call me in order to discuss the procedure so as to avoid the possibility that they recruit children who were ineligible to participate.

This recruitment strategy resulted in low participation rates. Of the 21 stakeholders interviewed in the first round, only 6 (28.5%) responded, all but one were from NGOs. This is likely due to the relatively less face-to-face engagement government representatives have with street children. Of those who responded, two could not identify a child who met the language criteria. Three stakeholders were able to identify one potential participant each; one stakeholder identified two. Of the five potential participants, all five agreed to participate (100%).

Great care was taken to ensure the high ethical standards of this research, particularly in regard to their consent to participate. In accordance with the principles outlined in sub section 1.5.1, children were advised both at the time of the primary approach and immediately prior to their interviews that their participation was voluntary, that they did not have to answer any questions that they did not wish to, and could end the

interview at any time and the information given would be destroyed. They were also assured by both the interviewer and the NGO that their participation and responses would in no way affect their relationship with the NGO, NGO representatives, or any services received from the NGO. With the exception of one child who specifically requested the NGO representative be present, the others were conducted in as private a space as possible given the circumstances of the NGOs.

Instrument

As noted previously, in-depth, semi-structured interviews provide significant flexibility when dealing with exploratory questions. There is also a strong precedent for using semi-structured interviews with street child participants in the international literature (e.g., Bhaskaran & Mehta, 2011, Delhi; Kombarakaran, 2004, Bombay). However, of the few studies providing original empirical data on street children in Manila, little precedent was found for using interviews with street children; most research has solely or primarily involved focus groups (Zoleta-Nantes, 2002; Brown & Dodman, 2014). Brown and Dodman (2014) incorporated interviews with street children to expound on insights obtained during focus group discussions; however few children participated due to existing obligations ($n=2$, Manila).

While conducting focus groups with street children may be more pragmatic, I considered interviews to be a more ethical and reliable method of gathering information from street child participants. As alluded to by Berg (2007, p. 144), decisions to use focus groups are sometimes guided by convenience rather than by the aims of the research. While focus groups can be a convenient means of gathering data from many individuals simultaneously, one-on-one interviews in which the children could fully express their opinions and ideas without fear of repercussion by their peers were considered to be both in the children's best interests and to yield more reliable results. Interviews are known to permit "a more detailed pursuit of content information" (Berg, 2007, p. 149). For children they carry the added benefit of permitting the exploration of topics that interest them and the opportunity to clarify questions. The children appeared to respond well to the flexibility and informality of the semi-structured interviews, which retained some elements of the more guided interview so as not to get off track.

In-depth, face-to-face interviews with the children were limited to 30 minutes in order not to burden the respondents and were conducted in English. The decision to limit interviews to English was based on ethical considerations and practical limitations. The interview process could be perceived as intimidating and adding a translator would potentially have amplified the children's discomfort. Additionally, there was no budget to hire a translator and back-check the translation from the recordings. The interviews were audio recorded where consent was given to do so⁸.

The interview protocol is provided in Attachment F. Themes explored included: the types of support and services received from the recruitment entity; children's definitions of a 'street child' and whether they perceived themselves to belong in this group; their experience of disasters; impacts of disasters on their health and education; and their strategies and resources to adapt to disasters and other challenges.

3.5.3 Observation

In addition to the interviews, observations were taken throughout the fieldwork and recorded by hand-written notes. Observations included a "reconstruction of dialogue, a description of the physical setting, accounts of particular events or activities" (Creswell et al., 2003, p. 189) as well as reflexive notes regarding the researcher's personal thoughts like "speculation, feelings, problems, ideas, hunches, impressions and prejudices" (Bogdan & Biklen, 1992, p. 121). Observation is firmly embedded in the ethnographic tradition and promotes triangulation to enhance validity (Paton, 2002). Notes did not contain real venues or names of individuals; notes were marked with the random three digit number assigned to the interview at the time of recruitment as outlined in 3.5.5.

3.5.4 Stage 1 Research Setting

Qualitative data collection took place during the first stage of fieldwork in Manila from January to May 2014. The timing of the fieldwork corresponded to the country's dry season to avoid any disruptions caused by heavy rains. This was particularly important given that many of the NGOs and IGOs visited were located in areas at higher risk of flooding compared to other areas of the city.

⁸ Two children did not consent to record the interviews.

3.5.5 Stage 1 Data Storage Procedures

Due to the ethical considerations involved with researching street children and the fear of reprisal from authorities that was voiced by some participants, great care was taken to secure the data collected in this research.

Once recruited for participation in an interview, each participant's real name was recorded in a spreadsheet along with the participant's organisation, contact email, and a randomly generated number. This number, a three digit random integer between 100 and 200 derived from the 'true random number generator' from random.org, was subsequently used in all other documents throughout data collection and analysis in place of the participant's name.

The only easily identifiable source was the consent form signed by most participants that contained the name and signature of the participant. Four participants declined to sign the consent forms for fear that authorities might retaliate if their identities were made known, and instead offered audio-recorded oral consent without stating his or her name. The signed consent forms were transferred immediately to a locked drawer during fieldwork, remained in my possession (in hand baggage) while returning to Canberra, and have since been stored in a locked drawer in my secure office at the ANU.

All audio files from the recorded interviews were securely stored on a password-protected USB that remained in a locked drawer in my apartment in Manila where security measures included a double-bolted door and full time security guards. The USB was in the constant possession of the primary investigator while returning to Canberra, and has since been stored in a locked drawer in my secure office at the ANU.

Interview transcriptions were labelled by the random number assigned to each participant. I also removed any identifying information throughout the transcription process by replacing any identifiable details shared by the participant with "X". For publications, including this thesis, pseudonyms have been assigned to each participant for narrative purposes. Apart from using culturally appropriate names that are usually associated with the same gender of the participant, no other identifying details are included. As for the participant's institutional affiliation, only one organisation gave consent to do so; those remaining, have only been identified by the broad category into which their organisation falls (i.e., government, NGO, IGO, or school).

Hand-written observational notes containing participant numbers were typed and similarly placed on a password-protected USB device. In addition to being password-protected, USBs were kept in my constant possession during travel and remain in a locked drawer in my secure office at the ANU.

3.6 Qualitative data analysis

Qualitative research yields descriptive data in a “variety of nonstandard shapes, sizes and forms” (Neuman, 2011, p. 200), necessitating critical thinking to process and interpret as a whole. Qualitative data analysis is a broad process through which raw data is organized and refined in order to extract meaning (Miles & Huberman, 1994). Analysis of interview data from Stage 1 followed the well-known, three-step process outlined by Miles and Huberman (1994): data reduction (extracting the essence), data display (organizing for meaning), and drawing conclusions (explaining the findings).

Data reduction occurred simultaneously with data collection and involved the processes of conceptualization and coding. According to Neuman (2011), conceptualization involves the development or refinement of concepts as a step towards organizing and making sense of the data. This research utilised the analytic strategy of successive approximation, in which concepts are modified repeatedly “to become successively more accurate” (Neuman, 2011, p. 519), over the course of multiple stages of data collection. Coding involved the process of adding tags or labels to assign meaning to a diverse range of data, including “words, phrases, sentences or whole paragraphs, connected or unconnected to a specific setting (Miles & Huberman, 1994, p. 56).

For the present study, the raw data included audio recordings of the interviews and the primary investigator’s hand-written observational notes. All audio recordings and hand-written notes were transcribed verbatim into Microsoft Word. From there, the processes of coding, de-identification, and the subsequent process of data display were aided by the computer program NVivo. NVivo allows a functional organisation of related words or excerpts of the text into ‘nodes’. NVivo also facilitated identification of repeated concepts in the text to assist with this organisation and to map concepts in a way that eased understanding of emerging patterns and linkages.

The process of data reduction and data display occurred simultaneously in the first stage of data collection during fieldwork in Manila. The final step of drawing conclusions took place after fieldwork.

3.7 Quantitative data collection

The purpose of Stage 2 of this research was to test the theories that emerged from the qualitative data analysis. Specifically, a survey interview was needed to shed light on the spatial patterns of adaptation and whether cognitive social capital could explain why street children fared better in some areas of Manila than others. Stage 2 also permitted the quantitative exploration of the types of social capital (bonding or bridging) that matters most to adaptive capacity and with whom (State, church, or civil society).

3.7.1 Population and sampling

The target population for this stage of the research was street children, 14 to 17 years of age inclusive, residing in Manila. A purposive, non-probability quota sample was used for this stage of research. A non-probability sampling strategy was necessary due to resource restraints, ethical considerations, and lack of knowledge of the characteristics and total number of the target population. There are an estimated 1.1 million children aged 14 to 17⁹ residing in Manila comprising nearly 10% of the total population, though these figures are likely to exclude the most impoverished. They also excluded the evidence discussed further in Chapter 6.

Based on existing demographic estimates of street children in Manila, quota sampling was utilised to produce a quasi-representative sample. A quasi-representative sample involves “identify[ing] relevant categories among the population we are sampling to capture diversity among units” then establishing a quota for each category (Neuman, 2011, p. 243). The gender distribution was determined by prior research conducted by ChildHope Philippines (Ruiz, 2006; Silva, 2002), which indicated a 70% male/30% female split as shown in Table 3.1 below. Though analysis from Stage 1 indicated that the proportion of male to female street children in Manila may be closer to 50/50, recruitment of a 50% female sample was not possible given the composition of service

⁹ This is an estimate based on the NCR’s 15-19 year age group in the NSO’s Census of Population and Housing, 2010. No age disaggregated data was provided to find the population aged 14 to 17.

recipients at the NGOs assisting with recruitment at the time the surveys were conducted.

Street children were invited to participate from five NGOs in five distinct barangays of Manila where I had previously established contacts with NGO representatives. In addition to pre-existing contacts, these barangays were selected due to the distinct types of street children based on the classifications established in the qualitative analysis (i.e., street based children, community based children, and children from street families).

Table 3.1 Stage 2 quota sample

Barangay	Hazard Risk	Street child classification	Gender		n
			Males	Females	
A	High flood risk; earthquake	Community based children	35 (70%)	15 (30%)	50
B	Very high flood risk; landslides; earthquake	Street based children	35 (70%)	15 (30%)	50
C	Moderate flood risk; earthquake	Children from street families	35 (70%)	15 (30%)	50
D	Moderate flood risk; earthquake	Children from street families	35 (70%)	15 (30%)	50
E	Very high flood risk; earthquake	Community based children	35 (70%)	15 (30%)	50
			175	75	250

Source: prepared by author. Flood risk level derived from Porasodoro, Silva, Munarriz, Estepa, & Capaque, 2014.

Table 3.1 illustrates a salient point. The barangay (B) indicated in the literature as having the highest hazard risk and at risk of more types of hazards is an area noted by interview participants in Stage 1 as having a higher proportion of street based children. The significance of this point will be further explored in Chapter 5.

In the five sites selected, four NGOs agreed to participate. The NGO from Barangay E declined to participate due to fear of local government reprisal, particularly in terms of funding. Three participating NGO representatives similarly voiced strong concerns that

participation may induce government backlash. For this reason, extraordinary care has been taken at every stage of the research to protect the confidentiality of the NGOs and the participants in this research, even though doing so has hindered the ability to analyse and present more in-depth spatial analysis of the children's social capital.

3.7.2 Recruitment and participation

Children pre-determined as meeting the rigorous selection criteria were invited were to participate in the research by a designated NGO representative. Prior to beginning the interview, NGO representatives had to ensure that the child:

- 1) Was 14 to 17 years of age (inclusive);
- 2) Would pass the 'babysitter test' (is the child mature enough to temporarily care for another child?);
- 3) Was fluent in the language of the interviewer and the language in which the interview is administered (Filipino or English); and
- 4) Was unlikely to be distressed by discussing themes such as family, health, and natural disasters.

In part due to the difficulty of finding children who met these criteria, only n=57 children were recruited to participate in the survey interview. Of those, 42 agreed to participate. One child declined to give consent, and thus did not begin the interview. Of the remaining 41, three were unable to fully complete the survey; two appeared to have lost interest and one could not complete the survey because of another commitment. However, the three children who did not complete the survey agreed the data from their surveys could be retained. The response rate was 73.7%, and the completion rate was 92.7%.

Table 3.2: Stage 2 sample goals and outcomes

City	Sex		Goal n	Sex		Outcome n
	Male	Female		Male	Female	
A	35 (70%)	15 (30%)	50	5 (71.5%)	2 (28.5%)	7
B	35 (70%)	15 (30%)	50	18 (81.5%)	4 (18.5%)	22
C	35 (70%)	15 (30%)	50	7 (100%)	0 (0%)	7
D	35 (70%)	15 (30%)	50	3 (60%)	2 (40%)	5
E	35 (70%)	15 (30%)	50	0	0	0
	175	75	250	33 (80.5%)	8 (19.5%)	41

Source: prepared by author

3.7.3 Instrument

The instrument used in the quantitative portion of this research was an interviewer-mediated, face-to-face survey interview. This type of survey was chosen for ethical and practical reasons. Orally administered surveys are known to yield relatively higher response rates (de Vaus, 2005), and are particularly useful when participants are children who may need clarification of questions. Additionally, when participants are thought to have low educational attainment, orally administered surveys may be more ethically appropriate as they allow the participation of individuals who may lack the requisite reading or writing ability to complete a self-completed written survey. Interviewer-mediated surveys also avoid the possibility of participant embarrassment, if they are illiterate or otherwise lack the ability to complete the survey on their own. Drawbacks of the survey interview include the relatively higher cost, longer time needed (as an interviewer can only interview one person at a time), and the potential ethical issue of consent. However, these drawbacks did not outweigh the ethical and practical advantages of this interview-mediated survey.

The author relied heavily on the socio-cultural knowledge acquired during fieldwork. She heeded Foddy's (1993, ix) instruction that "the cultural context in which a question is presented often has an impact on the way respondents interpret and answer questions." Bradburn, Sudman and Wansink (2004, p. 3) reiterate "the precise wording of questions plays a vital role in determining the answers given by respondents". Survey development included extensive stakeholder consultation with NGO representatives and the Consortium for Street Children¹⁰ Expert Advisory Panel, pilot testing, as well as a thorough review of both the instructive and empirical literature. Both de Vaus (2005) and Neuman (2006) provided methodological guidelines for the wording of questions that contributed to the elimination of double-barrelled, ambiguous, biased, and leading questions. Determining question content involved a comprehensive investigation of internationally recognised surveys on children such as the Global School-Based Health Survey (WHO, 2013); street children-specific surveys from other developing countries

¹⁰ The Consortium for Street Children (CSC) is an international network of street child advocates based in the United Kingdom that, among other benefits, allows members access to a treasure-trove of research and resources in one concentrated website.

(e.g., FREPD, 2003, Bangladesh); as well as Philippines-specific household surveys including the National Demographic and Health Surveys (NSO, 2003, 2008), Young Adult Fertility Surveys (2002, 2013), and the National Census on Population and Housing (NSO, 2000, 2007, 2010).

In order to engage the participation of street children in an ethical manner, stakeholder participants from the first stage of research administered the surveys. The ethical issues of consent and to 'do no harm' were carefully considered in the determination of whether or not to involve stakeholders to administer surveys. There was a risk that children may feel obligated to take the survey or to respond in a certain way if administered by an adult who delivered services to them. There was also a risk that children may fear reprisal for either not participating or answering in a way that would displease the stakeholder. However, the advantages in terms of minimising any risk of harm to the child and building on the pre-existing rapport between the child and stakeholder was considered to outweigh these risks. Working with and through service providers with pre-established connections and rapport with the children is considered best practice when researching marginalised and disengaged populations (Gibbs et al., 2013). The researcher was not present at the administration of these surveys due to practical constraints and fears that her presence would likely have counterbalanced the perceived benefits of involving stakeholders with whom the children had pre-existing rapport.

One NGO representative was chosen at each NGO to administer the survey interview. Instructions on the ethical issue of consent and practicalities of administering the survey to ensure reliability were addressed in a face-to-face meeting with the researcher, reinforced by a detailed instruction sheet left with the representative. Representatives were advised to contact the researcher immediately with any questions, comments or concerns regarding the survey. Following the survey, a card was provided to the child with contact details of free, local support if she felt distressed or uncomfortable with any of the topics raised in the survey; NGO representatives were advised to read this information aloud to any child with limited literacy. An information sheet containing the researchers contact details as well as those of a local research team member were also provided to the child.

Pilot testing of the survey was crucial to ensuring the reliability of the study, particularly as the survey was translated from English to Filipino. The Filipino translation was back tested for accuracy.

The interview was administered in April 2016 and consisted of 48¹¹ questions (Appendix H). Based on a sample of 27¹² responses, the interview took an average of 21.7 minutes to complete ($SD=2.28$). The survey interview was approved on 12 April 2016 by the ANU Human Research Ethics committee as a variation to the original ethics application.

3.7.4 Measurement

Several measurements had to be developed for this research as no validated measures exist. In fact, the operationalisations of constructs (e.g., classifications of street children) are rarely articulated, much less the validity of measures.

Validity was an important concern in the creation of the survey. Content validity, understood as the accurate translation of a theoretical construct to operational measure, involves an understanding of how questions can be interpreted differently in contexts other than where they were developed (Story, Taleb, Ahasan, & Ali, 2014). Though there is no generally accepted means of evaluating content validity (Story et al., 2014), Stanley (2011) provides guidance for the development of measurements. This includes using the most established and verified measures; grounding measurement in theory; keeping the measurement as policy relevant and straightforward as possible; and basing measures on an in-depth understanding of dependent variables. For this research, the use of established and verified measures was not possible given that research on the social capital and adaptive capacity of street children is sparse, and none that I have reviewed has specifically addressed the cognitive social capital of street children. Additionally, the majority of established measures for children's health, social capital, socioeconomic status and other intervening variables are not appropriate for street children (e.g. questions about family affluence, rest time, number of computers in the home).

¹¹ There were 36 numbered items in the survey instrument; however, certain responses prompted additional questions to expound on that response.

¹² This subsample consisted of all interviews in the sample where the interviewer recorded 'Time Started' and 'Time Ended'. No times were reported for City A.

Further, the survey needed to expound on the impacts of natural disasters on the education and health of street children identified in the qualitative stage of research. Child-reported health surveys are rare, and generally limited to developed countries. Established survey questions, such as those used in the KIDSCREEN health measure commonly used in Europe, were similarly inappropriate for street children (e.g. 'Have your parent(s) treated you fairly?'; 'Have you had fun with your friends?') (De Clercq et al., 2012). Though self-reported health in itself is a contested term, scholars widely accept that children eight years and older can reliably report on their health (Morris, Gibbons, & Fitzpatrick, 2009).

Experts in the field and stakeholders were consulted in order to enhance the reliability and validity of new measures. The following sections outline the development of key survey measures, items and scales.

Street children classification

A deductive approach to scale development, as explained in Hinkin (1998), was adopted which grounded measures in theory and, more importantly, the empirical findings from Stage 1 of the present study. Though "there are no hard and fast rules guiding" the decision of how many items to include in a scale, with four to six items considered a goal for the development of most constructs "but the final determination must be made only with accumulated evidence in support of the construct validity of the measure" (Hinkin, 1998, pp. 5-6).

Based on interviews with stakeholders and street children in Stage 1, four variables based on 3 constructs were used to classify children as community-based, street based or children of street families: protection (1. who children sleep with); financial support (2. who provides); emotional support (3. who provides and number of providers). Classification was based on an unweighted average scale, assigning equal value to each item. In total, seven items were considered for the scale; four were removed after initial analysis of intercorrelations, including variables assessing contact with mother and father. The remaining items were correlated at 0.3 or higher. Reasonable internal consistency was achieved, as measured by Cronbach's alpha, $\alpha=0.74$.

Validity checks for the classification measure were challenging. Assessing concurrent validity was not possible given that the types of street children generated in this research were not utilised in prior research; where types of street children have been operationalised, such operationalisations are often based on overly simplistic questions (e.g., ‘do you live on the streets or just work on the streets?’).

Table 3.3: Measure of street child classification

Survey Item/Questions	Response scale	Possible Responses	Scale
<i>Protection</i>			
Who usually sleeps in the same place with you at night?	Multiple choice	a. Both parents (and siblings if any) b. One parent (and siblings if any) c. A friend or group of friends d. No one e. Other	a. =3 b. =3 c. =2 d. =1 e. =2
<i>Financial support</i>			
When you need money for something, how do you get it?	Multiple choice	a. Parents b. Sibling c. Another adult d. Friend e. I make my own	a. =3 b. =3 c. =2 d. =1 e. =1
<i>Emotional support</i>			
If you had a problem, who would you go to for help?	Multiple choice, multiple response permitted	a. Family (parent and/or siblings) b. Friend c. NGO/charity d. Someone at Church e. Police f. Teacher g. Other	a. (And any combination of <i>a</i> with other responses)=3 b. =1. <i>B</i> and any combination of sources from <i>c-g</i> =2 c.-g. One or more responses from <i>c-g</i> = 2. If including <i>a</i> . then =3
INDEX <i>Children from street families:</i> mean score of 3 <i>Community based children:</i> mean score of 2 <i>Street based children:</i> mean score of 1			

Source: prepared by author

Performing in-depth statistical analysis of construct validity (e.g., factor analysis) was not possible given the small amount of variance and the nature of the variables included in the classification measure. Though considered prior to administering the survey, practical and ethical concerns took priority. For example, though 5-point Likert scales

with a neutral midpoint use more traditional questions that yield more variance, stakeholders and I considered that the children may be confused or lose interest if more options were provided.

Cognitive social capital

Though widely accepted to incorporate “perceptions of social relations, trust, and reciprocity” (Greene, Paranjothy, & Palmer, 2015, p. 1792), cognitive social capital’s measurement varies drastically in the literature. Forsman et al. (2012, p. 773) based their unidimensional measure on perceptions of interpersonal trust (‘How much confidence do you have in the following persons?’) to explore the relationship between cognitive social capital and depression in the elderly. Jones et al. (2014) used a more robust 7-item scale which incorporated questions that went to an individual’s feelings of being valued in the community, and some structural elements of relationships with neighbours (e.g., ‘by working together people in my neighbourhood can influence decisions that affect my neighbourhood’ and ‘this is a neighbourhood where neighbours look out for each other’). They achieved high internal consistency ($\alpha=.92$). While these measures figured in the broader conceptualisation of cognitive social capital, the items used were possibly too complex for children and irrelevant for street children.

Very few tools exist for measuring the cognitive social capital of children. One such tool is the Social Support Scale for Children (SSSC) established by Harter (1985), which has been used to assess children’s perceptions of social support and has been applied in disaster research with children. It has four subscales with items reflecting support from parents, friends, teachers, and classmates (La Greca et al., 2013). Given the nature of the questions and the assumption that respondents have both parents and regularly attend school, the instrument was of little value in the construction of a cognitive social capital measure for street children.

Another existing tool is the Adapted Social Capital Assessment Tool (SASCAT) utilised in the Young Lives Study to measure caregivers’ social capital across four developing countries and explore associations with their children’s educational outcomes and physical and mental health (De Silva et al., 2006). Using measures of trust from SASCAT and locally relevant items involving social processes, sense of community, and respect for norms, Hall et al.’s (2014) research on children in post-war Burundi found that

cognitive social capital was associated with less depression and greater social support. Such research also demonstrates that the measure can be valid in other cultural settings.

Modified from the short version of the SASCAT, the following questions were used to assess street children's cognitive social capital in Manila.

Table 3.4 Measure of cognitive social capital

Survey item/questions	Response scale	Scale
Can most people in your community be trusted?	Dichotomous	Yes=1, No=0
Do you think most people in your community get along?	Dichotomous	Yes=1, No=0
Do you feel you are a part of this community?	Dichotomous	Yes=1, No=0
Do you think most people in your community would take advantage of you if given the chance?	Dichotomous	Yes=1, No=0

Source: prepared by author, adapted from the short version of SASCAT (De Silva et al., 2006)

Cognitive social capital was then determined by calculating the total score of the four questions: 1 or less = very low; 2 or less = low, 3 = high, 4 = very high. In some parts of the analysis, very high was combined with high as only n=1 child was found to have very high cognitive social capital.

Adaptive Capacity

As outlined in the literature review and the findings from Stage 1 of the research, the capacity of street children to adapt to frequent natural disasters, particularly flooding, and other stressors associated with living on the street is largely determined by their human capacity, namely health and education. (Social capital – as the vehicle through which coping capacity transforms into adaptive capacity – is measured separately.) The following table outlines the questions used to establish the adaptive capacity measure and the sources from which they were adapted.

Table 3.5 Measure of adaptive capacity

Survey Item/Questions	Response Scale	Scale	Reference
<i>Health</i>			
How often do you feel anxious or depressed?	Likert	Never Sometimes Often	Modified from CHQ-CF87
How often have you had bodily pain or discomfort?	Likert	Never Sometimes Often	CHQ-CF87
How often do you feel too sick to go to school or play?	Likert	Never Sometimes Often	Modified from CHQ-CF87
How often after flooding or other disasters do you feel bodily pain or discomfort?	Likert	Never Sometimes Often	Author
How often after flooding or other disasters do you feel anxious or depressed?	Likert	Never Sometimes Often	Author
When it floods are you more or less likely to be hungry?	Likert	More likely Less likely No change	Author
<i>Education – participation, attainment, literacy</i>			
Are you currently attending school?	Dichotomous	Yes=1, No=0	Author
What is the last year of school you completed?	Ordinal	Grade 1-12	Author
Are you able to read the newspaper in your native language?	Dichotomous	Yes=1, No=0	Author
When it floods are you more or less likely to go to school?	Likert	More likely Less likely No change	Author

Source: prepared by author, as modified from the references provided in the last column.

A widely used child self-report survey, the Child Health Questionnaire (CHQ), was adapted for use in the health scale of the adaptive capacity measure. The CHQ was modified for appropriateness with street children. The education scale sought to cover the child's participation in education, attainment and literacy. Education participation and attainment are common questions in surveys, but literacy was more difficult to establish for ethical (i.e., the risk of embarrassing an illiterate child) and practical reasons (i.e., street children do not often have access to reading materials and their native language may be a language other than Filipino or English). The question was established in consultation with stakeholders who felt that most children would at least see newspapers in their native language from the storefronts of local vendors.

In addition to the above items, the survey included questions to further understand the compounding influences of hazard frequency and intensity, and the children's employment patterns. Additionally, questions relating to the specific formations of social capital with various entities including peers, police, NGOs, and local barangay officials were asked to explore variations in bonding and bridging capital. These included questions such as 'I can trust the police to help me in times of disaster' and graded on a Likert scale.

Assessing validity and reliability

Survey questions and associated measures were assessed for content validity, face validity and internal consistency. Content validity, discussed previously, was addressed by ensuring that questions were grounded in theory, empirical findings from Stage 1, approved by an expert in the field and by the NGO stakeholders. Face validity, the extent to which the measure "covers" the concept, was similarly addressed through approval of the measures by an expert in the field.

Internal consistency, an indicator of the reliability of our measures, was assessed using Cronbach's alphas for Likert scale items where possible. That surveys were administered by different NGO representatives with varying levels of experience in administering survey interviews posed risks to the survey's reliability. The researcher sought to minimise this risk by carefully instructing representatives both in person and through an instruction sheet as to how to conduct the survey and what to do in a number of different scenarios.

3.7.4 Stage 2 Data storage procedures

Once completed, NGO representatives were instructed to store surveys in a locked drawer in a secure room at their office. Actual names of survey respondents were not recorded, and the completed surveys did not bear any easily identifiable information on the children. I previously visited each location and noted locked facilities available. When quotas were met for a location or when all eligible participants had been contacted for recruitment, I collected the completed surveys. Surveys were then scanned and uploaded to a password protected USB and transported back to my secure office at the ANU. Original surveys were destroyed once scanned.

3.8 Quantitative data analysis

Quantitative data analysis in the present study involved creating a codebook, coding the data in an Excel spreadsheet, then uploading the data into STATA, a popular statistical analysis package. Most coding activities occurred prior to data collection to ensure that specific statistical strategies could be utilised in the analysis. Nonetheless, the small sample size restricted the strategies that could be used. As a result, most of the quantitative analysis presented in Chapter 5 is descriptive only. Where possible to establish a relationship between two variables, the p statistic from Fisher's exact test was presented.

3.8.1 Missing and inconsistent data

Generally, even where responses seemed inconsistent, the responses were coded as the participant responded. This was considered both more ethical than changing responses based on the information I had available, and in light of the potential for different interpretations of some questions from the viewpoint of a street child. For example, a few participants indicated that they see mom 'once a week' or 'some days', but in a follow up question they responded that they slept with mom 'every night' or 'most nights'. While these responses may seem inconsistent, it is possible that the children interpret spending time with mom during the day and sleeping with her at night as discrete occurrences.

A common exception was if the children responded to questions that should have been skipped based on responses to prior questions. In those instances, those responses were re-coded as '999' (skipped). A second exception occurred where multiple prior responses pointed to a response different from the one offered in a separate item. For example, one child reported spending every night with each parent in two previous items, but subsequently reported usually sleeping with only one parent. This response was re-coded to usually sleeping with both parents.

Missing responses were coded as 'skipped' and were omitted from the specific section of the analysis to which they applied. One exception was with item 36, which asked 'If you had a problem, who would you go to for help?'. As this response figured into the street child classification measurement and was central to the rest of the analysis,

skipped responses (n=4) were coded using simple mean imputation from other scale items.

3.9 Conclusions

Conducting quality research is a 'precondition' for ethical research (Flick, 2007). This chapter has outlined the various ways in which the validity and reliability of the research was ensured. Further, I have attempted to go a step beyond ethical research. By engaging postmodern and feminist perspectives, I have laid the foundations for just research that endeavours to also promote the rights of street children, particularly those that ensure their right to participate in Disaster Risk Reduction activities and research that impact on them.

The mixed methods design applied in this study has little precedent in the street children literature. Thus far, the majority of studies have relied solely on qualitative or quantitative method. Utilising mixed methods, this study has been able to build and test theory relating to the experiences of street children and natural disasters in Manila in this previously understudied population. Further, the triangulation of various perspectives has provided a rare glimpse into the various entities involved in protecting the welfare of street children and how such engagements are associated with the children's adaptive capacity. The next two chapters report the findings of Stage 1 and Stage 2 of this research, respectively.

CHAPTER 4

‘Call me askal’: The capital and capacities of street children in Manila

4.1 Introduction

Despite being prominent fixtures in many public spaces throughout the city, surprisingly little is known about the lives of street children of Manila. More disconcerting are the lack of consensus, misconceptions and broad gaps from different sources in the few areas that are purported to be known about the children, even at the level of basic demographic information. But perhaps such gaps and discrepancies are understandable given not only the elusiveness of the population but also the complex and competing, or at least incongruent, interests of the key stakeholders involved— most notably, a government that would prefer to downplay the street child situation, and a civil society fighting for scarce resources to care for the children.

Differing characterizations of street children from government and civil society organizations are by no means unique to Manila; the influence of both actors exists and is reflected in reports around the world. Within this contentious space, a small amount of academic work has emerged, particularly since the nearly universal ratification of the United Nations Convention on the Rights of the Child (UNCRC), with the aims of bridging the divide, providing a more balanced perspective, and enhancing our understanding of street children based on empirical data. However, academic progress has been stifled by typological debates, especially around the fundamental question of ‘who is a street child?’ and the methodological constraints involved with studying an elusive population. Of primary concern, is that although street child scholars have long advocated for preliminary qualitative enquiry prior to conducting surveys (Connolly & Ennew, 1996), this has rarely been completed in practice in Manila. Where qualitative studies have been conducted, analysis has been descriptive, often reporting only basic demographic information. Further, despite their exposure to frequent natural disaster events, street children’s experience of natural disasters in Manila has rarely been explored. Their capacity to adapt to such disasters and other stressors has never been explored within the adaptive capacity framework.

Importantly, applying the adaptive capacity lens permits exploration into the distinction, overlaps, and trade-offs between children's coping and adaptive strategies. While coping strategies may reduce vulnerability in the short-term, they may not foster the long-term adaptive capacity needed to meet future challenges (Berman, Quinn, & Paavola, 2012). Guided by the postmodernist perspective, this study challenges the vulnerability paradigm and seeks to emphasise the strengths and capacities of street children that can trigger transformation across scales when social support offsets the relative appeal of coping tactics.

Within the framework established in Chapter 2, social capital is hypothesised to be the critical mechanism through which street children can transform coping to adaptive capacity. Because of their relative developmental immaturity as well as socially constructed limitations on their ability to participate in economic, social and political activities, all children are highly dependent on adults to access other forms of capital. As noted in Chapter 2, social capital seeks to explain the role of groups and social networks in determining outcomes at the individual and community level. Fukuyama explains social capital as "an instantiated informal norm that promotes co-operation between two or more individuals" (Fukuyama, 2001, p. 7). The formation and preservation of social capital influences and is influenced by place-specific factors including institutions, culture and governance (Adger, 2003; Woolcock & Narayan, 2000). As will become evident in this chapter, these dynamics vary from community to community and child to child and have important implications for the adaptive capacity of street children.

Social capital can encompass relationships between people of similar and dissimilar social identities and backgrounds and can be analysed across two different dimensions: "structural (engagement in civic activities) and cognitive (perceptions of social relations, trust, and reciprocity)" (Greene, Paranjothy, & Palmer, 2015, p. 1792; Poortinga, 2012). These differentiations are explored in the following analysis of street children's social capital and the implications for their capacity to cope and adapt to frequent natural disasters and the stressors of street life.

In an effort to close the aforementioned gaps, this chapter presents an analysis of in-depth interviews with civil society and government stakeholders and street children in Manila. Building on the knowledge gleaned from the literature review presented in

Chapter 2, interviews explored the demography, social and human capital, and capacities of street children with particular emphasis on the role of natural disasters. Specifically, the interviews focused on the aspects of human capital identified in Chapter 2 as having the most transformative potential for the children: educational attainment, literacy, and physical and emotional health. This chapter presents an analysis of interviews conducted with participants listed in Table 4.1, provided to assist the reader in following the analysis. The chapter will also draw on international literature to guide the theoretical discussions of defining street children and the structural influences that shape their transitions to the streets, as well as empirical data to compare and contrast with reports from the Philippines. Most importantly, it will engage the perspectives of the children themselves who offer critical insights into their own identity, and coping and adaptive strategies.

Table 4.1 Interview Participants by Sex and Entity

	Participant Pseudonym	Sex	Entity Type
Street Children	Alma	Female	Government school
	Amor	Female	NGO
	Marco	Male	NGO
	Kris	Male	NGO
	Joey	Male	NGO
Civil Society Representatives	Janet	Female	NGO
	Nicole	Female	NGO
	Mariel	Female	NGO
	Joshua	Male	NGO
	Alex	Male	NGO
	John	Male	NGO
	Stephanie	Female	NGO
	Mirasol	Female	NGO
	Ana	Female	NGO
	Crystal	Female	NGO
Hybrid Organisation Representatives	Jasmine	Female	CSO with some government funding
	Erica	Female	CSO with some government funding
	Bea	Female	CSO with some government funding
	Phillip	Male	CSO with some government funding
Teachers	Grace	Female	NGO School
	J.J.	Female	Government School
Government Representatives	Angela	Female	NGO
	Maria	Female	Barangay Government
	Anthony	Male	Municipal Government
	Mark	Male	Inter-governmental agency

Source: prepared by author

4.2 Defining the street child in Manila

As noted previously, researching street children is a challenging field that has evoked much controversy; even defining a “street child” has proven problematic. The task of defining a street child once inspired spirited debate, but more recently inspires apathy and little more than a footnote in scholarly articles (e.g., Brown and Dodman, 2014, p. 29). The disillusionment follows nearly three decades of definitions that attempt to distinguish street children based on their behaviour, livelihood, perception of ‘home’, amount of time on the street, and degree of contact with family. Rather than try to settle the debate, this section instead focuses on more practical, context-driven questions: how relevant and useful are the definitions/classifications of street children in the international literature to the operationalisation of ‘street children’ in Manila? Are better definitions/classifications available to foster the delivery of services and support to street children in Manila?

Drawing on an international body of literature, the following section compares and contrasts definitions of street children with the perceptions and operationalisations applied by stakeholders in Manila. Despite an understanding that the ‘street child’ terminology should be conceptualised in its cultural context and grounded in qualitative enquiry (Connolly & Ennew, 1996), researchers have rarely asked stakeholders how they identify street children or determine eligibility for street-child specific services. More importantly, only one study found by this researcher has asked street children if they agree to the appellation. This research posed the question ‘who is a street child?’ to stakeholders and street children in Manila and provides powerful evidence that context is indeed critical to understanding the complexities that underlie the typological debate. It also addresses the critical question of whether or not the debate is actually useful in enhancing the wellbeing of the children at the service delivery level and provides key contextual information to drive the adaptive capacity analysis.

4.2.1 Evolution of the ‘street child’: From anti-social to degrees of connectedness

Early definitions of street children underscored the complexity of identifying members of this group and reflected a negative public opinion towards street children. Cosgrove defined a street child as “any individual under the age of majority whose behaviour is predominantly at variance with community norms, and whose primary support for

his/her development needs is not a family or family substitute” (1990, p. 192). Though negative public opinion is still evident, particularly in the Philippines, this normative depiction of street children has lost relevance in the academic literature. Not only does it induce bias, but also the definition is contrary to empirical research demonstrating that street children rely heavily on family substitutes, generally consisting of groups of their peers or surrogate parents. Far from being anti-social, street children are known to have vast, complex social networks on which they depend for survival, as will be discussed in-depth in following sections.

Other definitions endeavoured to distinguish street children by their notions of ‘home’ rather than behavioural attributes. A definition offered by the Inter-NGO Programme for Street Children and Street Youth in 1985 emphasised the relative importance of the ‘street’:

street children are those for whom the street (in the widest sense of the word: i.e., unoccupied-dwellings, wasteland, etc.) more than their family has become their real home, a situation in which there is no protection, supervision or direction from responsible adults (as cited in Ennew, 1994, p. 15).

An early definition presented by Save the Children similarly emphasised the element of lack of protection, but denied the qualification of the street as a home: “a street child is any minor who is without a permanent home or adequate protection” (as cited in Panter-Brick, 2002, p. 149). Though some studies equate street children with homeless youth (McAlpine, Henley, Mueller, & Vetter, 2010), classifying street children as homeless is problematic, as the term ‘homeless’ also lends itself to various interpretations (Glasser & Bridgman, 1999). Additionally, classifying street children as ‘homeless’ obscures the reality of a vast majority of street children who retain complex ties with their families (Ennew & Swart-Kruger, 2003, p. 2).

In an effort to account for this movement between their families and the street, UNICEF distinguished three classifications of street children: “children of the street” who live [permanently] on the street without family support; “children on the streets” who work on the streets, return home at night and have some family support; and “children at risk” who comprise children of the urban poor who may eventually fit one of the other two categories (UNICEF, 1984). These distinctions were later refined and adopted by

UNICEF and Save the Children as: “*street living children* who have run away from their families and live alone on the streets”; “*street working children* who spend most of their time on the street, fending for themselves but return home on a regular basis”; and “*children from street families* who live on the streets with their families” (Bhaskaran & Mehta, 2011, p. 19).

Despite the progress in capturing the varying degrees of family contact, these classifications have been criticized as oversimplifying the issue. Panter-Brick cautioned over a decade ago against using the “street child” label. He asserted “children move fluidly on and off the streets and that the street does not represent the sum total of their social networks or experiences” (2002, p. 148). Similarly, studies quoting the classifications tend to get misinterpreted, either in translation or because of the ever-changing nature of the classifications. Some studies manipulate the classifications to either downplay or overstate the extent of the street child population in a particular area. For example, a survey of street children conducted by Defence for Children International argued that there was not a street child phenomenon in Palestine by excluding *children on the street* from the definition (2007, p. 4).

More recently, however, civil society organisations have called for a broader street children conceptualisation “to better understand, assist, and prevent the phenomenon in an effective way” (CSCN, 2011). Similarly, the Consortium for Street Children has adopted the broader *street connected children* designation to account for the vast differences in the length of time, number and duration of transitions, and various connections the children have to the street. Such broader conceptualisations resolve to over- rather than under- estimate children within the street child paradigm, but do not simplify the task of operationalising the street children or help organisations charged with the difficult task of determining eligibility for services in a resource-scarce environment. Thus, there is great need to ground street child classifications in local context in a way that promotes, rather than complicates, local policies and practices towards street children.

4.2.2 Stakeholders’ perspectives of the ‘street child’: Semantics versus reality

The three most common classifications of street children found in the international literature (*street working children*, *street living children*, and *children of street families*)

are also those most often cited in government, civil society, and academic writing in Manila in lieu of defining a street child per se. However, the categories are at times muddled or additional categories are created to fill perceived gaps. Ruiz, for example, reports that government and non-government organisations in the Philippines reached a consensus on three categories of street children, but proceeds to list four: *children on the street*, *children of the street*, *children of street families*, and *abandoned and neglected children* (2006, p. 11). Later, Brown and Dodman's report for the International Institute for Environment and Development similarly adopts the *abandoned children* classification to describe street children in Manila¹³ who have no family contact and are "difficult to distinguish from other street children because their activities are similar" (2014, p. 29). Brown and Dodman also propose to add a fourth category for *children who have run away from home* specifically due to "domestic abuse and violence, among other push factors" (2014, p. 29). However, responses from stakeholders in this research indicate that both additional classifications are likely unnecessary given that abuse and abandonment factored into many children's decisions to take to the streets. Distinguishing street children on the basis of abuse or abandonment did not appear to be used in practice by any stakeholders interviewed in the present study, nor does it seem particularly useful in clarifying the epistemological issue.

Instead, civil society stakeholder perspectives, though varied, widely reflected an understanding that there were three classifications of street children. These classifications offered by stakeholders differed slightly from each other and from those advanced in the international literature, evincing the importance of context in our understanding of street children. Mariel, who works for a small NGO in Makati, spoke with certainty on the three different types of street children,

The first are the orphans who don't have parents with them. They are just left there. The second is, the children who have their parents living on the streets. And the third one is the syndicated children, whereas there are mafias or some bad people kidnapping these kids and send them to the street to work.

While the first two classifications fit neatly under the *children of the street* and *children of street families* headings, the *syndicated children* classification is not one that this

¹³ This was a comparative study of street children in Manila, Jakarta, Dhaka, and Kathmandu.

researcher has seen previously in the literature. However, its inclusion as a distinct category of street children by Mariel points to the relative importance she places on kidnapping as a reason children have left home and emphasises that not all push factors are the result of individual or family-level decision making.

Stephanie, a youth worker for a charitable NGO that houses and educates street children, provided another variant that more closely resembled the classifications advanced in the international literature,

We have three kinds of street children. The first are street based children. These children are [omitted utterance] the ones who live on the street alone. They don't have a family. Usually they sleep alone with friends. Then the second one is community based children. So this community, these children, most of them are in school studying, they are mostly on the street begging so they can have allowance for the school tomorrow.

. . . The third one is children of street families. Some of them are in school. They already have a family but do not have a home.

The first category mentioned, *street based children*, differs from the *children on the street* designation more commonly found in the literature. For Stephanie, *street based children* in Manila do not have a family, while *children on the street* in the international literature are generally understood to have some ties to their biological family. This divergence from the literature could reflect an over-simplification of the term or a relatively larger phenomena of children in Manila without family.

Exchanging *street working children* with *community based children*, Stephanie's response reflects a common message reiterated throughout the interviews that street children do, in fact, have established social networks in their communities. Her description of *community based children* reflects these children's commitment to obtaining an education and may signify that they are relatively better-off than those children without the community connection who are *street based*. Her description also reflects the reality that many poor children in Manila work in some capacity; thus creating a separate category for these children is likely redundant and unhelpful.

Janet, who runs an NGO providing a range of educational, advocacy and emergency programs for street children, similarly adopts the *community based* versus *street based*

terminology. However, she indicates that though the children may be based in the community, they are not always the same communities from which they originate.

Some of them are community based and going home every night, and some are living on the street. But [this city¹⁴] is definitely problematic and we get kids from all over the place. Not all from here, so they travel to [this city], you know. Some kids are here begging because it's a better place to beg than where they come from. So that's another major issue in terms of conducting a census. How? Where? They're so transient. It's always changing. Who fits into what category, and what categories are there?

Janet's response alludes to the diversity of circumstances surrounding each child's transition to the street and emphasises the practical difficulties of researching this resourceful, mobile, and diverse group within finite categories. Her comments echo the sentiments of scholars who have long argued against treating street children as a homogenous group which fits neatly into specific classifications (Connolly & Ennew, 1996; Lalor, 1999; Panter-Brick, 2002; Thomas de Benitez, 2011), but also attests to the practical necessity of establishing these categorisations in order to conduct research activities such as a census.

Other distinctions between the types of street children in Manila emerged throughout the interviews. Street children varied spatially and by their exposure to sexual activity. Mirasol, who works for a large, non-secular NGO, explained,

And then street children without family who are roaming around, but they stay together at night with their peers, also for protection. So they stay together. Like, group of boys, group of girls. But sometimes we realize that boys and girls are mixed and sleeping together. And, of course, they are also doing, you know [emphasis with hand gesture], most are sexually active. They have sexual partners. We have only, I think, three areas with that kind of street children.

This response reflects the view held by a consensus of stakeholders interviewed that street children in Manila are predominantly *children of street families* while those without family are relatively confined to certain areas of the city. The need to stay together at night for protection and their exposure to sexual activity again points to the increased vulnerability for those children without families. Mirasol continued,

But other areas there are more street families so their values are more different when it comes to sexual activities. At least they have parents who reprimand

¹⁴ City, municipality and barangay names have been changed to protect the confidentiality of participants.

them when they engage in promiscuous behaviour in areas where there are street families.

For Mirasol, street family parents serve as enforcers of accepted cultural values, reprimanding the children when their actions deviate from accepted societal norms. Coleman noted the ability of social capital to constrain certain behaviours, remarking that effective norms can keep young people “from having a good time” in favour of the public good (1988, p. s105). In this case, promiscuous behaviour, as perceived by the participant, was constrained by parents’ exercise of these norms while children without parents were seen to subscribe to a different set of values that deviates from those accepted by the participant and her society. That Mirasol does not consider these children to be void of values is significant; the establishment and maintenance of their own norms and values can evince closure of the social structure that permits trustworthiness and “the proliferation of obligations and expectations” (Coleman, 1988, s108).

Despite their confidence in defining and distinguishing different types of street children, stakeholders seemed less sure of how to apply this knowledge. In fact, stakeholder responses such as Janet’s largely hinted at the futility of scholarly definitions of street children in the day-to-day practice of administering services and support to the children. They also expressed how resource constraints can impact on how their organisation defines street children. Ana, who works as a street educator in one of the poorest barangays in Metro Manila, expressed her frustration in determining the children’s eligibility for her NGO’s services,

Our job is helping the street children. Ok, but how do we say ‘no’ when a boy with no clothes and no food ask for help? We say ‘no, sorry, you do not fit in this group’?

Other CSO stakeholders echoed this sentiment and acknowledged that they often find it difficult to confine their services to the rigid operationalisations of street children mandated by their respective organisations. Mirasol explained,

We also provide health services to the siblings, even pregnant mother and one year old, two year old, three year old as long as they are sibling of street children. Sometimes the neighbours because it’s very inhuman, you know, to not include them in the health services.

Both responses point to the difficulty of establishing limited operationalisations of street children in the context of Manila where there is great need for the services provided by NGOs. Other stakeholders, however, expressed the need to stick to their mandate of caring solely for street children in the context of limited budgets and diminishing government assistance.

Government and hybrid organisation stakeholders, on the other hand, had less nuanced ideas of what constituted a street child, and none referenced different classifications of street children. Three stakeholders raised the point that street children were not the sole focus of their entity's attention, emphasising a significant distinction in the mandates of the stakeholders: government agencies charged with supporting street children in Manila are often responsible for many other vulnerable populations, while all but one of the NGOs included in this sample were entirely street child-centred.

Perhaps for this reason, Anthony, who works for a Metro Manila government department, was visibly frustrated when he delivered the following response,

I do not understand all the attention to the street children. They are everywhere. Every city, not just here. Yes, we need to care for these children. But you cannot know who is street child and who is a child playing on the street. It is a city. Children play on streets!

For Anthony, the street child phenomena in Manila is no worse than in other parts of the world. By drawing this comparison and pointing to the difficulty of distinguishing street children from children playing on the street, Anthony normalises the issue. In this and later responses, Anthony disagrees with street children as the focus of this research and other reports that draw attention to a street child 'problem' in Manila, when in fact, he perceives the street child issue in Manila as no worse than in other places.

Despite the fact that government agencies often oversee various interest groups, a fundamental understanding of the different types of street children would seem imperative to the development, implementation and enforcement of policies concerning them. Though no police officers approached would consent to participating in this research, a previous study revealed that police charged with 'rescuing' street children were not able to offer a clear operationalisation of the term. When a police chief was asked how to identify street children to rescue, he responded "alam mo na sa intura" (translation: you can tell from their appearance) (Scerri, 2009, p. 93).

This indiscriminate approach likely results in the rescue of many children who would not be considered a street child under other metrics and is likely an ineffective use of scarce resources. A further discussion of ‘rescue’ procedures and implications is provided in 5.4.

In short, stakeholder perspectives of what constitutes a street child reflected a range of perspectives, resource constraints, and institutional interests. The perspectives of the street children themselves, however, were not limited by such institutional architecture.

4.2.3 Call me askal: Street children’s perspectives on being a ‘street child’

Child-rights advocates have argued that children themselves do not want to be identified as “street children” (Panter-Brick, 2002). This sentiment was demonstrated in a study with Indian children who declined to participate, saying they were not street children. However, their refusal to be called a ‘street child’ could also be explained by other factors, including fear of being watched by employers (Bhaskaran & Mehta, 2011).

Connolly and Ennew (1996, p. 132) voiced concern about the term’s potentially negative impact on children:

All the attempts to define street children have been problematic and have been widely criticized for obscuring the realities of the situation and being at the least unhelpful and at the worst harmful for children.

Despite strong criticisms of the ‘street children’ classification, it is notable that the same researchers who have objected to its use for over a decade continue to apply the label in their work. Even Panter-Brick, who stated in 2002 “the term street child itself has almost disappeared from the welfare and analytical literature” (p. 148) and presents five “stark criticisms” (p. 147) of the category has continued to use the term in current work (see Worthman & Panter-Brick, 2008). This continuity possibly evinces a sentiment shared by other researchers who use the street child label as the best of bad options. Though several alternatives to the term have been proposed (see Thomas de Benitez, 2011, p. 66), including ‘street-connected children’ that has recently been advanced by the CSC, none has gained any lasting prominence. A pragmatic argument for the street child label is presented by Thomas de Benitez (2011), who, despite acknowledging the complexities of the term, seems to advocate its use in an effort to concentrate and simplify the sharing of knowledge among diverse disciplines.

Few of these studies have ventured to pose the question to the children themselves. When asked if they would consider themselves a street child, all children interviewed in this research nodded in agreement. When asked if they would prefer another name, two offered alternatives. Alma, age 16, responded eagerly with her own name.

Me: You just prefer your own name rather than being called a street child?

Alma: Yes, or Badjao.

Alma's preference to be called by own name rather than as a street child points to her sense of individuality, but her mention of 'Badjao' points to her collective identity. Badjao is an ethnic minority group from the Southern Island of Mindanao. The Badjao are discussed in depth in section 4.3.4, but it warrants mention that Alma's desire to be labelled a Badjao demonstrates the connectedness she feels to other Badjao and the relative importance of her ethnicity to her identity. This may also be bolstered in part by widespread discrimination against the Badjao, even by other street children and families, which will also be discussed in later sections.

The second alternative to the *street child* label was offered by a fifteen year old boy who was temporarily staying at an NGO-run shelter for boys at risk. Kris, who has been living on and off the street since his family moved to Manila from the Visayas, offered:

Maybe our name is askal. You can call me askal.

When asked what an 'askal' is, Kris laughed and looked around as if for some affirmation or support from someone else.

Askal it is dog on the street. No family. Just . . . umm . . . strong and always try again.

This is a telling statement for Kris whose responses indicated that he does have a biological family and some, though infrequent, contact with them. Yet, he relates more to an animal on the street with no family at all. His first inclination to say *our* name evinces the preeminent connection he feels to other street children and his membership in their collective identity. Importantly, the identity he has chosen attests to the strength and tenacity of the street children, rather than the vulnerability so often referenced in the literature.

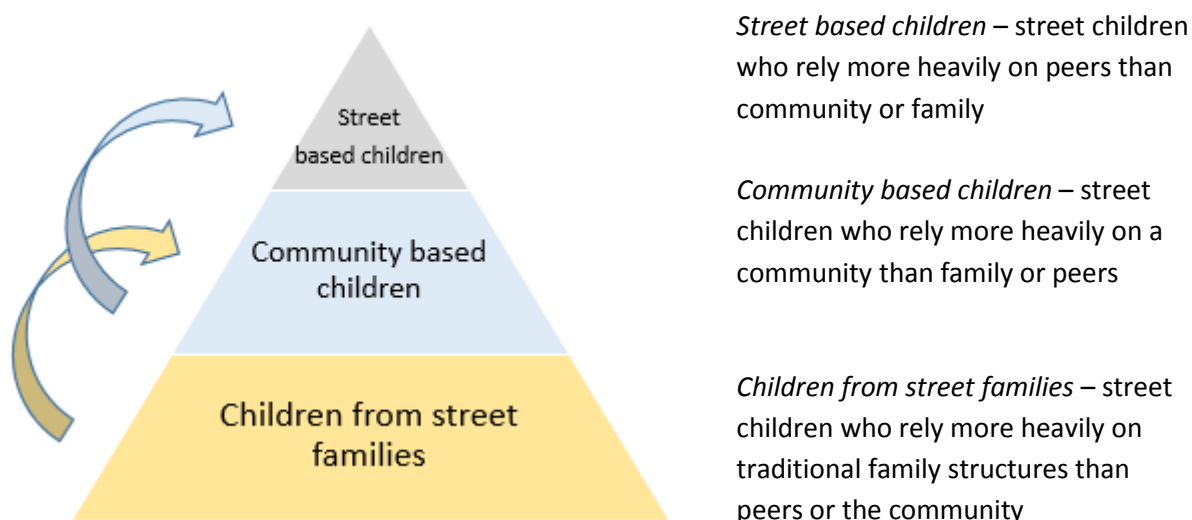
Asked if they perceived different types of street children, most children nodded 'no' or were unsure. Marco noted there were girl street children and boy street children. These responses perhaps also reinforce the notion of a collective identity in which street children themselves only perceive a gender distinction amongst themselves. Only Alma offered a non-gender distinction, commenting that some street children are Badjao, again demonstrating the importance she places on ethnicity and the ethnic divisions present even at the lowest socioeconomic levels. That the Badjao are spatially concentrated in specific sections of Manila is also significant and would tend to reinforce prior perceptions of stakeholders who felt that social connectedness was stronger in certain areas, particularly where street families remained intact.

4.2.4 Summary

While the debate over who constitutes a *street child* and the various classifications of street children continues to play out in the international literature, these semantic variations have little bearing on the provision of services to the children. In practice, though most of the civil society participants demonstrated knowledge of the different classifications of street children from the literature, they were more likely to adopt broad interpretations of street children in the provision of services despite resource constraints. Government representatives similarly adopted broad interpretations of street children, though these interpretations did not appear grounded in knowledge of the street child literature.

The slight variations in the classifications of street children used by civil society organisations demonstrate the importance of context. In keeping with stakeholder responses, the following classifications were adopted for this research: *street based children*, *community based children* and *children of street families*. The addition of *community based children* highlights the relative importance civil society participants place on the community, not just as a physical place, but as a trove of resources that protects children from being fully on the street in the absence of family. Thus, it stands to reason that street children in Manila are not distinguished by the amount of time spent on the street, nor the amount of time spent with the family; but rather by the degree and origin of social support available to them.

Figure 4.1 Street children in Manila: Classifications and definitions



Source: prepared by author

Conceptualising the different types of street children in Manila in this way reflects the perception that children from street families constitute the largest population of street children in Manila. Second, it demonstrates the progression from a broader base of support (which may encompass peers, family and community) towards *street based children* who only have one another on whom to rely. However, what remains to be explored in the chapter is what these different types of social structures afford street children, in addition to the exercise of norms for facilitating certain behaviours and constraining others.

In examining the norms inherent in these different structures, the symbolic importance of street children as 'askal' should not be lost. Though *street based children* have the narrowest base of social support from which to draw, they are not helpless nor bereft of their own norms. Further, the significance attached to ethnicity in the street child identity warrants a closer look at the juxtaposition of ethnicity across the categorisations of street children and the diversity of circumstances from which they come prior to life on the street.

4.3 Demography of street children: Gender, age, livelihoods and ethnicity

For reasons further examined in Chapter 6, it is difficult, if not impossible, to collect representative demographic data on street children in Manila and elsewhere. However, stakeholder and street child interview participants provided valuable insights into the gender, livelihoods and ethnicities of street children in Manila. This section explores

stakeholder perceptions and compares and contrasts with evidence from the international literature. The purpose of this section is to reiterate the usefulness of context in understanding street children and relating their demography to the resources available to them when confronting natural disasters and other stressors.

4.3.1 Gender

When asked if there were more street boys or street girls in Manila, stakeholders and the children themselves did not perceive one group being larger than the other. “About the same” was a common response, even while some stakeholders, such as John and Stephanie work for organisations that cater only to street boys. “*But we have a sister home that takes care of the girls,*” John explained. “*Just as full,*” he added.

These perceptions contrast starkly with the international evidence. There is widespread consensus over the past twenty years of research on street children that boys comprise the vast majority of street children worldwide (Sherman et al, 2005; Aptekar, 1994), though female street children are also present especially in Asia (Le Roux & Smith, 1998). Studies from Asia, South America, the Caribbean, and Africa report a strong male majority: between 70-80% in Delhi (Bhaskaran & Mehta, 2011); 75% in Colombia (Aptekar, 1989); 84% in Aracaju, Brazil (Gurgel et al., 2004); 70% in Jamaica (Cooke, 2002); 71.4% and 71.8% in Maceio and Arapiraca, Brazil (Bezerra, Gurgel, Ilozue, & Castaneda, 2011); 97.5% in Bangladesh (FREDP, 2003); 80% in Tanzania (McAlpine et al., 2010); and 75% in Ethiopia (Lalor, 1999). Perceptions of equal numbers of male and female street children also contradict a study conducted previously in Manila finding a similarly strong male majority in street children (70%) (Ruiz, 2006; Silva, 2002).

Reasons asserted for male prevalence in the international literature include: a higher propensity for boys to leave dysfunctional families and abusive parents (Bhaskaran & Mehta, 2011); a family’s determination to keep girls due to their dependence on their domestic labour (Aptekar, 1994; Lalor, 1999); and parental fear and/or cultural aversion to girls living or working on the street (Lalor, 1999). A report by ActionAid on research in Mumbai suggested that a lower prevalence of street girls could be attributed to their marrying at younger ages “due to concerns of safety, threat of traffickers and exploitative relationships” (ActionAid, 2013, p. 2). The influence of culture has been noted particularly in Muslim countries such as Pakistan where “females are not involved

in the public economic or social spheres . . . due to modesty norms dictated by Islam” (Sherman et al., 2005).

However, other sources suggest that there is no boy majority at all, but rather that street girls are merely less visible as they are engaged in more clandestine work such as bar maids, prostitutes, or domestic helpers (Bhaskaran & Mehta, 2011; Lalor, 1999). Child prostitution and sexual exploitation constitute a major concern in the Philippines for both street girls and boys, and some have linked the incidence of sexual exploitation and sex trafficking to the longstanding presence of the American naval base in Manila, where some 50,000 ‘AmerAsian’ children were “left behind” following the withdrawal of troops in 1992 (West, 2003, p. 29). The observation of street girls engaging in sexual activity for financial and other motivations is so pervasive that they are collectively referred to as “buntog” in some neighbourhoods, which translates as a bird who jumps from nest to nest (Ancheta-Templa, 2004). Further, in keeping with Mirasol’s observation that more sexually active children tend to live in areas with predominantly street-based children, several stakeholders suggested that in the absence of street family’s street boys and girls engaged in prostitution were confined to specific areas of the city.

Thus, while representative data is lacking, stakeholder perceptions indicate there are many more street girls than noted in the few studies that have collected primary demographic data on street children in Manila. Prior observations in the international literature of ‘hidden street girl’ populations engaged in prostitution do not appear to be relevant in Manila. Perceptions of an equal proportion of female and male street children would appear to support the notion that cultural norms in Manila do not preclude girls from working or living on the street relative to more conservative societies.

4.3.2 Age

When asked about the specific age range of street children in Manila, most stakeholders and the children themselves concurred that there was not a specific age range; street children ranged from infants to young adults. Two stakeholders responded with the age ranges determined by their organisations for eligibility for services – 9 to 17 years and 7 to 18 years.

Crystal, who works at a Catholic orphanage, however, indicated that *street based children* tended to be older than *children from street families*. This observation seems logical; as children mature they are likely to have the mental and physical capacity to be more self-sufficient than younger peers.

Universally, the vast majority of street children appear to be over the age of five, though current sources are scarce. Lalor (1999, p. 762) reported that the majority of street children worldwide were between the ages of ten and fourteen, explaining “children younger than 10 are not as capable of competing for the kind of work street children do...[and] by about 14 or 15 years of age, adolescents are beginning to lose their appeal to passers-by”. However Aptekar (1994, p. 198), apparently equating street children with beggars, alluded to a lower age range given smaller children’s relative advantage in procuring donations on the street as a result of a youthful, “cute” appearance. He also acknowledged “age was a liability” for street children in the developed world, given compulsory school attendance laws (Aptekar, 1994, p. 198). These reports of younger street children do not distinguish between types of street children, making it difficult to reconcile Crystal’s observation from Manila with theirs.

4.3.3 Livelihoods

Overall, it is known that child labour is a common, and likely growing, occurrence in the Philippines. In the 2011 Survey on Children in the Philippines, 3 million Filipino children were found to be engaging in hazardous labour and 9% reported to be doing so on the streets (NSO & ILO-IPEC, 2011).

The children’s sources of livelihood observed by stakeholders¹⁵ in this study included scavenging scrap materials from the markets, selling food, running errands, fetching water, begging, and hauling push carts.

Mirasol noted that children in her area would travel to Makati to scavenge for items from the “rich people’s trash so they can buy food and other necessities”. Janet similarly reported that children came to her community because “*it’s a better place for begging*”.

¹⁵ For ethical reasons, street children were not asked this question to mitigate the risk that a response might implicate them in illegal activity.

These responses emphasise the children's livelihood-driven mobility and also their resourcefulness.

Yes, the street children are very resourceful, both in positive and negative ways. We have children, who have, you know, good values. Maybe they learn it from their parents; they work hard.

Jasmine, who leads a homeowner's association in one of the informal settlements lining the Pasig River, reiterates a finding from the previous section that children's values are in part determined by the presence of a parent to teach them. The 'positive' norm of hard work, or "forego[ing] self-interest and act[ing] in the interests of the collectivity", is an important form of social capital (Coleman, 1988, s104), which the participant sees as inherent to the traditional family social structure. Jasmine contrasted hard-working children with those who use their resourcefulness 'negatively',

So those children whose values are not good, they do not want to work hard. They just snatch, hold up people. They hold up people, especially those who are well off.

In keeping with previous stakeholder responses, Jasmine did not perceive the children who engage in robbery as lacking in values, but rather as possessing 'bad' ones. The implication in the context of the conversation was that these negative norms were inherent in peer social structures which lacked the presence of a parent or protective adult. Stevenson (2001) explored the social capital of street children in Russia who engaged in criminal activity for survival and other personal advantages. Similarly, being careful not to denote street children's criminal activity as 'negative' social capital, Stablein suggests that the utility of social capital is subjective.

Though in many cases [peer] relationships did not produce socially desirable or positive outcomes, the importance of these connections produced (albeit perceived) advantageous personal outcomes for those who participated (2011, p. 22).

Though tempting to decline the adoption of normative notions of social capital in the ethnographic tradition, the framework employed by the present study requires that social actors conform to norms that enhance the adaptive rather than coping capacity of the children. Interestingly, however, neither of the paradigms advanced by Jasmine as 'positive' or 'negative' are adaptive. However, her notion of a hard-working child who supports the interests of the family (i.e., through income derived from their labour) likely deviate from Coleman's (1988) notion of the 'public good' and certainly with

Western norms that emphasise the importance of education over labour for school-aged children. Child labour at the expense of their education can deplete a place's stock of future human capital and contribute to higher fertility and lower health indicators.

Other illegal sources of livelihoods mentioned by stakeholders included selling drugs. One stakeholder¹⁶ recounted an instance in which a street child was paid for carrying drugs for police officers in their community.

Yeah, he was the courier. He decided to stop because of the counselling of our social worker, and he is no longer, [sic] you know, regularly attending the meetings. So after a week, he told the social worker that he wanted to be placed in the Center to change his life, to change for the better. But later, we found out that he was killed. He was beaten.

Me: Do you know how he was killed?

Um . . . he was held with something to his face, so his hands was tied up, and he was placed in a box, a tomb, and throwed at the bottom of the [omitted] building.

Me: And they suspect the police?

Yeah, because there are two witnesses that reported this.

The participant went on to describe how the witnesses, both children, were similarly beaten by the police. The responsible parties were never prosecuted despite the organisation's efforts to involve international parties. The story exemplifies the children's vulnerability to exploitation and violence even from those charged with their protection and the lack of recourse afforded to them when such practices come to light.

4.3.4 Ethnicity and migrant status

Little is known about the ethnicities and migrant status of street children in Manila. Lamberte found that 25% of street children in the Philippines resided in cities different from where they were located at the time of the survey, underscoring the mobility of the population (2002). However, it is unclear if these were short or long term movements and if cities outside of Metro Manila were included.

¹⁶ At the request of the participant, neither the pseudonym nor gender of the stakeholder will be provided.

When asked to identify where the children were originally from, many stakeholders had the same response: the children were from the local area, but the parents were not. ChildHope Asia similarly reported that many street children in Manila tend to be:

children of poor parents who migrated from rural areas in the hope of finding better job opportunities in the city but whose lack of education rendered them ill-equipped to struggle for survival in the urban jungle and are thus confined to a life of abject poverty (2003, p. 4).

Children are likely to endure more than just poverty as a result of their migration. Research by a Manila-based NGO and UNICEF found that government agencies frequently denied responsibility for the street children on the basis that they were “dayo/dayuhan” or “not from here” (Scerri, 2009, p. 133-134).

Migration, and particularly urbanisation, has several important implications for the development and maintenance of social capital. Most importantly, many migrants who move to Metro Manila have come from rural areas where social bonds may be grounded in generations of repeated social interactions and social norms reinforced. The benefits to be derived from such capital are lost when they move to the city. This notion will be examined further in following sections, but warrants attention, particularly when examining mobile groups such as street children.

In other parts of the developing world, street children also tend to be from migrant families or are migrants themselves. For instance, research from Bombay showed that 62.5% of the street children surveyed were migrants from other states who had moved to Bombay, though the study did not specify if children migrated with their families or not (Kombarakaran, 2004).

Stakeholders were also asked about the ethnicities of street children. Stakeholders, particularly those working in areas near Manila Bay, had observed large and increasing numbers of Badjao street children. The Badjao, also known as the Sama-Badjao, are a Malay ethnic group who have inhabited Indonesia, Malaysia and the Southern Philippine island of Mindanao for many centuries.

An ethnic Badjao and migrant from Mindanao, J.J. is a government teacher who has experienced first-hand the difficulties of rebuilding a life in Manila, though she admits she is among the more fortunate to have parents who invested in her education. While

an analysis of her explanation for the observed increase in the Badjao street population is provided later, it is relevant to discuss here the implications of these migrations for the Badjao street children in Manila. Depictions of the Badjao are often rooted in their connection to the sea and their nomadic nature. J.J. spoke proudly of this rich Badjao culture, in particular dancing and fishing. In fact, I had the privilege of witnessing a performance by her Badjao students called Igal Igal. J.J. explained that the slow and rhythmic pace of the dance symbolises the movement of the Sulu Sea. When asked about the Badjao's connection to the sea, she responded:

And specially fishing. They are experts in swimming. Even in the deep sea. And you know like the movie Waterworld with Kevin Costner? They know how to swim like that. Swim with the fishes.

When asked if the Badjao culture persists in Manila, she responded in the negative.

Me: What part has been lost?

J.J: Like, the fishing. Fishing, no more, because they forgot. We have Igal Igal still, but just not like in Mindanao. A lot of culture has been lost because we are far from the sea.

Her response alludes to the cultural loss that can often accompany migrations, particularly from rural to urban areas. Undoubtedly, this loss of culture also serves to erode bonding social capital associated with the exercise of culture. J.J. also attested to the discrimination endured by the Badjao both in Mindanao and in the places where they have migrated.

The Badjao, they are not accepted. They think that Badjao are dirty, they are not (pause) . . . you know, they do not belong to their community. But they do not know that there is a good heart.

Treatment of Badjao and Aeta children raised special concerns in the research, indicating that forced 'rescues' by police were specifically targeting these indigenous groups (Scerri, 2009). Known to be an indigenous group present from the mountainous regions of Luzon, the Aeta's were not specifically mentioned in this research, and this researcher could not identify scholarly work on the Aeta's movements to Manila. Further research would be needed to examine the extent of the Aeta street population in Manila.

4.3.5 Summary

The street child population of Manila is diverse, mobile, and resourceful. Some surprising findings emerged that distinguish the street child demography in Manila from those of other countries. One such finding was that stakeholders perceived an equal distribution of male and female street children in Manila, despite much evidence to suggest a large male majority in street children populations of other countries. Unsurprisingly, street children's work can involve legal and illegal trades and can at times expose them to further exploitation and violence. The perceived rise in street populations from particular ethnic groups, specifically the Badjao, warrants further research given the dangers faced by this group and the loss of culture experienced once they move to Manila.

4.4 Children's transitions to the streets in Manila: Push and pull factors

The same diversity that makes it difficult to define street children also makes it difficult to identify the factors influencing their transitions to the streets. Their pathways to the streets are often a result of multiple overlapping factors – not one-off transitions. Street children often retain complex ties to the home long after they have moved to the street and may return several times before making a complete transition. While each child's transition to the street is unique, some factors underlying these transitions can be attributed to the social, economic, and demographic contexts in which they occur.

The following section will explore perspectives of the factors 'pushing' and 'pulling' children to the streets in Manila. Adapted from migration literature, push factors are those that motivate children to leave or be forced from a home, and pull factors are those which draw the children to the street. While such factors have been explored in other contexts, no research to date has explored Filipino children's transitions to the streets within a framework that distinguishes push and pull factors at the micro and macro levels. This section seeks to contribute to closing that gap by providing perspectives from stakeholders and the children themselves on the factors relevant to Manila, and contextualises these dynamics within the international literature. A framework emerges which distinguishes push and pull factors by the categorisations of children developed in the previous section: children from street families, community based children, and street based children.

4.3.1 Push Factors

Though poverty and urbanisation are often cited as the primary drivers of the street child population, a growing body of international literature endeavours to produce more nuanced, contextual analysis of the social, economic and demographic processes that affect children's transitions to the streets. In African countries, for example, genocide (Veale & Dona, 2003, Rwanda) and HIV/AIDS (UNICEF, 2006, Ethiopia), have pushed large numbers of children to the streets. Manila, though currently spared the impacts of major political conflict and the HIV/AIDS epidemic, has its own drivers of street child populations that have yet to be explored in-depth through the perspectives of stakeholders and the street children themselves.

Economic Push Factors

Most stakeholders nominated poverty as the primary overarching reason children were on the street in Manila. Though poverty remains the most commonly cited factor pushing children to the streets in Manila and abroad, a more complex reality emerged that further distinguishes the classifications of street children.

Several stakeholders articulated that most street children in Manila are children from street families, and thus already accustomed to life on the street. All who were asked agreed they had observed an increase in street families in Manila. Mirasol, a social worker at a large non-profit organisation for street children, offered her explanation for the rise in street families:

Because of the situation here in the Philippines. The economic situation. It's actually the news in our government that we are a tiger in Asia, you know, compared to previous years. But the reality, as you can see, there are many street families, especially after the typhoon in the Visayas.

Mirasol's response echoes a common sentiment expressed throughout the interviews with civil society stakeholders; though the Philippines has experienced economic growth, the gains from that growth are not felt by all. This phenomenon has been noted across Asia, where despite overall gains in average income and poverty reduction, income inequality has been on the rise for the past two decades (Asian Development Bank [ADB], 2012).

Not all families make the transition to the street together. For children who are not from street families, poverty may underlie the need or desire to transition to the streets alone in order to improve the family or the individual child's economic situation. John, a street educator at a small shelter for street children, explained how family poverty can contribute to a child's transition to the street alone:

Sometimes the parent is the one who encourages the children to earn money on the street. Like scavenging, begging. So after that if the child is getting used to being on the street. He cannot earn money well so he is afraid to go back to his parents because the parents will get angry. So he decides not to go home because he does not have money.

John's response demonstrates how familiarity gained while working on the streets combined with pressure from family to earn money can impact on children's decisions to migrate to the street more permanently. Nicole, another street educator, similarly observed that parents are often responsible for sending children to work and ultimately live on the streets:

Yeah, because it's their way of livelihood for the parents. They don't know how to read; they don't know how to write. They cannot even go to jobs because, first, they don't have a permanent address, and in your resume you need to write your address. But how can they find a job if there's no opportunity for them?

For street families, parents' lack of a permanent address and illiteracy presents challenges to accessing the formal labour market. Thus, children, who are more commonly relegated to informal labour without such prerequisites, can be an asset to parents. Mirasol noted a further consequence of parents' lack of education:

Most of the parents of these street children don't even graduate from high school, secondary, so they are in the grade level. So most of them don't even know how to read and write. So how do they expect to send their children to school and value education?

Thus, parents' lack of education may also serve to push children to work on the streets if parents place more value on a children's present earnings than future returns from investments in their education.

The pressure to earn money for the family was a common theme throughout interviews with the children. All male children interviewed expressed the need to help their families. Marco, age 17, who lives part-time at a shelter for street boys, offered only this brief explanation of how he came to live at the shelter:

My mom needs money. She had three babies after me and brother. And they need food.

Marco is one of five children. He explained that he had an older brother who passed away in the previous year, and though he does not know what caused his brother's sudden death, he suspects it was an infection. For Marco, his brother, and the other street children interviewed, not having any form of identification poses a significant barrier to accessing public health services. Marco's explanation of leaving his family in order to help support his mother and her new babies is also not uncommon and reiterates the importance of understanding the demographic factors pushing children to the streets in Manila.

Demographic Push Factors

The demography of a place has important implications for children's transitions to the streets. Demographic processes, particularly fertility and urbanisation, significantly impact on the lives of children. From the national level to the family and individual levels, the strains of large families and competition for resources in an increasingly crowded city can be felt.

Children's desire or need to help growing families, as recounted by Marco above, were echoed throughout the interviews by stakeholders and the children themselves. Most of the children voiced fears that they were burdens on their families, usually in the context of explaining the birth of a new sibling. Amor, age 16, who spends roughly half her time living on the streets and half with relatives other than her biological parents, shyly recalled:

I left because I [was] the oldest. I can work but the baby can't work.

When families grow, older children may be pushed to the street to become 'community based' or 'street based' children. Of the five child participants, three were the eldest of their living siblings, and the remaining two were among the eldest of their siblings. Some of the children were unsure of the number of their siblings, including Joey who believes he may have 11 siblings. It is easy to imagine how large and growing families can contribute to street children feeling as if they are just "another mouth to feed" (Le Roux & Smith, 1998, p. 685).

According to the most recent National Demographic and Housing Survey (2013), Manila had a total fertility rate (TFR) of 2.3 (NSO, 2013). The survey also revealed that less than half (40.1%) of married women in Manila aged 15-49 use a form of modern contraceptive to regulate fertility (NSO, 2013). Importantly, as noted by another stakeholder, many of the children come from rural areas with higher fertility than Manila. Many street families are ethnic Badjao, originally from Mindanao where the TFR is 4.2, well above the rural TFR of 3.5 (NSO, 2013). Importantly, these figures are likely to be underestimates as they exclude the most impoverished of Filipino society, a phenomena addressed in detail in later chapters. The persistently strong influence of the Catholic Church is thought to contribute to conservative family planning policy in Manila and the Philippines more broadly. In fact, government health centres were not permitted to provide contraceptives and schools were not allowed to teach sex education until Republic Act 10354 was upheld by the Supreme Court in April 2014.

Urbanisation is the second most commonly cited reason in the literature for a large street population in Manila (Brown & Dodman, 2014; Ruiz, 2006; ChildHope, 2003). USAID officials cite rural poverty, unemployment, and depressed agricultural productivity among the most important drivers of migration to Manila where 62% of Philippine economic growth has been concentrated (Steele, Avila, Miller, & Britan, 2014). In light of the circumstances in rural areas, it is understandable why many Filipino families make the move to the big city. However, their realities once there can be worse than the lives they left behind.

Alex, a foreigner working for an international NGO, has heard the same story many times from families he works with in Tondo. Tondo is the most populous district in Manila (NSO, 2010) and, at least anecdotally, considered one of the most densely populated areas on Earth¹⁷. Once home to the Smokey Mountain dumpsite that closed in 1995, Tondo is now equally infamous for Happy Land, a ‘temporary’ relocation area built for former dumpsite residents that has drawn international notoriety for its dismal

¹⁷ I have not found any empirical evidence to support this claim, nor is there likely to be empirical evidence given that informal settlers are largely absent from nationally representative surveys in the Philippines. However, it remains a commonly referenced sentiment. See, e.g., Roy (2014).

conditions (Andolong, 2015). Alex described what he viewed as the most significant issue facing residents in Tondo:

The main problem in Tondo is the lack of social networks for residents. They came with a dream, ended up in the slums. They think it's temporary so they don't make friends. Even after 20 years, don't make friends or take care of their environment

Alex's response points to the significant negative social, economic and environmental consequences that can occur when families leave behind established social networks to move to Manila. He continued to explain how lack of trust or even a shared language between neighbours in Tondo contributes to problems such as rampant littering and improper waste disposal that exacerbates the impacts of natural and man-made disasters in the area. The lack of friendships and networks between neighbours described by Alex indicates a lack of social cohesion, a concept which attempts to explain the "extent of connectedness and solidarity among groups in a society" (Kawachi & Berkman, 2000, p. 175). For Kawachi and Berkman (2000, p. 175) social cohesion occurs in the absence of socio-economic inequality and in the "presence of strong social bonds - measured by levels of *trust and norms of reciprocity* (i.e., social capital); an abundance of society that bridge social divisions ('civil society'); and the presence of institutions of conflict management".

The language barrier between neighbours points to the difficulties of establishing ties in ethnically diverse communities in Manila. Putnam's (2007) controversial 'constrict claim' asserted that people tended to 'hunker-down' when faced with ethnic diversity, eroding social connections between and within ethnic groups and harming group trust. While there is some evidence to support the constrict claim in the case of the United States, van der Meer and Tolsma's (2014) review of 90 studies on the effect of ethnic diversity on social cohesion found "hardly any negative effects of ethnic heterogeneity in Australia, Canada, New Zealand, or Europe on indicators of social cohesion" (p. 472). Though empirical data are needed to clarify the relationship between ethnic diversity and social cohesion in the context of the Philippines, or the developing world more broadly, ethnic diversity does not appear to be the primary reason for lack of trust or connection with neighbours.

Rather, based on Alex's statements, the ethnic diversity of neighbours appears to play a moderating role in the more important relationship between residents' perceived length of stay in a place and social cohesion. As Alex's comments suggest, migrants never expected to reside in the slums permanently, and this lack of certainty has several negative implications for the individual, the family and the broader community. Previous sociological studies have established, for example, that short-term renters are less active participants in their neighbourhoods and build fewer connections than long tenure homeowners (Aldrich, 2011). In the context of natural disasters, this lack of engagement and trust with neighbours is detrimental to residents' ability to survive and recover from natural disasters as neighbours are often first responders to offer informal help during a disaster as well as an important resource for post-disaster rebuilding (Aldrich, 2011).

For the poor in Manila, particularly street children, permanence and stability of residence is elusive. Urban growth, high population density, and increasing poverty have contributed to a "critical shortage" of affordable land in the city forcing the urban poor to take residence in slums or informal settlements where they "live under a constant threat of eviction" (Porio & Crisol, 2004, p. 204). The Asian Development Bank (2014) reports that more than 40% of families in Manila live in makeshift dwellings in informal settlements, adding that poverty figures in Manila are likely underestimated. The inability to equitably administer and enforce land tenure in the Philippines is attributed to power, politics, corruption (UN-Habitat, 2014) and a complex legal process of obtaining title (ADB, 2014). Adding even further uncertainty in the context of increasing climate variability, the UN-Habitat (2014, p. 22) reports "[t]here is no clear guidance or regulation on addressing land issues in disaster situations, such as in the case of Typhoon Haiyan in 2013, and there are no proactive measures to prepare for them". A post-Haiyan joint agency briefing prepared by Oxfam details how lack of transparency in disaster situations can create a cycle of vulnerability for displaced persons in the Philippines who are more likely to:

- Fall into poverty, as evictions – or the threat of eviction – prevent restoration of livelihoods;
- Move back from sites of displacement or relocation to unsafe land, and;
- Form residual caseloads of landless groups without access to land and permanent housing. (Oxfam, 2014, p.2)

Thus, not only do lack of permanent residence and/or perceptions of lack of permanency have negative implications for disaster response and recovery, but they can also directly enhance the future vulnerability of individuals and communities.

Conflict

Though not as common as other factors cited, conflict was also mentioned as a push factor for street children. However, it was not due to local conflict, but rather conflict in the southern island of Mindanao that drives migration to Manila. J.J., a Badjao teacher who works primarily with Badjao children from Mindanao, explained why there are so many street families in her area:

They come to Manila for income. You know, in Mindanao, Badjao are a very tranquil people. They don't want trouble. They just want to live a peaceful life. They don't want war.

When asked if it was likely that they would eventually return to Mindanao, J.J. responded,

Now, no. You know, the Badjao they are not accepted. They think that if they are Badjao, they are dirty. They do not belong to their community. But they do not know that there is a good heart.

The conflict referenced by J.J. is the ongoing territorial dispute between Philippine government forces and Muslim separatists from the Moro National Liberation Front (MNLF) in Mindanao. While J.J.'s response indicates that the ongoing conflict in Mindanao motivates the Badjao to move to Manila, she points out that the move is more likely attributable to the conflict's impact on the economy in Mindanao rather than as a direct impact of the conflict itself. Further, discrimination endured by the Badjao in Mindanao likely prevent them from returning. Whereas social networks are often cited as a reason preventing people from migrating, the Badjao, as a nomadic and discriminated tribe in Mindanao, likely did not have the same level of bridging capital that they have established in Manila. *Here in Manila they do not face discrimination, because they take from the DSWD, NCR. They are very good*, J.J. offered, referring to the DSWD's social welfare program, Pantawid Pamilyang Pilipino Program (4Ps). Her statement demonstrates the role of bridging social capital between the concentrated Badjao population in her area and government agencies to access resources, which may serve to diminish discrimination based on inequalities.

Importantly, J.J. posits the conflict in Mindanao as a push factor for children of street families rather than children who have arrived in Manila alone. Thus, the role of conflict as a push factor for children of street families in the Philippines may differ from the role conflict plays in countries where the impacts are more pronounced. In Ethiopia, for example, 30% of the sampled street children were affected by death of a parent and/or displacement due to ongoing civil and foreign wars (Lalor, 1999). Thus, where conflict such as that in Mindanao is more likely to result in displacement rather than loss of life, street children may be more likely to be children of street families.

Natural Disasters

Few previous studies have devoted more than a passing reference to natural disasters as a push factor for street children. However, given the frequency of natural disasters in the Philippines, it was not surprising to hear that stakeholders considered natural disasters a push factor for street children in Manila. However, like conflict, disaster appeared to operate as a driver of family migration to Manila where children become children of street families. Mirasol noted an increase in street families in her area soon after Typhoon Haiyan in the Visayas. Janet, Director of an NGO for street children, reported that her area received many street families following the typhoon, but not as many as she anticipated. Further, as was the case for conflict, it was the natural disasters' impact on livelihoods that was seen to drive the migration. Mirasol explained the loss of livelihoods caused by flooding that led families to migrate after Typhoon Haiyan.

Many families migrated to Manila to look for a living because they don't have any means of livelihood or source of living there in the place because it was washed out by the typhoon. The rice fields washed out, and so it's difficult for them to feed their children. So they migrated here in Metro Manila hoping that they can find a greener pasture.

While stakeholders in this study did not address the phenomenon of children coming to Manila alone in the wake of a major natural disaster, other sources note the danger faced by children whose families' livelihoods are impacted by frequent flooding. An essay by a 14 year old boy from the Philippine Visayan Islands explained how regular flooding in his region caused families to lose livelihoods and send their children to Manila to work, exposing them to risk of trafficking (UNISDR, 2012a).

Like conflict, it is noteworthy that natural disasters have not contributed to being the drivers of street children one would expect, such as orphanhood or loss of the family home. This contrasts with findings in other countries where the impacts of disaster have been more severe such as the 2010 earthquake in Haiti that produced a significant spike in orphanhood (Pullum, 2010). Le Roux & Smith (1998, p. 685) assert that “drought and famine may be to blame” for dramatic increases in street children in agricultural societies, but fail to present any empirical evidence to support the claim. These differences emphasise the importance of this study in contextualising the role of natural disasters as a push factor for street children in Manila.

Physical and Sexual Abuse

Economic and demographic pressures can cause further disruptions at the family level which have more acute, profound impacts on children’s decisions to leave home. Interviews with stakeholders and children revealed many family-specific explanations of why children transition to the streets. Of them, physical and sexual abuse by relatives was the most common explanation provided by stakeholders¹⁸. Mirasol contributed,

It’s because of abuse. It’s physical abuse or sexual abuse, verbal abuse, so they run away from home. But mostly boys experience more physical abuse, and girls sexual abuse or molestation. So instead of staying, they rather stay in the streets, because they’re running from their problems.

Mirasol’s observation that children’s experience of abuse is a key reason why they are pushed to the streets in Manila contradicts the notion that economics and other macro level drivers are entirely to blame. John similarly believed “dysfunctional families” drove children to the streets, describing how friendships were forged by the children over common histories of abuse. Physical and sexual abuse against children has also been cited as a common push factor for street children in other parts of the world (McAlpine et al., 2010, Tanzania; Conticini & Hulme, 2007, Bangladesh; Lalor, 1999, Ethiopia).

Only one resource was identified on the incidence of child abuse in the Philippines, which reported 13,658 cases of sexual abuse and 1,024 cases of sexual exploitation from 2004 to 2008 (NSO, 2010). Complicating the task of examining data on this phenomenon

¹⁸ For ethical reasons, street children interviews did not address this topic.

is that there are at least six separate entities¹⁹ in the Philippines that take reports of child abuse (Department of Justice, n.d.), and the NSO figures only reflect DSWD cases. A presentation by the Executive Director of the Child Protection Network Foundation Inc. calling for a national survey on child violence in the Philippines asserted there was no centralized database on child maltreatment from these entities to establish total incidence or even to check if a child had previously reported abuse to a different entity (Madrid, n.d.). Better data and further research is needed to quantify and contextualise the incidence of child sexual and physical abuse in Manila.

Interestingly, Mirasol sees a gender difference in the type of abuse that pushes children to the street. It is unclear if she believes that children of either gender are equally susceptible to specific types of abuse, but her response indicates that the experience of a specific type of abuse may be more determinative for boys than girls and vice versa (i.e., physical abuse for boys and sexual abuse for girls).

The pervasiveness of abuse as discussed by stakeholders was surprising, perhaps because the Philippines is such an overtly Catholic country, where it is unusual to pass a jeepney that is not adorned by religious figurines, paintings or other artefacts. For that reason, it was also particularly surprising to hear a stakeholder attribute child abuse to parents' lack of spirituality. Mirasol stated,

As I observed, especially those couples who are not spiritually inclined, they don't have the spiritual foundation in the family, even when they have problems. They always resorted to quarrel, to physical abuse, hitting each other. The wife is nagging, so the father hit the wife. So of course the children are also affected because of very troubled families. The children decide to stay away from home.

Mirasol, a social worker with a background in psychology, was careful not to express her preference for a particular religion nor to infer that lack of religion was the issue, perhaps due to the non-sectarian nature of the NGO for which she works. Instead the 'lack of spirituality' mentioned by Mirasol seems to encompass an underlying set of principles that serves a mediating role in the family and as a protective factor for children from abuse and ultimately being pushed to the street.

¹⁹ According to the Department of Justice (n.d.), these are: DSWD; Anti-child Abuse, Discrimination and Exploitation Division of the National Bureau of Investigation; Commission on Human Rights Child Rights Center; DOJ Task Force on Child Protection; and Local Barangay Council for the Protection of Children.

Abandonment and incarceration

Absence of a parent by abandonment or incarceration was also mentioned as a push factor for street children. Interestingly, two respondents suggested that government resettlement programs may contribute to the increased numbers of abandoned children. Under the 4Ps program, poor families receive a shelter and small monthly stipend to be relocated to less densely populated areas. However, in practical terms, because of the small earning potential in these areas, several stakeholders observed that parents often returned to their original homes, leaving children behind at relocation sites, perhaps to continue collecting the stipend. Mariel addressed several negative consequences of children left behind in resettlement sites:

[W]hat a big problem! And then sometimes both [parents] will go back to Manila to work, just leaving their children there without any adult, just older, the eldest child maybe 10 years. Then those kids can be abused by neighbours! Oh my god, we have children who are left in their house in relocation site, they were abused by the neighbour, sexual abuse. So the parents, they have difficulty in what to do with their lives. The children will be abused, or fire or flood, and the children cannot take care because they are immature.

Mariel's response highlights the dangers children can face when left on their own, particularly in the context of frequent flooding. Her reference to sexual abuse by neighbours emphasises that the observed vulnerability to abuse suffered by Filipino children voiced by other stakeholders extends beyond relatives and immediate family members.

Incarceration of a parent was regarded as a factor driving children to the street by Janet. Though this factor was not mentioned by other stakeholders nor commonly addressed in other studies on street children, incarceration could play a more significant role in Manila or in the specific barangay where the Janet's NGO is located. Though incarceration data is difficult to obtain in the Philippines, Dr Raymond Narag, a former inmate turned criminologist, provided me with data indicating a jail population of 22,153 in Metro Manila (Narag, 2015) and severe over-congestion of Manila prisons based on variances of population and jail areas.

4.3.2 Pull Factors

Factors that pull children to the streets are less examined, perhaps because they stem from reasons that children themselves do not fully understand. In some cases, children

may be drawn to the streets simply to be part of the action (Le Roux & Smith, 1998) or to enjoy the glamour of city life (D'Lima & Gosalia, 1992). Peer pressure has been cited as a reason children decide to join friends living on the streets in Manila (ChildHope, 2003). Other scholars believe children who are subjected to increasingly structured timetables may be attracted to the "unstructured parts of otherwise extensively managed urban environments" (Connolly & Ennew, 1996, p. 135). However, as will become evident in later sections, the children tend to recreate their own structures and hierarchies on the streets in place of the authority they had at the family home or in school (Connolly & Ennew, 1996).

Several stakeholders interviewed agreed that children may be influenced by friends to live on the street. However, their responses indicate that children may be less motivated by peer pressure and more motivated by the need to discuss and escape problems at home. John linked abuse at home to children's decision to leave home,

Problems in their families. Sometimes they are relatives, the families are the ones who abuse them. So they go out in the street and find their friends and they talk to them their problems. So sometimes [sic] they use rugby . . .

John's response indicates that though friends may influence children's desire to live on the street, these decisions are likely to arise out of problems at home. For children facing difficulties at home, particularly abuse, the street presents the opportunity for friendship and to temporarily escape problems by using rugby or other illicit drugs.

For ethical reasons, the children were instead asked "if given the choice, why would some children choose to live on the streets?". There was a clear gender divide in the answers; girls could not provide a reason for why any child would choose to live on the streets, but the boys' responses were more nuanced. Joey responded, *to play with friends*, and referenced basketball several times throughout the interview. For Marco and Kris, being with friends was also a draw to the streets. Kris' response, however, reinforced the protective role that friends may have, *"if you have trouble you want to be with friends"*. While not explicitly referencing any family issues, it is clear that Kris would turn to friends rather than family if in need of help.

Despite some stakeholders' emphasis on the role of the family in the Philippines, Kris' response and the incidence of family abuse cited previously evince that some families

are more likely to push children to the street rather than protect them from the street. Once on the street, the children develop social networks that attempt to replicate the structure found in traditional families. Stephanie, a street educator, explained how in the absence of families, the children create their own.

It's what the street kids do. They don't have any family so they build their own family. Yeah. So they look [for] brother and sisters. Sometimes there is an adult person, they call them tatay or nanay, mother or father.

This recreation of a traditional familial social structure reiterates the socially connected, rather than socially deviant, nature of the children. Nicole, speaking of children who had lost their parents, emphasised that, “*even though that they are street children, they are family oriented.*” For street children, the family experience is not confined to biological ties, but rather the provision of emotional support and protection.

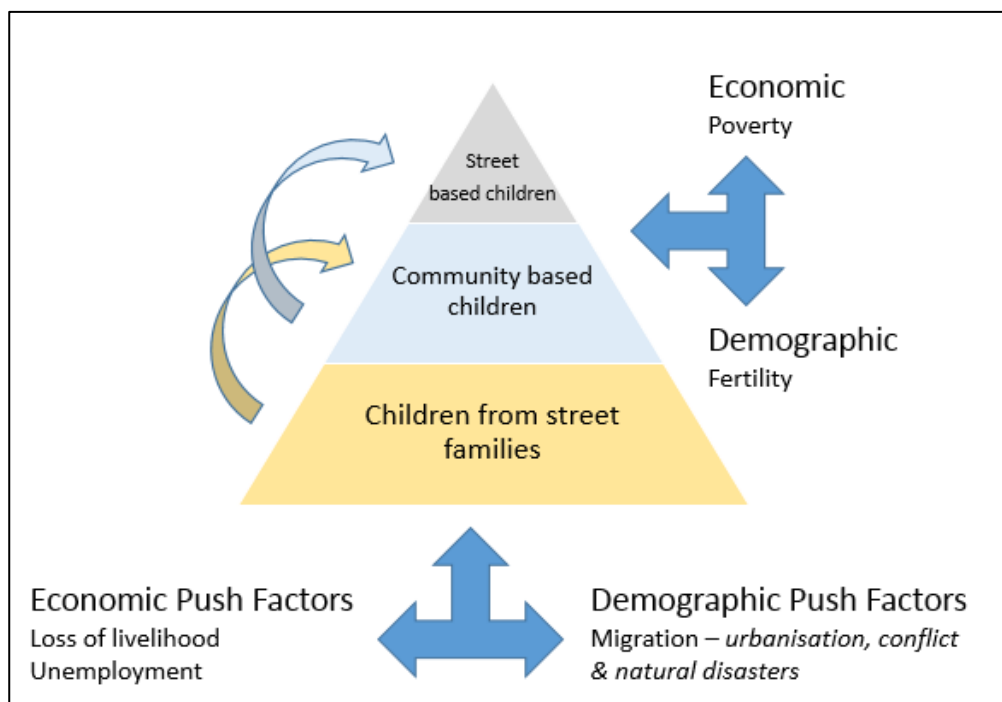
Importantly, the pull factors mentioned, including being with friends and engaging in drug use, do not function directly, but rather complement pre-existing push factors such as abuse and other family issues.

4.3.3 Summary

Though previous analyses of children's transitions to the streets have distinguished push and pull factors, none reviewed by this researcher has distinguished these factors at the macro and micro levels and for different classifications of street children.

In examining macro and micro level push factors, it is evident that street children populations do not arise simply from poverty or urbanisation. Rather, the complex – at times mutually reinforcing – interaction of these factors combined with spatially-determined stressors such as natural disasters and conflict contribute to populations of specific classifications of street children, namely those from street families. Meanwhile, the interaction between poverty and fertility generates more community based and street based children who receive the least amount of protection from adults, whether from family or the community. Figure 4.2 demonstrates these dynamics as perceived by stakeholders in Manila.

Figure 4.2 Macro push factors for street children in Manila by classification



Source: prepared by author

At the micro level, physical and sexual abuse were the most commonly identified factors pushing children to the streets. Abandonment and incarceration were less frequently articulated but nonetheless present salient evidence for the importance of qualitative enquiry in distinguishing push factors in one place from those of the other. Many of the push factors identified in studies of street children in other countries were irrelevant in Manila, e.g., youth political activism in South Africa (Le Roux & Smith, 1998), and the HIV epidemic in Ethiopia (UNICEF, 2006). While some push factors, such as natural disasters and conflict play a similar role in pushing children to the streets of Manila as they do in other countries, these factors primarily operated as motivators of family migration rather than by death or displacement of family members as evident in other parts of the world (e.g., Pullum, 2010, orphanhood in Haiti following an earthquake).

Pull factors, on the other hand, did not appear to be as significant when compared to push factors, and though friendships and drug use may influence some children's decisions to transition to the streets, they were viewed as having only complementary effects when tied with other push factors rather than constituting independent factors affecting decisions to transition to the street.

4.5 Street children's health and the impact of natural disasters

Street children face many health issues unique to their environment and the stressors that accompany life on the street. Common health issues range from drug use to physical and psychological issues. Street children's health was among the primary concerns of stakeholders. Interviews indicated that street children in Manila exhibit many of the health issues identified in street children around the world, particularly those related to malnourishment. However, they also identified other health issues such as skin diseases, cholera, dengue and genetic disorders that have been less articulated in the international literature. This subsection addresses the identified health issues and the role of natural disasters in their origin, spread, and treatment and what, if any, protective factors exist.

4.5.1 Malnourishment

It is not surprising that malnourishment and related conditions and symptoms were identified by stakeholders as common health issues for street children in Manila. In densely populated urban areas, fresh food is often too costly for the children to access. Stakeholder respondents report that the children commonly eat out of the rubbish bin. Even in Manila where bulk foods such as rice are considered inexpensive by Western standards, the production, preparation, or storage of such foods in contaminated water or bins can expose children to bacterial infections.

Cholera is a bacterial infection noted as a "primary concern" by Alex, whose NGO works primarily with slum dwellers who scavenge for a living. While other participants did not mention cholera by name, they noted a symptom of cholera, diarrhoea, as a common issue for the children. According to the WHO, cholera is an "acute diarrhoeal infection caused by ingestion of food or water contaminated with the bacterium *Vibrio cholerae*" (WHO, 2014a, p. 1). Though easily treatable by rehydration salts, cholera can be fatal if left untreated. Alex's account of one family is a testament to the danger of untreated symptoms:

In one case, parents were advised to get a child to the hospital immediately but did not. They had lost hope. They had already lost three children before that one.

Though the parents' exact motives for not taking the child to the hospital are unknown, it is apparent that lack of access to healthcare constitutes a significant issue for Manila's

poor. NGO stakeholders reported feeling morally obligated to expand their health services to not only the families of street children but also the neighbours, who were otherwise unable to acquire medicine.

Natural disasters are often thought to contribute to the health issues of the urban poor. The WHO notes that risk of transmission of the disease is increased by disasters which can cause “disruption of water and sanitation systems, or the displacement of populations to inadequate and overcrowded camps” (2014, p.2). Though several respondents including the children listed an increase in generic symptoms such as fever and colds during the wet season, natural disasters were found to have an unexpected consequence for children and families exposed to malnutrition and the effects of contaminated food and water sources. Janet explained:

Often during flood times it's great because they get, you know, food packages and there are people providing hot soup and stuff. So it's actually a time when in some ways it could be better. You know, some of them come stay here and have shelter, showers, and clean clothes, which they don't get all the time.

Thus, disasters can present opportunities to access food, shelter and hygienic resources that may not otherwise be available. Food aid from international, national and local NGO's, GO's, governments, and private citizens provides short-term relief to affected communities. However, one must question the sustainability of such an approach given the funding cuts articulated by many respondents working for NGO's and the onset of “donor fatigue” noted in the disaster literature. Accessing short-term relief that may not be available otherwise is an important coping strategy exercised by the children, but likely incompatible with long-term adaptive strategies. Particularly where international resources are involved, foreign aid can often undermine local capacity and promote short-term solutions rather than long-term investments in local health infrastructure.

While out in the field, this researcher observed another unforeseen implication of natural disaster aid on a street child's access to nutrition. On a regular Saturday in a small barangay in Quezon City, hundreds of street children are brought to a local NGO for food and quick showers. While the NGO struggles to provide the children with adequate food each week, a storage facility owned by an international NGO full of rotting food earmarked for Typhoon Haiyan (known locally as Yolanda) victims in the Visayas Islands is guarded by an armed man down the same street. The scene of

hundreds of hungry children on the same street as a facility of rotting food became an important analogy for the bureaucracy that stifles the wellbeing of street children and other marginalised residents of Manila.

4.5.2 Skin Diseases

Skin diseases were the second most frequent health issue noted by stakeholders. Although some respondents were unable to identify the types of skin diseases present, nearly all stakeholders identified skin infections as a health issue for street children. However, it is interesting to note that none of the children reported skin issues as a problem. Janet explains:

Skin issues, which is one of the main issues, the kids don't report anyway. We try to be a bit proactive with them, when the kids we come into contact with it. We'll try to, but they're just used to it.

Skin diseases, like malnourishment, constitute such quotidian experiences for the children that they do not acknowledge them as a problem when asked. Mirasol, who considered skin diseases the second most significant health problem faced by the children, attributed the symptoms to “sleeping in dirty places and not taking a bath everyday”.

While a few stakeholders and some of the children attributed skin lesions as “*normal scrapes and scratches that are getting infected and getting dirty*”, others identified scabies and leptospirosis as important skin issues for the children.

Scabies

While only one respondent, Ana, named scabies as an issue for street children, it is possible that scabies is the cause of the lesions mentioned by other respondents. The WHO (n.d.) describes scabies as a common dermatological condition which is more likely to affect children and the elderly in poor communities, particularly in urban areas such as Manila with hot tropical climates. Scabies is caused by mites that burrow and lay eggs under the top layer of skin causing sores and intense itching. The most important consequences of scabies are incurred when combined with other infections.

“Evidence of renal damage can be found in up to 10% of children with infected scabies in resource-poor settings, and, in many, this persists for years following infection contributing to permanent kidney damage.” (WHO, n.d., para. 4)

Ana identified scabies as the “first” health issue for street children but acknowledged the difficulty of preventing it; “[i]t goes in and out. Sometimes it’ll get treated and after a while it comes back.”

Leptospirosis

Leptospirosis was cited as a common skin issue for children in Tondo. Leptospirosis is a disease caused by the leptospira bacteria which can be present in the urine of animals such as rodents and dogs then transmitted to humans through contact with cuts on the skin or with mucous membranes in water, damp soil, vegetation or mud (DOH, n.d.; Victoriano et al., 2009). Though it is a notifiable disease in the Philippines, it is underreported given the difficulty in diagnosing it, particularly given the broad range of symptoms which overlap with other diseases and include fever, headache, muscle pain, chills, redness in the eyes, abdominal pain, jaundice, vomiting, diarrhea and rashes (DOH, n.d.; Victoriano et al., 2009). No vaccine is available for humans; however, the drug doxycycline is used to prevent the disease.

The disease is common in the Philippines, particularly during typhoon season when flooding occurs. Victoriano et al. (2009, p. 5) emphasise the seriousness of the problem in the Philippines due to “poor sanitation and the increase in urban slums along with frequent typhoons and expansion of flooding areas in the country”. For these reasons, leptospirosis is more prevalent in urban areas, and the DOH reported that Manila had the most cases of the disease for the year 2013 (DOH, n.d.). The DOH reported a surge in cases after the monsoon rains in Manila in August 2012, resulting in 34 deaths and 783 cases in 20 hospitals alone. By mid-August, the country as a whole had registered 62.35% more cases than the same period from the previous year (DOH, n.d.). A similar spike occurred in the aftermath of Typhoon Ketsana in 2009, when the DOH registered 2,299 patients, including 178 fatalities, with leptospirosis (Amilisan et al., 2012). In an in-depth investigation of the outbreak in one hospital and neighbouring provinces, Amilisan et al. (2012) investigated 486 cases which met the clinical criteria for leptospirosis, 90% of whom were male and 50% of whom were 30 years of age or younger (Amilisan et al., 2012).

This finding of the significance of leptospirosis in the aftermath of disasters coincides with a survey conducted on 45 Filipino medical/public health students who were asked

to identify significant infectious diseases related to disaster (Usuzawa et al., 2014). Leptospirosis was identified as a significant disease related to disasters by 27% of the students, as compared to only 3% who named skin diseases more broadly (Usuzawa et al., 2014).

Mariel indicated that the national government has failed to regulate the delivery and cost of disaster medicine during times of emergency. She expressed the significant need for antibiotics to treat infections after significant flooding and typhoons that her NGO is not always able to provide to all in the community who need it. Only a few non-peer reviewed sources were found by this researcher that attest to a significant spike in the price of doxycycline after typhoons when people need the drug most. It is reported that former President Benigno Aquino III himself found evidence that a pharmaceutical company had raised the price of the drug by up to 750 percent (DOH, n.d.). Other reports indicate that the DOH administers the drug free of charge in the aftermath of typhoons to the most affected areas (UNOCHA, 2011). Despite these inconsistencies, Mirasol noted the determination of street families to access the medical attention they require either from her NGO or others.

So sometimes families ask for medical assistance from other foundations like Chinatown foundation for poor families. They're very resourceful, actually. If they are poor and living in the streets, they are very resourceful.

For Mirasol, identifying non-governmental sources of medical attention is one way in which street families demonstrate their resourcefulness. When asked how they are informed of these services, she responded "through neighbours or friends", emphasising the role bonding social capital can play in street families' access to health services.

4.5.3 Malaria and dengue

Malaria and dengue have been cited in the international literature as common problems for street children due to their exposure to mosquitoes while living and sleeping in the open (Orme & Seipel, 2007). These issues may be particularly problematic for children living in places subject to frequent flooding such as Manila. However, only one stakeholder, Alex, who works alongside a major garbage dumpsite, reported malaria and dengue as significant health issues for the children. Malaria and dengue are expected to

become more problematic over time due to the impacts of global climate change, though research on their impacts and prevention for street children remains scarce.

4.5.4 Drug use

Street children's drug use was discussed previously as a pull factor drawing children to the streets, specifically in the context of coping with abuse at home. Drug use is an acknowledged health threat to street children internationally (Bhaskaran & Mehta, 2011; Sherman et al., 2005; Le Roux & Smith, 1998; Njord et al., 2010; UNESCO et al., 2001), and Manila is no exception, though the types of drugs used and associated health implications differ from place to place (e.g., Sherman et al., 2005, heroin and bhang in Pakistan).

Alex named solvents and 'rugby' as the primary drugs used by children in the Tondo slums where he works. Rugby, a cheap and easily accessible inhalant usually in the form of glue, is a noted health problem for street children internationally. Ironically, while this and other studies have found rugby to be a coping strategy that can motivate children to leave abusive situations at homes, other studies have found that once on the street, the same drug becomes a strategy for coping with the circumstances of their new life. A study of street children in Sudan found that "[a]fter sniffing glue, children feel powerful, fearless and therefore able to face the dangers and challenges of the life in the street" (EMDH, 2009, p. 29). Street children in Manila may also resort to drugs in order to 'mitigate' hunger pangs and the pains associated with previously discussed health issues (Njord et al., 2010; Pogoy & De Guia, 2005).

Stephanie, a street child educator, also cited rugby use as a major problem, and added marijuana, shabu, and other methamphetamines to the list. She noted that street children often had asthma and other 'problems in the lungs' as a result of using these substances. The same drugs were found to be prevalent among street children in prior research conducted by Njord et al. (2010), whose quantitative study found that street children in Manila were significantly more likely to use inhalants and illegal drugs than non-street children.

Street children's use of rugby (inhalants, usually in the form of glue), solvents, marijuana, and shabu/methamphetamines was explored in a survey of children in

Manila, as well as the resulting symptoms of diminished lung function, including dyspnoea and chronic coughing (Njord et al., 2010). Drug and alcohol use may also contribute to risky sexual behaviour and higher incidence of HIV/AIDS among street children in Manila (Njord et al., 2010), though its prevalence is debated. On an international level, Le Roux and Smith (1998, p. 685) reported that “AIDS is spreading at an alarming rate among street children”, though current research in this area remains scarce. As discussed in section 4.5.2, street children may also become involved in the sale of drugs which can expose them to various legal and safety risks.

Njord et al.’s (2010) findings also suggest an association between drug use and the degree of contact with family; street children who did not maintain contact with their families were at much greater risk to drug abuse than street children who maintained contact with family and non-street children (Njord et al., 2010). This association was found in a Cambodian survey as well with 76.5% of ‘lone children on the street’ reporting drug use as compared to 35.6% of the larger street child population (Mith Samlanh, 2011). Stakeholders in this research observed the same association.

Usually the kids are without their parent. Usually it is rugby. It helps them forget, helps them to be free for a time. They do not know it is bad.

This response from Ana, who works in one of the areas thought to have many abandoned children, reiterates the previously expressed view by another stakeholder that parents play a key role in informing and standardising children’s behaviour in keeping with societal norms and values.

On the other hand, J.J., who works exclusively with Badjao children, said drug use among the street children in her area was “not a very big problem”. She previously noted that most of the Badjao children with whom she worked were children of street families, and thus had the protective influence of their parents. However, it appeared to be more than that. Throughout interviews with J.J. and Alma, it was apparent that being Badjao provides children a strong social identity guided by a “good heart”, repeatedly referred to by J.J.

Further examining studies reporting low levels of drug use by street children, Orme and Seipel (2007) cited the strong social support received by peers as a mitigating factor for risk of drug use in their qualitative study of street children in Ghana. Most of the street

children in that study had little contact or support from families, but peers seemed to fill the critical vacuum of protection, and emotional and financial support. Though cultural identities did not factor into the analysis, it was noted that the children were predominantly from the Akan, Ewe and Ga tribes. Further research is necessary to explore the role of structural social capital as a protective factor for street children.

Overall, stakeholders in Manila did not appear overly concerned about the health implications of drug use. Apart from Alex's observation that drug use prevented children from attending school, none of the stakeholders appeared very concerned with the children's drug use constituting a serious threat to their health. It is unclear if this lack of concern is due to stakeholders' lack of knowledge of drug use consequences or the perception that drug use does not pose as significant a problem as other challenges faced by the children. However, given both the direct and indirect implications of drug use for street children, more should be done to identify and foster the relationships seen to mitigate the harmful effects of drugs. Access to health care would likely diminish some of the need for street children to resort to drugs as a coping mechanism, as well as support from family and peers. While drugs can present a short-term coping strategy, the potentially long-ranging effects of continued use on other aspects of the children's health and education encumbers their long-term transformational potential.

4.5.5 Respiratory issues

Respiratory or 'lung problems' were cited by one stakeholder as the most important health issue for street children and by three others as a 'significant' issue. While the previous section reported Stephanie's belief that lung problems such as asthma were due to substance use, Mirasol believes respiratory tract infections were primarily a result of the children sleeping on paved streets.

Only one of the children mentioned 'breathing' problems as a health issue. Marco who lives and works on a dumpsite said he regularly had trouble breathing. He had previously noted that his brother died from an undiagnosed ailment, possibly an infection. When he has trouble, he turns to friends and the shelter he stays at part-time. *"My friends and my other friends at the [omitted] Centre they help me"* he said, smiling.

Me: Would you trust anyone else?

Marco: No.

Me: Why not?

Marco remained silent and shrugged. In the absence of family, Marco's perception evinces the important role that bonding capital with peers plays in safeguarding health. Though Marco cannot recall ever going to a hospital, informal health attention from peers and NGO staff is the only perceived option for addressing his ongoing health issues.

4.5.6 Summary

For the most part, the discussed impacts of natural disasters on street children's health were similar to those found in the international literature and empirical evidence for malnourishment and leptospirosis. However, the strong emphasis placed on other skin diseases, such as scabies, in the discussions warrants more attention.

Many respondents expressed the view that the health issues impacting children, particularly skin diseases and diarrhoea, were "a pretty normal state of being". Despite the children's common experience with such diseases, they can have significant, if not fatal, consequences for the children that can be exacerbated by exposure to frequent flooding and heat in Manila.

Importantly, none of the street children interviewed could recall ever going to a hospital and would not go to a hospital if they fell ill. Instead, the children rely heavily on their peers and NGO's for medical attention.

It should be noted that none of the participants interviewed had medical degrees or training. Their ability to articulate the children's health issues was largely dependent on the information they were able to gather from the children, whom several acknowledged were not always forthright about their conditions. Three stakeholders expressed a desire to learn more about disaster health in order to better serve the children; future studies with street child stakeholders may do well to incorporate health or first aid training as compensation for participation. Training would benefit research by enabling stakeholders to more accurately identify health issues.

It is likely that there are many more unknown health issues affecting street children in Manila. Empirical evidence from elsewhere in the Philippines demonstrates that

children are exposed to high levels of lead in the aftermath of flooding due to soil contamination, which can contribute to neuro-behavioural and cognitive abnormalities in children (Ostrea, Ostrea, Villanueva-Uy, Chiodo, & Janisse, 2014). To this researcher's knowledge, no similar studies on lead exposure in street children in Manila have been conducted.

While disasters presented opportunities for children to access medical treatment and food, this short-term coping strategy is unlikely to promote the children's long term adaptive capacity. Further, in light of resource constraints and donor fatigue, policies and practices designed to address street children's health should incorporate measures designed to enhance their access to formal health institutions and/or invest in the training of local NGO staff.

4.6 Street children's education and the impact of natural disasters

Lack of education and illiteracy were key concerns for stakeholders and the children themselves. Education is noted as one of the primary pathways for ensuring brighter futures through increased income opportunities as well as greater use of family planning strategies to break the cycle of poverty. Ensuring that street children receive adequate education is in the best interest of the child as well as society in general.

In his policy paper on the right of street children to education in the Philippines, Ruiz cited "their need to work, inability to pay school fees including costs of making projects, skyrocketing cost of basic needs and distance of schools from their houses" as key factors affecting children's access and participation in formal education (2006, p. 4). The findings from this study echo these factors, but also revealed more fundamental reasons why street children may not be able to access or participate in formal education. Importantly this section also explores the role of natural disasters in street children's access to and participation in education, producing findings that challenge the established negative paradigm.

4.6.1 Barriers to participating in formal education

This analysis of the impacts of natural disasters on street children's education in Manila distinguishes between participation in and access to formal education. Barriers to participation apply to circumstances which hinder the child's ability to attend school but

are not altogether prohibitive. For street children in Manila, such barriers to participation appear to be work commitments, duty to the family, cultural factors, as well as indirect impacts of natural disasters, and particularly flooding.

Work, family and culture

Street child interviews revealed that all wanted to attend school but most could not. When asked why they did not attend school, responses included lack of transportation, money and work commitments.

However, many responses indicated that they are able to attend lessons during specific times of the year. The children's movements in and out of schooling are fluid; they attend for a few months when they have money and leave school when they run out. Ana reported that street children in her area usually attend school from June to August, corresponding with the wettest months of the year and perhaps when the children are less likely to find work on the streets and need shelter.

Family and work commitments were a common reason expressed to explain why children were willingly or unwillingly not in school. JJ explained,

The majority of them, they want to go to school. They want to continue, but you know, in their family, they cannot go. [M]ajority because their parents, they work just as side car driver, vendor. Three brother[s] and four sister[s] in one big family.

As discussed in prior sections, such work and care commitments are not only a reason why many street children are out of school, but may also contribute to their reasons for making a more permanent transition to the street, if the pressure to earn is too great. Alex also believed taking care of younger siblings was a primary reason why female children from street families were not in school, while drugs and bullying kept many male street children from attending school. Thus, barriers to education likely differ by gender for street children.

Other stakeholders acknowledged cultural reasons why the children may choose to work even if given the opportunity to attend school. Nicole explained,

I think that's one cultural [aspect] of Filipinos that you cannot take it away from us - being attached to our parents. We have one kid before he doesn't want to go to school, because he doesn't want to be separated from his father. So the father

does the scavenging. So he also helps push the cart and pick up all the trash and all that.

For Nicole and other stakeholders, the family is a pervasive aspect of Filipino culture. McCoy (1994) explored the rise of families as the primary political and social unit in the Philippines out of necessity to fill the vacuum of a weak nation-state. However, as noted prior, street family members need not follow traditional roles and bloodlines. Nicole's example of this father-son dynamic challenges the traditional parent-child paradigm and posits the child as an equal in terms of the labour he provides. However, such perceptions are likely detrimental to the child's prospects to participate in education. Coping strategies such as engaging children in labour to assist the family may offer short-term reprieve from financial stress, but may hinder development of the human capital necessary to foster adaptive capacity at the individual and societal levels. Interestingly, two street children who did not have regular contact with their families were able to participate in informal schooling when not working while those with frequent contact did not. These responses may suggest that although contact with family may help influence positive coping strategies in keeping with cultural norms, they may be obstructing adaptive capacity in areas such as education.

Natural disasters

Natural disasters appear to play a small but important role in street children's participation in formal schooling. Grace, a teacher at an NGO-sponsored school, indicated that children were more likely to attend school during the wettest months of the year. Though she did not attempt to qualify her observation when prompted, this may be due to children's inability to beg or conduct other economic activities on the street and their need for shelter.

However, the wet season also presents challenges to school attendance. These factors include damage to school infrastructure and personal property used for school activities. Grace explains,

That is also the problem of our students in City B because there are things like books, notebooks. So when the floods came, they wash away.

The MMDA reports that 1,187 elementary schools out of 2,747 in Metro Manila are considered "flood-prone". This high number of flood-prone schools is particularly

concerning given that two stakeholders nominated schools as the place where communities gather during hazards. Floods during the wet season frequently result in school closures throughout the city, though no data on the number of closures per annum has been identified.

The multigrade system

Interviews indicated that informal street child education often takes place in a multigrade environment in which children are taught in a group with children of varying ages and levels of emotional, social and cognitive development. This system, as discussed in Symaco (2013) is not uncommon for schools in developing countries where there is a lack of facilities, teachers and/or low enrolment by grade level (2013). Though this issue (which may impair the quality of education the children received) is beyond the scope of this research, it is mentioned as a cue for future research and to reiterate that even when participation in education is possible it is unlikely to be the same quality received by children who are able to participate in formal education.

4.6.2 Barriers to accessing formal education

Barriers to accessing formal education pertain to more significant and direct factors that prevent street children from attending school. Access to education is considered a fundamental right for children according to the UNCRC to which the Philippines is a signed party. However, for street children, the primary barriers to accessing education are due to failed civil registration.

As indicated by several interviews, street children rarely possess a government identification which is required to enrol in school. Alex, who manages the local office of an international NGO in Tondo, stated that lack of a birth certificate was one of the biggest problems faced by street children. In some cases the children have lost their identification papers, but in most cases, their births appear to never have been registered. Complicating the issue is that many street children are from migrant families from remote rural regions where civil registry offices are lacking or non-existent. Further evidence and implications of the absence of street children from civil registries and surveys are discussed in Chapter 6.

4.6.3 Summary

Street children's access to formal education is obstructed by their absence from civil registers while participation is more grounded in familiar and cultural norms around child labour. That children with less contact with families were more likely to attend some form of schooling warrants further attention and points to a more nuanced relationship between contact with family and the formation of human capital. Meanwhile, the role of natural disasters was seen as largely indirect and negative, though surprisingly one stakeholder observed more street children attending school during wet season.

Stakeholders and children did not perceive other barriers to accessing and participating in education that appeared in the empirical literature such as overcrowding of schools in Metro Manila, which has drawn much attention in media, but less attention from the research community.

4.7 Conclusions

While typological debate continues to disrupt progress in the field of street children's resilience, this research set out to ask the stakeholders and children themselves their perspectives on street child identities. It endeavours to provide Janet and other stakeholders with those classifications in order to standardise policy and practice across Manila. Context is critical to understanding street children and operationalising classifications of street children in a way that is useful for organisations concerned with their support, care and rehabilitation. The recent trend towards broader conceptualisations of street children do little to foster policy and practices in this resource-scarce space. Though perceptions of street child classifications varied by institutional focus, and resource constraints, this study proposes three classifications of street children in the context of Manila based on the perceptions of those working closely within the space that are thought to contribute most to the provision and delivery of services to the children. The following classifications are proposed: *street based children*, *community based children* and *children of street families*. The addition of *community based children* highlights the relative importance civil society participants place on the community, not just as a physical place, but as a trove of resources that protects children from being fully on the street in the absence of family. Street children

in Manila are seen to be distinguished not by the amount of time spent on the street nor the amount of time spent with the family, but rather by the degree and origin of social support available to them.

The results of previous sections and prior research have revealed that street children rely heavily on their social networks for companionship and protection. Participant responses indicated higher levels of vulnerability (e.g., drug use and promiscuous behaviour) in street children who do not have family or community support. Previous studies articulate drug use and 'survival sex' as a coping mechanism for street children, particularly those without families (Sherman et al., 2005). Contact with parents (biological family) was noted as a protective factor for street children, though their presence would more accurately be identified as reinforcers of cultural norms rather than protectors. Interestingly, contact with parents may promote coping rather than adaptive capacity where such cultural norms conflict with the child's development of human capital. Here, street children who did not have frequent contact with parents were able to attend school more often, likely due to less need for additional work to support their families in addition to themselves. Additionally, an endemic culture of physical and sexual abuse against children by family members, further muddles the perception of parents as protective influences for street children. This finding suggests that leaving home may be a coping strategy in itself, and sits well with findings from McAlpine et al. 's study of street children in Tanzania, which found that ". . . many are running from abuse, neglect and poverty—and in fact may be running towards what they hope are more healthy options" (McAlpine et al., 2010, p. 32).

When speaking broadly about the impacts of natural disasters on children, particularly heavy flooding, it is clear disasters constitute a part of regular life for the children. In fact, some stakeholders pointed to the short-term benefits accrued to the children in times of disaster through local and international relief efforts. However, other responses demonstrate that natural disasters, particularly flooding, had several consequences for participation in education including loss of materials, and damage to infrastructure. Overall, any derived benefits disasters may pose to street children (e.g., ability to participate in education, access food, health and informal medical attention) provide short-term coping strategies, but are unlikely to provide long-term gains in their development of human capital and ultimately their ability to adapt.

As for the children themselves, their voices reiterate their tenacity and strength rather than the weaknesses so often identified in the literature. The next chapter will build on the strengths expressed and utilise children's voices to clarify the relationship between specific types of social capital and the development of human capital that influences adaptive rather than coping behaviours.

A final consideration that emerges from this analysis is the extent to which street children, and street families, are unrepresented in the data. Indeed, no child interviewed in Stage 1 of this research possessed a government-issued identification. It is clear that there is still much we do not know about the conditions of Manila's most disadvantaged and that more scholarly attention and creativity is needed in this field to improve understanding of this significant, and perhaps growing, population.

CHAPTER 5

Street children's differential adaptive capacity: Exploring the contributions of demography and social capital

5.1 Introduction

Adaptive capacity is an underutilised tool for examining how the most vulnerable can also be resilient. To date, most assessments of adaptive capacity (e.g., Norris et al., 2008) have focused on large, complex systems with diverse resources at their disposal such as communities and ecosystems; however, few have considered that individuals with the least amount of resources may have much to offer in our understanding of adaptation.

No literature reviewed has assessed the adaptive capacity of street children, though they are commonly thought to be highly adaptive. Studies that have examined the children's survival strategies have not distinguished adaptive capacity from coping capacity, though the two can influence life course trajectories and their surrounding systems in very different ways. While coping can reduce vulnerability in the short-term, it is likely not sustainable or useful for fostering the long-term adaptive capacity needed to meet future challenges (Berman, Quinn, & Paavola, 2012). Thus, focus should instead be placed on identifying the characteristics that contribute to an individual's long-term adaptive capacity and how to foster such capacity.

The present study seeks to improve our understanding of the adaptive capacity of street children in Manila, and the characteristics that contribute to that capacity. This chapter presents findings from a survey interview of street children administered by four NGO representatives to street children in different locations across Manila. The purpose of this survey was to test several of the theories that emerged from interviews with street children and stakeholders in Stage 1 of the present study. One theory that developed from those interviews was that street children with more family support would have the most adaptive capacity while street based children, who had the least amount of family and community connections, would have the least. It was also hypothesised that the key difference between the adaptive capacities of these groups could be attributed to their cognitive social capital, or perceptions of trust and belonging to their communities. This

chapter further reinforces the tenacity and the great diversity of Manila's street children and as well as their unconventional strength set that defies both conventional wisdom and the theoretical frameworks that attempt to explain them.

5.2 Survey locations

For pragmatic reasons, the selection of locations for survey interviews was initially based on where I had pre-existing relationships with NGO representatives. The second step in selecting locations was based on achieving diversity in the classifications of street children and hazard risks present. This was necessary in order to test the hypotheses that street based children had the least amount of adaptive capacity, and that this capacity is related to their perceptions of trust and membership in a community.

A limited amount of information is reported about the locations of the participating NGOs to protect the confidentiality of both the interviewers and the participants. Fear of government reprisal contributed to low participation for both interviewers and street children; one NGO dropped out on the day the survey was to be conducted due to fear of exposure and the perceived impact that exposure would have on government funding. Interviewers from Barangay A, B, and D reported that some street children were reluctant to participate for fear of their identities being exposed.

Table 5.1 presents the basic characteristics of the hazards, children and NGOs at the selected survey locations as well as a pseudonym for each NGO representative. With regard to hazards, flood risk levels were derived from Porasodoro et al. (2014). Other hazard risks were assessed by participant interviews in Stage 1 as well as from knowledge acquired during visits to the selected sites. While flood risk varies by location, all barangays included are at risk of earthquake, the impacts of which might vary by a number of characteristics (e.g., infrastructure, proximity to epicentre) not examined in the present study. Only Barangay B carried the additional risk of landslide as it contains a landfill where many poor families and children make a living scavenging for materials to sell.

Table 5.1 Description of survey locations

NGO/ Rep.	Hazard Risk	Street child classification	NGO characteristics		
			Size	Services	Funding
A <i>Angel</i>	High flood risk; earthquake	Community based children	Small (100>)	Informal schooling; limited housing; basic hygiene, and first aid	Primarily volunteer staff with some government funding
B <i>Marc</i>	Very high flood risk; landslides; earthquake	Street based children	Large (300>)	Informal schooling, basic hygiene, health and first aid	Primarily volunteer staff funded by local and international donations
C <i>Sara</i>	Moderate flood risk; earthquake	Children from street families	Medium (150>)	Activities for out of school youth; informal schooling; religious outreach and intervention	Church- affiliated, mix of government, local and international donations
D <i>Jayson</i>	Moderate flood risk; earthquake	Children from street families	Very small (~50)	Temporary housing and education for street families	Primarily relies on international donations

Source: prepared by author, based on findings of Stage 1 of the present study. Flood risk level derived from Porasodoro, Silva, Munarritz, Estepa, & Capaque, 2014.

Street child classifications were derived from stakeholder interviews in Stage 1. These classifications represent the perceived majority of the street children served by the representative NGOs in that area, but may not necessarily represent the majority of the street children residing in that area.

The size of the NGO reflects the estimated number of street children currently receiving regular services from the NGO. These estimates ranged from about 50 in Barangay D to over 300 in Barangay B. It is important to note that Barangay C and D are within 5 kilometres of each other; thus, some children receiving services at one may also be receiving services at the other. As the surveys were conducted on the same day, it is possible, but unlikely that children participated in the survey at both locations given that they would probably not have the time nor any conceivable incentive to do so; an examination of the responses also confirms the unlikelihood of an overlap. The occurrence of overlap is also possible, though unlikely, in the other locations.

Services offered by the selected NGOs varied, but most provide informal education to the children. NGOs A and B, which are perceived to cater to children with less contact with families, also provide basic health and first aid services including the provision of medicine and treatment for minor scrapes and infections. The hygienic services provided include a fortnightly opportunity to shower with shampoo and soap and lice check and treatment.

NGOs A and D also provide temporary housing services. NGO A provides housing only for the child; D provides short-term housing for street children and relatives. Incorporated in the agreement are requirements for the children to attend informal schooling and for the adults to attend skills training.

NGO C is the only one to be included that is officially church-affiliated. It is owned and operated by a religious institution, though it receives funding from government organisations as well as local and international charitable contributions. It was surprising to learn how much the NGOs rely on funding from private international donations for all but NGO A; however, the country's close ties to the United States and widespread use of English undoubtedly facilitate access to donors in developed countries.

5.3 Participant demographics

In total, 57 street children were recruited to participate in the survey interview. Of the 57, 42 agreed to participate. One participant declined to give consent prior to beginning the interview, thus leaving 41 participants. Of the 41, three did not fully complete the survey; two appeared to have lost interest in the final questions, and one child could not complete the survey due to another commitment. The following section details the demographic characteristics of the sample used in the present analysis.

5.3.1 Sex

In total, $n=33$ males and $n=8$ females participated in the survey interview. Table 5.2 shows participation by location and sex.

Table 5.2 Participants by location and sex

Barangay	Sex		n
	Male	Female	
A	5 (71.5%)	2 (28.5%)	7
B	18 (81.5%)	4 (18.5%)	22
C	7 (100%)	0 (0%)	7
D	3 (60%)	2 (40%)	5
Total	33 (80.5%)	8 (19.5%)	41

Source: prepared by author

Overall, levels of participation were in keeping with the size of the respective NGOs; however, the sex ratio of participants across the four locations was surprising given perceptions of 50:50 male to female ratios provided in stakeholder interviews. Sara from Barangay C thought the timing of the survey during the day prevented females in school from participating. Though public schools were not in session at the time of the interviews, many children in Manila participate in informal schooling operated by civil society organisations throughout the year, as discussed in 5.7. Though no reliable estimates of children attending informal schooling were found to disaggregate by gender²⁰, a possible reason for higher female attendance during the day may be attributed to the higher proportion of female children engaged as sex-workers at night. Thus, the potential for the under-representation of some children, particularly females, attending informal schooling should be taken into consideration in the interpretation of results, as well as the under-representation of children with working commitments that prevented their participation.

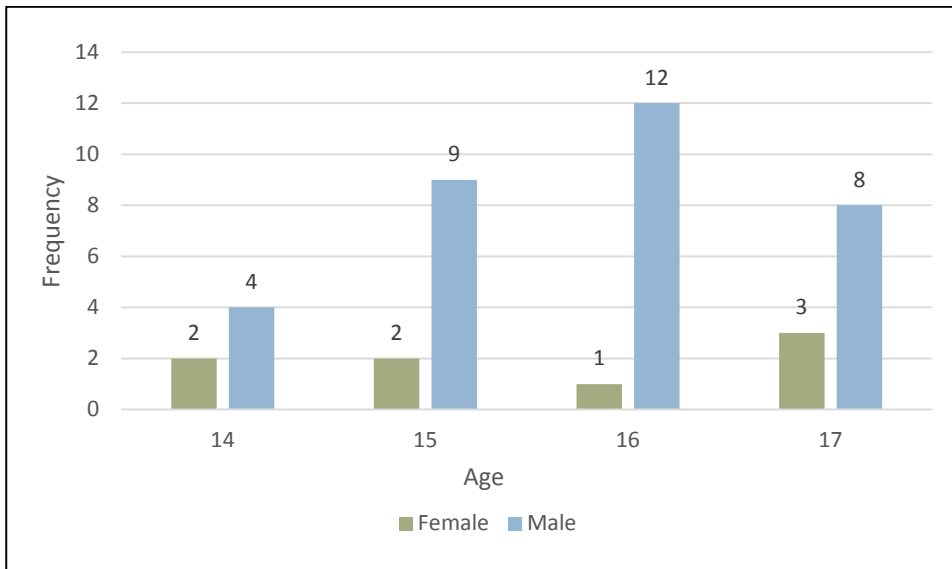
5.3.2 Age

Consistent with the recruitment criteria, participant ages ranged from 14 to 17 years inclusive. The mean age of participants was 15.7. While participants from Barangays C and D were aged similar to the sample mean, Barangay A was slightly older ($M=16.29$),

²⁰ While some reports, such as the “Education for All 2015 National Review Report: Philippines” include disaggregated figures of informal school attendees, these only incorporate formally recognised Alternative Learning System (ALS) modalities and are not inclusive of the educational experiences of most children involved in this research.

and Barangay B slightly younger ($M=15.45$). Figure 5.1 illustrates the distribution of participant's age by sex.

Figure 5.1 Participant age by sex



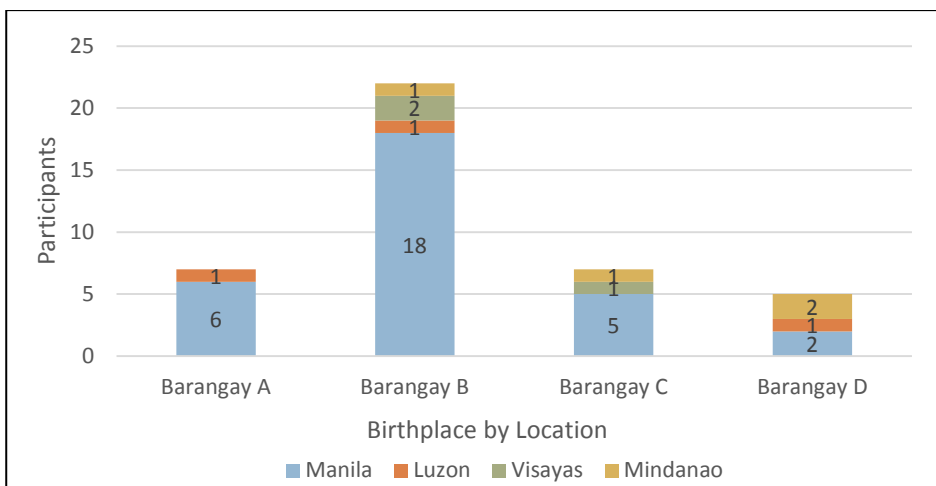
Source: prepared by author

For both sexes, the mean age was similar to that of the overall sample, with females only slightly younger (M females=15.62; M males=15.72).

5.3.3 Birth place

The majority of the participants ($n=31$) were born in Manila; 10 were born elsewhere in the Philippines; and none were born abroad. Of the 10 born elsewhere, 3 were born elsewhere in Luzon, 3 in the Visayan Islands, and 4 in Mindanao. As indicated in Figure 5.2, participant birthplace varied by Barangay.

Figure 5.2 Participant birthplace by current location

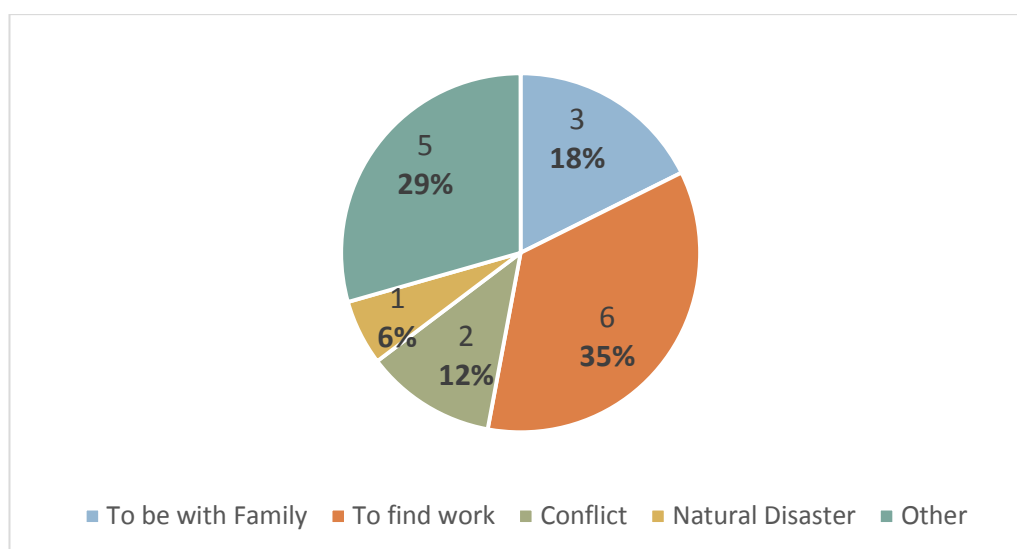


Source: prepared by author

Based on stakeholder interviews, I expected a larger sample of children from the Visayan Islands and Mindanao, particularly in the areas perceived to predominantly have children from street families (Barangays C and D); however, the requirement that children be fluent in the language in which the survey interview was delivered (English or Filipino) may have prevented some migrant children from participating. Jayson from Barangay D felt that more participants could have been included if the survey was available in Cebuano, the native language of Central Visayas and parts of Mindanao; however, this was not possible given that no NGO representatives who speak Cebuano were identified in Stage 1.

Children who were not born in Manila ($n=10$) were asked why they left their birth place and were permitted multiple responses. Overall, ‘to find work’ was the most common response ($n=6$); of those, 4 children stated that the move was for family to find work, while 2 had come to Manila to find work for themselves. The second most common answer was ‘other’ ($n=5$), suggesting either that the list of options was not comprehensive or, as suggested by Sara, the children may have been too young when they moved to Manila to remember why their families left their birthplace.

Figure 5.3 Reasons for leaving birthplace (multiple responses permitted)

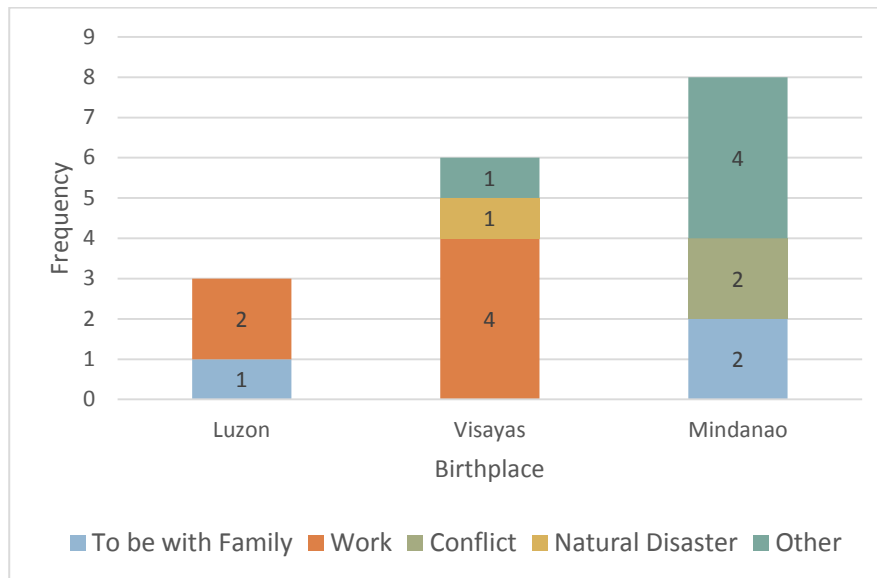


Source: prepared by author

As illustrated below in Figure 5.4, the reasons for leaving varied by birthplace. For children born in the Visayas and Mindanao, reasons for leaving appear to have been more complex those born in Luzon; all but one listed various reasons for leaving while all participants born in Luzon provided single responses.

Those born in other parts of Luzon were more likely to report leaving for work purposes, while none from Mindanao named work as a reason for leaving. For those born in Mindanao, reunification with family, conflict, and ‘other’ were reasons contributing to moves to Manila.

Figure 5.4: Reasons for leaving by birthplace



Source: prepared by author

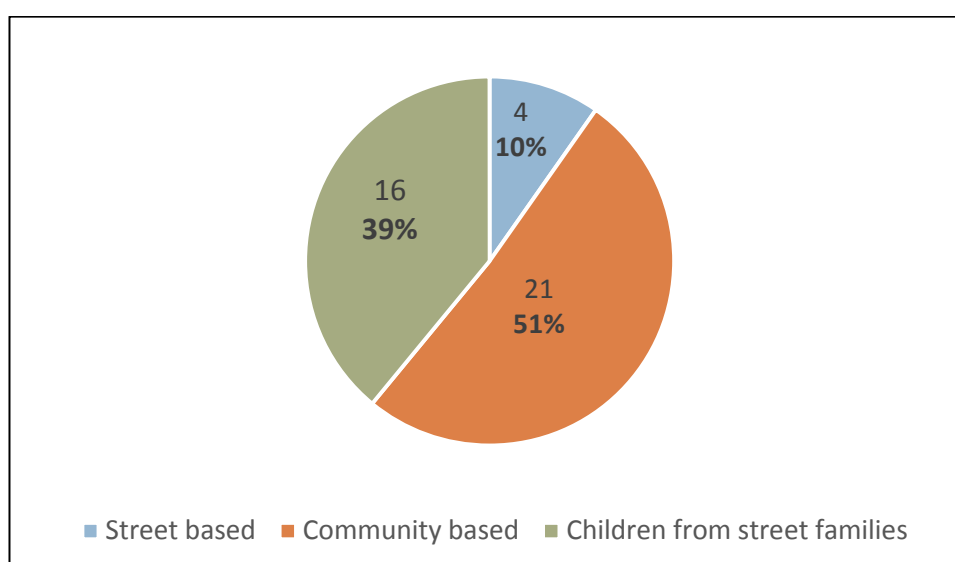
Only one child born in the Visayas named natural disaster as a reason for leaving their birthplace. As discussed in 4.4, Typhoon Haiyan in the Visayas was considered by some stakeholders as a significant driver for the population of children from street families in Manila. One possible reason for this discrepancy may be that children viewed indirect, later consequences of natural disasters (e.g., economic impact/unemployment) as the more proximate reasons for leaving their birthplaces.

5.3.4 Classification of street child

As outlined in section 3.7, a measure was developed to classify street children using three variables: who sleeps with them at night; their primary source of financial support; and who and how many people they can go to when they have a problem. This measure goes to the heart of a street child’s social capital as it incorporates who and how many people they rely on for their three critical needs: protection, financial and emotional

support. The incorporation of the number of sources on which children can rely for help is significant; redundancy of resources, as emphasised in Norris et al. (2007), is critical in case a key resource fails, or in order to access different types of help. This may be particularly true for these children, given the uncertainties that pervade life on the street.

Figure 5.5 Street children classification



Source: prepared by author

The larger percentage of community based children in the sample was surprising given that stakeholders perceived a majority of children in Manila to be from street families. However, the sample may over-represent community based children and street based children due to recruitment from NGOs; children from street families may be less likely to rely on NGO services, and thus less likely to be included in the sample.

There was a significant statistical relationship between classification and sex, ($p=.000$, Fisher's exact). In fact, all female street children included in the sample were from street families while there was more variation among male street children.

Table 5.3: Classification of street child by sex

Classification of street child	Female	%	Male	%	<i>n</i>	%
Street based	0	0	4	12	4	10
Community based	0	0	21	64	21	51
Children from street families	8	100	8	24	16	39
Total	8	100	33	100	41	100

Source: prepared by author

This aspect of the sample was unexpected given the distribution of females across locations reported in Table 5.2, with the exception of Barangay C where Sara reported problems recruiting females due to conflicts with school. This finding suggests that females were likely to depend more heavily on family for protection, financial and emotional support than male street children.

Table 5.4 Classification of street child by location

Classification of street child	A	%	B	%	C	%	D	%
Street based	0	0	4	18	0	0	0	0
Community based	0	0	13	59	5	71	3	60
Children from street families	7	100	5	23	2	29	2	40
Total	7	100	22	100	7	100	5	100

Source: prepared by author

A significant statistical relationship was found between classification of street child and location ($p=.010$, Fisher's exact). This finding was expected given that interviews in Stage 1 with stakeholders indicated that type of street children varied by location and that certain NGOs cater to specific types of street children. However, the finding that the sample's classification did not match NGO perceptions of the street children to which they cater was surprising. Community based children were perceived by the NGO in Barangay A to be the most prevalent in the area; all of the children from A in this sample were classified as children from street families. NGO B perceived most of their street children to be street based; the classification found here demonstrates a range of classifications, with community based children constituting the majority. NGOs C and D had reported a majority of children from street families; as classified here, most were community based. These differences may be attributed to a number of factors, including a potential selection bias of community based and street based children discussed above, or differences in the way that NGO representatives think of street children classifications.

No significant relationship was found between street child classification's and age, ($p=.765$, Fisher's exact) for this sample. However, the mean age of street based children ($M=16$) included in the sample was older than both community based children ($M=15.6$) and children from street families ($M=15.8$).

Table 5.5 Classification of street child by age

Classification of street child	14	%	15	%	16	%	17	%
Street based	1	17	0	0	1	8	2	18
Community based	3	50	6	55	8	62	4	36
Children from street families	2	33	5	45	4	31	5	45
Total	6	100	11	100	13	100	11	100

Source: prepared by author

This finding may be consistent with the theory developed in Stage 1 that street based children likely emerge from the population of community based children as they become older and more independent.

5.4 Street children's social capital

Previously defined by their mobility, lack of roots and networks and deviancy from societal norms, interviews in Stage 1 yielded new evidence to support the highly social nature of street children in Manila and a stable enough presence in their communities to warrant a classification of community based children. Findings from Stage 1 of this research as well as findings in the international literature also suggest that the social networks established in these communities are crucial for street children's wellbeing. While some studies of street children have distinguished bonding and bridging social capital, none has examined street children's cognitive social capital, which incorporates their perceptions of trust and sense of belonging to a community. The following section contributes to filling that gap by utilising a measure of cognitive social capital developed in the present study to examine why some street children are better able to adapt to natural disasters and other stresses related to life on the streets.

5.4.1 Cognitive social capital

Cognitive social capital was measured using responses to questions about children's perceptions of trust in the community; a sense that most people in their community get along; a feeling of belonging; and perceptions of being taken advantage of by members of their community. An aggregate, unweighted scale was adopted, as outlined in section 3.8. The following table presents the frequency and percentage of participants by cognitive social capital level. Participants with missing data ($n=3$) for any of the four questions were not included in the present analysis.

Table 5.6 Street children's level of cognitive social capital

Cognitive social capital	Frequency	Percentage
Very high	1	3
High	22	58
Low	11	29
Very low	4	10
<i>n</i>	<i>38</i>	<i>100</i>

Source: prepared by author

It was surprising that the majority of children (58%) sampled had high levels of cognitive social capital (Table 5.6). The one participant with very high cognitive social capital was different from the rest of the sample in many ways. A 17 year old male whose mother was deceased, primarily stayed with his father and was an only child. He was born in Manila, and it is likely from his responses that he had remained in the same barangay where the interview took place since birth. Thus his sense of belongingness and trust in his community, may well be tied to the amount of time spent there.

Several variables were tested for a relationship with cognitive social capital, the results of which are provided in Table 5.7 along with the *p* statistic using Fisher's exact.

Table 5.7: Associations with cognitive social capital

Variable	p value
Street child classification	.769
Sex	.882
Number of sources of help	.027**
Born in Manila	.019**
Living in barangay of interview	.008***
*** <i>p</i> <.01, ** <i>p</i> <.05, * <i>p</i> <.10	

Source: prepared by author

No relationship was found between cognitive social capital and the child's sex (*p*>.1). Similarly, no relationship was found between cognitive social capital and street child's classification (*p*>.1). This was also true when the cognitive social capital measure was converted to a dichotomous (high or low) variable (*p*>.1). This finding was surprising given that elements of the classification were related to children's bonding and bridging

social capital. Small sample size and low cell counts prevented further analysis of the relationship between the two variables.

However, there was a statistically significant relationship between cognitive social capital and one of the items incorporated in the classification scale, i.e., the number of responses children gave to the question ‘if you had a problem, who would you go to for help?’ ($p < .05$). This may indicate that redundancy of resources is more closely related to perceptions of trust and availability of resources than the individuals (e.g., friends, parents, or CSOs) who provide those resources.

A strong relationship was also found between street children’s cognitive social capital and living in the barangay where the interview took place ($p < .01$) and whether or not the child was born in Manila ($p < .05$). Combined with the details provided of the one child with very high cognitive social capital, these findings point to the importance of permanent residence in a place to perceptions of trust and belonging.

5.4.2 Trust in Church representatives

While a majority of street children participants (74%) reported that they could trust Church workers, some (16%) reported that they could not. Trust in church workers was not significantly associated with the children’s cognitive social capital or classification; it was, however, significantly associated with their location ($p < .05$). This finding suggests that trust in church workers may depend on the workers present in the child’s area.

Though the denomination of the church was not specified in the question, ‘the Church’ is generally considered to be synonymous with the Catholic Church in the Philippines where 78%²¹ of the population is Roman Catholic. The Catholic Church’s treatment and relationship with street children in Manila has a mixed history. Pope Francis’ meeting with street children in Manila in January 2015 reiterated the sympathetic stance of the Church towards the dire circumstances of the children. However, stakeholder interviews in Stage 1 pointed to the local diocese’s less compassionate stance towards street children. Mirasol recalled a time when staff from her NGO tried to coordinate with a local church to provide shelter for the children during a flood.

²¹ This figure includes Roman Catholic and ‘Catholic charismatic’ as defined by the NSO (2014, p. 27).

They [street children] asked the worker at the church ‘can you let us in because the flood is already up to the stairs of the church?’. They said ‘no’ because they did not trust the street children.

Findings presented here reveal that the mistrust sometimes can work both ways. Mirasol went on to describe how her NGO’s work had helped to broker the relationship between Church officials and the children. She detailed how that particular church has changed its policy and now “even included [street children] in their feeding program”. While the progress towards an acceptance of the street children is positive, this example points to discrimination against street children have to overcome to attain access to services, even from non-governmental sources, and the critical role of civil society in fostering trusting relationships.

5.3.3 Trust in the police

Around half (51%) of street children participants reported that they could not trust police, while 49% reported that they could trust police. This result was surprising when compared to participants who trusted Church workers (74%) and teachers (92%). Trust in police was not found to be associated with street children’s cognitive social capital ($p>.1$); however it was significantly related to the classification of street child ($p<.01$).

Table 5.8: Street children’s trust of people in the community %

Barangay	People in the community			
	Church workers	Police	Teachers	Most people
A	100	71	100	86
B	83	40	95	68
C	60	43	86	71
D	100	60	80	100
	p=.039**	p=.552	p=.360	p=.548

Source: prepared by author

Low levels of trust in police is not surprising when taking into account the findings from Stage 1. Interviews suggested that police are the government representatives with whom street children in Manila have the most interaction, and that interaction was generally perceived to be negative. Police interactions with street children in Manila appear to arise primarily through their everyday duties in maintaining public order and

enforcing local laws. However, as detailed in 4.3.3, police may also exploit street children for their own illegal activities, such as couriering drugs.

Police officers are also used to ‘rescue’ street children in accordance with LGU regulations and deliver them to ‘rehabilitation centers’ (RACs). These rescues generally incorporate the detention of children in RACs for extended periods of time. As noted in Scerri (2009), police are indiscriminate in the children they ‘rescue’, likely resulting in the detention of children who may or may not be in need of rescuing. Stakeholders mistrusted the government’s intentions towards the centers; instead of rescuing the children as the DSWD states, there was widespread agreement that it was a tactic to hide the children. Large scale round ups of street children typically coincide with major city events such as the Asian Pacific Economic Cooperation (APEC) Leaders’ Summit in 1996, visits from American President Barack Obama in 2015 and 2014, and Pope Francis in 2015.

Mirasol delivered a powerful critique of the ‘rescue’ program:

The local government doesn’t want street children to be visible. They don’t want other countries’ foreigner to see that we have poor people. They call it rescue, but actually its forcible apprehension. They round up in [this city], they pull these street people. They call it street sweeping, ‘inisi na calle’, as if they were dirt. So they don’t consider them, I think, as people. As humans.

In an effort to engage the public in the rescue efforts, DSDW, employs technology so that citizens can report street children sightings on Twitter. A quick glance at the DSDW’s designated Twitter page for reporting street children, #DSDW@savestreetkids, shows that there are usually between one and three sightings every day, and DSDW has responded to each reported sighting at least by acknowledgement. The sightings reported on the Twitter page generally convey the children’s involvement in drug activity, particularly rugby, or an otherwise socially undesirable act (i.e., urinating in public, playing in commercial areas that obstruct customers, and begging).

Prior research by a Manila-based NGO and UNICEF (Scerri, 2009) reported that children were being robbed, forced to pay bribes for release, beaten, electrocuted, and sexually abused and harassed. One stakeholder mentioned that children were sometimes required to produce birth certificates in order to be released, which this research has shown that few have.

Further, the study (Scerri, 2009) demonstrated that ‘rescues’ of street children by government officials not only resulted in physical, mental, and economic loss to the children, but were also highly ineffective.

“Cumulatively the 430 children involved in this study had been rescued more than 2000 times – excluding the rescues of those children who had been rescued so many times they couldn’t remember” (Scerri, 2009, p. 129).

None of the stakeholders or children participants of this research indicated that these RACs were effective or even positive for the street children. Maria was the only stakeholder from Stage 1 to indicate any benefit for the children, though not in the way intended.

Sometimes they have to run away from the policemen because they will be gathered. But sometimes they will allow themselves to be taken in by the DSWD so that they can survive the heat then try to escape in the evening.

Despite these accounts of the detrimental influence of police on street children, the closing of one RAC and a comment by Mirasol gave some indication of progress being made towards a more favourable relationship between police and the children. She explained how her NGO’s efforts to transform negative perceptions of street children were gaining some traction with local police officers.

Even the police are helping the children. The policemen help the children by trusting them with the motor, the sidecar, or to get passengers so that they can earn.

The importance Mirasol placed on changing perceptions of street children in order to bring about a positive transformation in the relationship between the children and the broader community was reiterated throughout the interviews.

5.4.6 Summary

Street children’s cognitive social capital was found to be significantly related to the number of sources children could turn to for help, being born in Manila, and being from the Barangay where the interview took place (i.e., where the children receive services from an NGO). These findings suggest that redundancy of resources and permanency in location are important for children’s sense of trust and belonging to a community.

The street children in this sample were more likely to trust a teacher or a church worker; half did not trust the police, the primary government representative with whom the children have contact. At times, NGOs bridge the relationships between the children and police and church workers to foster better outcomes for street children. However, a disconnect between government representatives and civil society in Manila is apparent. Examining urban social vulnerability in four cities, Wisner (2003) noted the powerful paradox between state ('municipality') and civil society in DRM activity: municipalities often have the expertise and funding to protect the socially vulnerable; however they lack the necessary trust and knowledge of the groups that civil society organisations often have.

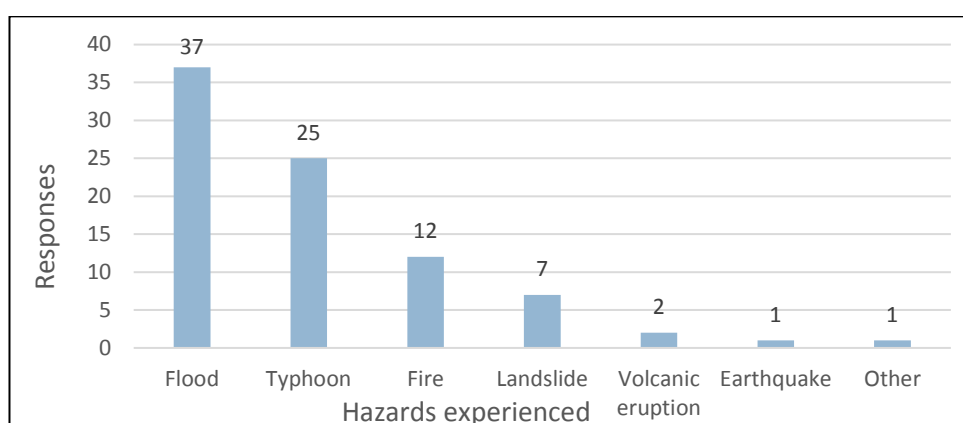
5.5 Experience of natural disasters

The vast majority of street children participants in the sample ($n=35$, 92%) had experienced at least one natural disaster; only 3 (8%) had not. All but one of the participants who had experienced a natural had experienced a flood. The following section details the children's experience of natural disasters.

5.5.1 Types of disasters experienced

Of those who had experienced a natural disaster ($n=35$), 18% ($n=7$) reported having experienced one type of natural disaster; 50% ($n=19$) had experienced two types; 21% ($n=8$) three types; and 11% ($n=4$) 4 types. Figure 5.8 illustrates the natural disasters street children have experienced. Unsurprisingly, flood and typhoon were the natural disasters most children reported to have experienced.

Figure 5.6: Types of hazards experienced by street children in Manila (multiple responses permitted)



Source: prepared by author

Fire, which can originate as either a man-made or naturally occurring hazard, can occur in densely populated areas such as slums and elevated areas susceptible to land or trash slides. Risk of fire was not initially established for the barangays included in the present study as it is largely unpredictable; however, the high percentage (29%) of children who experienced a fire warrants further attention to the issue. Of the 12 respondents who had experienced fire, 9 were from the same location, Barangay B, a densely populated area known for its landfills. Interestingly, only one respondent who reported experiencing fire had also experienced a landslide. This may partly be due to the translation of landslide “pagguho ng lupa”, a term which Angel suggested could be ambiguous and loosely translated as an avalanche. Future research with Filipino street children should consider translating landslide as “pagdaloy ng debris” instead.

Table 5.9: Types of disasters street children experienced by barangay

Barangay	Hazard Risk	Disasters experienced						
		Flood	Typhoon	Fire	Landslide	Volcanic Eruption	Earthquake	Other
A	High flood risk; earthquake	7	6	2	0	1	0	0
B	Very high flood risk; landslides; earthquake	19	12	9	7	0	1	0
C	Moderate flood risk; earthquake	6	5	1	0	0	0	0
D	Moderate flood risk; earthquake	5	2	0	0	1	0	1
Total		37	25	12	7	2	1	1

Source: prepared by author

5.5.2 Safe havens

During a flood, 54% of street children ($n=20$) reported that a building was the safest place to go during flood. Nearly a quarter, 24% ($n=9$), thought the street was safest. For those with the luxury of access to a private home, 16% ($n=6$) considered a house to be the safest. A further 5% ($n=2$) though it was safest to go to an NGO or charity. In Stage 1 of the present study, Janet described how the intensity of the flood determined if the children would turn to her NGO.

They'll go to a covered court across the road and congregate there. If it's a really big one they might come here.

No participants chose a police station or school as the safest option during flooding. This could be due to lack of access to these places during flooding or relate back to their lack of trust in police and school officials at these locations.

5.5.3 Summary

Nearly all participants had experienced a natural disaster, and most of those had experienced a flood and typhoon. More children in the sample had experienced fire than anticipated, and all were located in the same location.

During flooding, most children believed it was safest to go to a building, though nearly a quarter of the sample reported that staying in the street was the safest place to be.

5.6 Street children's health and the impact of natural disasters

Stakeholder interviews in Stage 1 of the present study indicated that street children in Manila had similar health issues to those found in street children around the world, including malnourishment, diarrhoea, and skin diseases. Many stakeholders considered that such health issues were part of everyday life for the children. Surprisingly, while flooding was noted as a contributor for many of these illnesses, disasters were also thought to present opportunities for children to access medical treatment and food. The following section examines those hypotheses as well as children's self-reported health and the impact of natural disasters.

5.6.1 Physical and emotional health

When children were asked about the last time had been sick, most (44%) reported being sick sometime in the past year. 36% of participants reported last being sick in the past month; 18% in the past week, and 1 child was sick on the day of the interview. These responses were not significantly related to the child's sex, classification, location, nor cognitive social capital.

When asked how often children felt pain or discomfort, 10% ($n=4$) reported often, 56% ($n=23$) reported sometimes, and 34% ($n=14$) reported never feeling pain or discomfort. These reports were also not related to the child's sex, classification, location nor cognitive social capital. However, as can be expected, there was a relationship between

child's frequency of feeling pain or discomfort and the last time they reported being sick ($p=.037$, Fisher's exact).

Overall, children were less often anxious or depressed than in a state of physical pain or discomfort. 46% ($n=19$) reported never being anxious or depressed, 49% ($n=20$) were sometimes anxious or depressed, and 5% ($n=2$) were often anxious and depressed. Frequency of anxiety and depression was not significantly associated with the child's sex, location, classification, nor their cognitive social capital. This was a surprising finding given the multiple stressors faced by the children and the associated uncertainties they face.

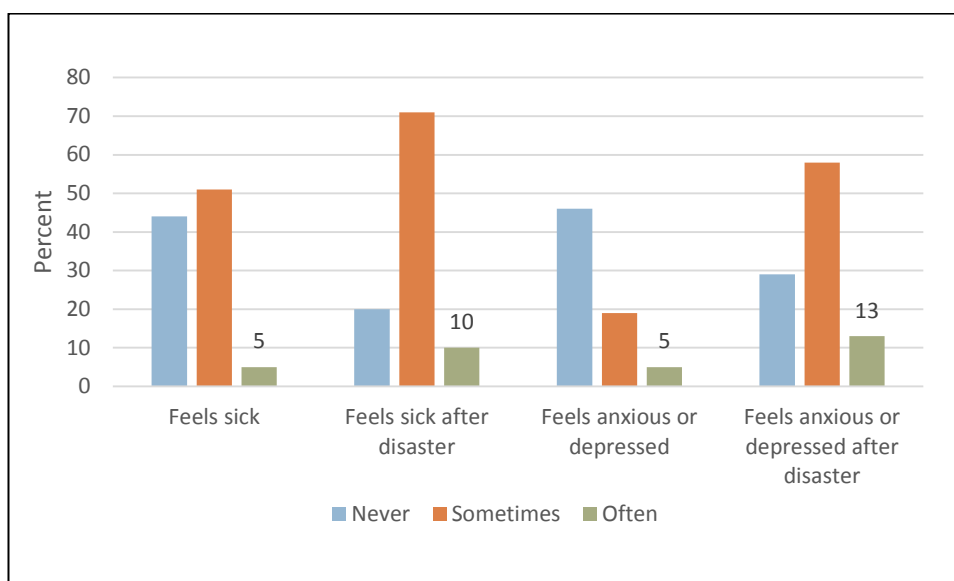
5.6.2 Disasters and health

As flooding was considered the most frequently occurring disaster to impact on the children, the survey included questions about flood's impacts on the children's physical and emotional health.

Children were asked how often after flooding or other disasters they felt sick. Of those included in the sample, 10% ($n=4$) reported often feeling sick after a flood or other disaster; 71% sometimes; and 20% never. There was, however, a significant relationship ($p=.014$, Fisher's exact) between a child's reports of feeling sick after disaster and the frequency at which they reported being too sick to go to school or play with friends. This may suggest either that some children are more likely to report feeling sick regardless of the occurrence of disaster or that flooding is so persistent that the frequencies of feeling sick are the same whether or not flooding is occurring at that moment. These responses were not significantly associated with sex, location, classification, nor their social capital.

Children were asked about their emotional state after a flood or other disasters. 13% ($n=5$) reported often feeling anxious or depressed after a disaster; 58% ($n=22$) sometimes; and 29% ($n=11$) were never anxious or depressed after a flood or other disaster. Figure 5.9 compares the percentage of children who reported feeling sick, anxiety or depression after disaster as compared with how often they 'normally' felt sick, anxious or depressed.

Figure 5.9: Children's report of physical and emotional health after disasters



Source: prepared by author

As illustrated by Figure 5.9, children were more frequently sick, anxious or depressed following a flood or other natural disaster. After disaster, double the percentage of children reported feeling sick, and more than double the percentage of children reported feeling anxious or depressed compared to how they felt normally.

Contrary to those results, but in line with Stage 1 findings, a majority of street children reported either being less likely (37%, $n=14$) to be hungry when it floods or that floods made no difference to hunger levels (58%, $n=22$). Only 5% ($n=2$) street children reported being more likely to be hungry when it floods. Changes in hunger level during flood were not found to be statistically related to city, sex, classification, nor level of cognitive social capital.

5.6.3 Summary

The reliability of children's self-reported health is a contentious topic in the social and medical sciences. However, in the absence of medical records or adults, self-reports are one of the few options available for gauging the status of street children's health and determining a baseline from which to compare the impacts of natural disasters. Here it was found that double the percentage of children sampled reporting feeling sick, anxious or depressed following a flood or other disaster. Self-reports of health were not found to be related to the children's other demographic characteristics.

5.7 Street children's education and the impact of natural disasters

Findings from Stage 1 of the present study indicated that while most street children wanted to attend school, most could not for a multitude of related reasons including lack of a birth certificate, inability to afford school and the need to work to support themselves or their families. Interestingly, findings from Stage 1 suggest that children with less contact with family were more likely to be attending school. Findings also suggested that natural disasters were not likely to be a factor in street children's decision to not attend, and that street children may even be more likely to attend school during the wet season. Stage 2 tested these relationships, the findings of which are set out in the following section.

5.7.1 Educational attainment and literacy

The vast majority of street child participants in the survey had attended formal or informal schooling at some point in their lives ($n=34$, 83%), while 17% ($n=7$) reported never having gone to school. However, it was the type of street children who had not attended school that proved more interesting. Contrary to expectations, most ($n=5$) of the street children who had not received any schooling were classified as community based children, and the remaining two were from street families. Thus, all street based children had received some schooling in their lifetimes. Also contrary to expectation, $n=6$ of the 7 participants who had never attended school were born in Manila signalling that permanent residence in the city does not necessarily equate to better education.

Table 5.10: Classification of street child by years of schooling and literacy

Classification of street child	Years of schooling			<i>n</i>	Average years of schooling	Median years of schooling	Per cent Literate ***
	3 or less	4-6	7				
Street based	0	3	0	3	4.7	5	75%
Community based	5	11	0	16	4.2	4	41%
Street family	3	9	2	14	4.6	4	100%
<i>n</i>	8	23	2	33	4.4	4	67%

Source: prepared by author. *** $p<.01$

More surprising, as shown in Table 5.10, street based children had the highest average and median years of schooling while community based children had the lowest. All children from street families reported being literate, as measured by asking if they were

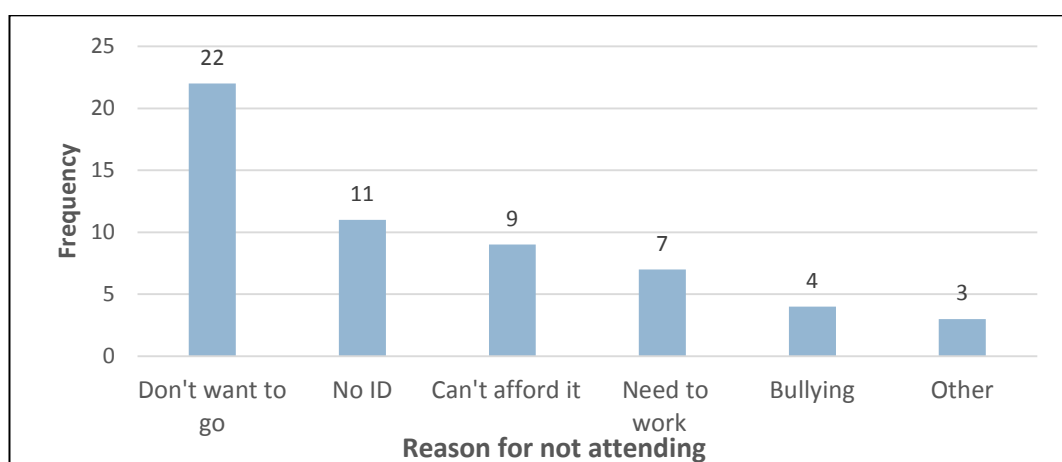
able to read the newspaper in their native language; while only 41% of community based children and 75% of street based children were able to read. However, interpretation of this finding must consider the potential for response bias given that some children may have felt embarrassed to admit illiteracy.

Of those who had ever attended school, 61% ($n=20$) reported currently attending school. The majority ($n=13$, 65%) of children currently attending school were attending public school; 20% ($n=4$) were attending a school run by an NGO, and a further 15% ($n=3$) responded 'other' or 'unsure'. While it was somewhat surprising that so many were able to attend formal public schooling, it does not appear they were able to do so regularly. School attendance was sporadic, with 45% ($n=9$) of the children currently attending school reporting only going 'some days' and 15% ($n=3$) reported that their attendance varied by season (wet/dry). Only 20% ($n=4$) reported attending every school day, and another 20% ($n=4$) most days.

5.7.2 Barriers to education

For those participants who had never attended school or rarely attended ($n=32$), most ($n=19$, 59%) offered more than one reason for not attending. The most common reason for not attending was that children did not want to go. The second, third, and fourth more commonly offered reasons echo findings from Stage 1 that barriers to accessing education include lack of an identification, lack of funding, and the need to work.

Figure 5.10: Street children's reasons for not attending school (multiple responses permitted)



Source: prepared by author

Not having an identification was reported as a reason for not attending school by n=11 participants. For participants who had never attended school, n=6 of 7 did not have birth certificates, but only two mentioned not having a birth certificate as reason for not attending. For those that had never attended, 'not wanting to go' and 'not being able to afford it' were the most common responses offered.

5.7.3 Disasters and education

It was previously noted that, of the children currently attending school, 20% reported that their school attendance varied by season (wet season or dry season). When asked specifically if they were more or less likely to attend school while it was flooding, no street child reported that they would be more likely to attend school when it floods, contrary to some findings in Stage 1. Meanwhile, 39% (n=9) reported being less likely to attend, and 61% (n=14) reported that flooding did not affect their attendance. I had hypothesised that reports of children being more likely to attend school during flooding in Stage 1 might be attributed to their inability to work during floods, given that most of their work took place on the street. However, in a separate question, 68% (n=19) of participants reported that floods had no impact on their likelihood of working, and 18% (n=5) were more likely to work during periods of flooding. Further research is necessary to clarify this finding.

Of the children who reported being less likely to attend school during flooding, most (n=5) reported not being able to attend because the school was flooded. Two reported that they could not attend because the school is used as a temporary shelter during flooding, and one child responded that she did not want to go to school when it is flooded.

5.7.4 Summary

However, there were some data limitations due to small sample sizes and potential selection bias. Due to the timing of the survey during the day, the survey may underrepresent children attending informal schooling as noted by Sara in 5.3.

Out of school children (OOSC), which include many street children, constitute a serious concern for the Philippines. A UNESCO report on the economic cost of OOSC demonstrated the extent of the problem in the Philippines, relative to other countries

in Southeast Asia (Thomas & Burnett, 2015). Despite the fact that the Indonesian population is over 2.5 times larger than the population of Philippines²², the Philippines had more OOSC.

The same report, using a microeconomic estimation technique, indicated that OOSC in the Philippines result in an absolute loss of 495 million USD in earnings, notwithstanding the additional benefits associated with higher levels of education including the related demographic processes of lower fertility, higher female labour participation and lower dependency rates (Thomas & Burnett, 2015, pp. 8-9). Albert et al. (2012) found that school participation is strongly correlated with government expenditure on education in the Philippines. However, in the case of the Philippines, and antithetical to the authors' key point, the economic cost of OOSC as a percentage of GDP is roughly equivalent to the additional investment in primary education required to resolve the loss (Thomas & Burnett, 2015, p. 12).

Some major strides have recently been made to improve participation in education for street children, particularly in the form of alternative education programs. Alternative education programs have been implemented to provide children with a less costly education with more flexibility to suit their often unpredictable lifestyle. Though they have been used by several Manila-based NGOs for years, the DSDW and Department of Education until recently largely resisted such programs based on fears that such programs would discourage formal education pathways. In April 2014, a Memorandum of Understanding was ceremoniously signed in front of an audience of children between the DSDW and the DepEd to launch the "No Child Left Behind" effort which included the use of mobile classrooms on pushcarts to reach street children.

5.8 Street children's adaptive capacity

Though studies have alluded to street children's ability to adapt, no previous study reviewed has explored the adaptive capacity of street children. Thus, a measure of adaptive capacity had to be developed for the present study. Here I developed a composite measure incorporating the factors believed to be most critical for street children as evinced in the empirical findings of Stage 1 and the theoretical literature:

²² Indonesian population was 237.6 million according to 2010 census results (Badan Pusan Statistik, n.d.); Philippine population was 92.34 million in 2010 census (NSO, 2011).

their education, health and the stability of these factors when impacted by natural disaster. The specific strategy used in the development of the measure is outlined in 3.7.

There was a large amount of missing data ($n=12$ observations) that could not be used in the adaptive capacity measure; thus further limiting analysis. Despite this, as demonstrated in Table 5.11, two variables were found to be associated with street children's adaptive capacity: their location and classification. Sex was not found to have a statistically significant relationship with street children's adaptive capacity, though the absolute numbers suggest that females have lower adaptive capacity than males. A larger sample size, particularly of females, is needed to further explore the relationship between sex and adaptive capacity.

Table 5.11: Street children's adaptive capacity by sex, location, and classification

Level of Adaptive capacity	n	n%	Sex ($p=.112$)		Barangay ($p=.000$)***				Classification of street child ($p=.003$)***		
			Female	Male	A	B	C	D	Street based	Community based	Street family
Very low	4	14	2	2	2	1	0	1	0	0	4
Low	10	35	4	6	3	7	0	0	0	3	7
High	8	28	0	8	0	6	0	2	3	5	0
Very high	7	24	1	6	1	1	5	0	0	4	3
Total	29	100	7	22	6	15	5	3	3	12	14

Source: prepared by author. *** $p<.01$

The finding that location was significantly related to adaptive capacity was in keeping with stakeholder perspectives from Stage 1 and the link in the theoretical literature between an individual's adaptive capacity and the resources of the communities where they are (or at least, where the community of the NGO where they go to for support).

Similarly, the relationship between street children's classification and adaptive capacity was expected based on Stage 1 findings and the theoretical literature. All street based children in the sample had high or very high adaptive capacity, which lends itself to many

interpretations. Either these children may be more adaptive because of their independence and slightly older age or perhaps because they are not restricted by relationships that may be detrimental to their wellbeing.

5.9 Conclusions

Empirical data on individuals' adaptive capacity is rare, and no publically available work has examined the adaptive capacity of street children. Thus, the present study has made a first step towards improving our understanding of how to measure street children's adaptive capacity and the variables that may contribute to it.

Data from the present study have shown that street children's adaptive capacity was significantly related to their location and their classification as a street based, community based or child of a street family. Both of these findings provide empirical support for the theory developed in Stage 1 of this study as well as the theoretical literature on adaptive capacity: an individual's adaptive capacity is closely linked to the resources available from their broader community. As suggested by these findings, those resources may vary drastically within the same city, as well as by the type of street child, as measured by the origins and number of entities on which the children can rely for protection, emotional, and financial support.

Contrary to the hypothesis developed in Stage 1 of the study and in the review of the literature, street based children appeared to fare better than community based children and children from street families in some indicators. Street based children demonstrated high levels of adaptive capacity and had higher mean and median years of schooling than the others. Operationalised as those with the fewest relationships and the most independent, street based children demonstrate that low social capital is preferable to negative social capital with regards to adaptive capacity. This finding bolsters evidence for a finding in Stage 1 that for some children, not having contact with parents or other family members, may be evidence of adaptation if the family relies on the child to provide income for the family, to the detriment of the child's health or education.

As measured here, cognitive social capital was not found to be significantly related to adaptive capacity. However, a strong relationship was detected between street

children's cognitive social capital and living in the barangay where the interview took place and whether or not the child was born in Manila. Taking into account other findings presented here, these findings bolster support for findings from Stage 1 that emphasise the importance of permanence in a place to perceptions of trust and belonging and the impact those perceptions have on a person's behaviours. However, that trust did not translate to higher adaptive capacity; in fact, children who were from Manila and were found to be from the barangay in which the interview took place had lower educational attainment on average than other children.

The lack of a relationship found between street children's cognitive social capital and adaptive capacity could be interpreted in many ways. First, it may be that cognitive social capital as a measure of trust and belonging to a community is not related to street children's adaptive capacity or other measures of their wellbeing. Second, the measure of cognitive social capital may need to be further refined in order to fully capture the children's sense trust and belonging. Third, a small sample size likely influenced the results of this finding. Further research is needed to establish validated measures for cognitive social capital of disadvantaged children and youth.

As articulated throughout the chapter as well as in section 7.3, caution should be exercised in the interpretation of these results. There were several limitations of this study, primarily associated with a small sample size, that do not allow for generalisability and restricted the analytic strategies available. The direction of the relationships found to be significantly significant could not be tested due to the nature of the variables and small sample size. Further, the cross sectional design did not allow for causality to be tested.

Some suggestions for future research that could help to increase sample size include making surveys available in Cebuano. Further, despite efforts in the present research to ensure that the terminology in the survey catered to the cognitive, cultural and developmental status of the children (including pilot testing and engaging the help of former street children), there were still issues with the wording of some questions that diminished the strength of the present analysis. If possible to do so in an ethical way, street children should be involved throughout the research process to ensure not only

that their rights and perspectives are respected, but also for the practical viability and impact of the research.

CHAPTER 6

Fostering street children's adaptive capacity: The critical need for inclusive data

Data are the lifeblood of decision-making and the raw material of accountability.

UN-IEAG, A World that Counts

As children are our nation's future, the importance of statistics on children including other non-income indicators on children in poverty cannot be overemphasized. In fact, the latest data on Philippine education indicate a definitive deterioration in the quality of human capital of the country.

National Statistical Coordination Board of the Philippine, Statistics on Children in the Philippines

6.1 Introduction

The quote above from the National Statistical Coordination Board webpage²³, the nation's leading body on the collection and dissemination of statistics, is an uncharacteristically earnest acknowledgement of the government's shortcomings in accounting for the circumstances of its children. These shortcomings are not unique to the Philippines; UNICEF (2012, p. 13) asserted that "[o]ver one third of children in urban areas worldwide go unregistered at birth", including about half of the children in South Asia. In the present study, only 27% of street children participants in the survey interview had a birth certificate. Stakeholders in Stage 1 raised the critical need for birth certificates to access resources as well as to be able to exit 'rescue centers'. Most (68%) similarly did not have a UMID or SSS card, which would enable them to access schools, receive public medical attention and general welfare support in the absence of a birth certificate.

These findings have yielded alarming evidence of the extent to which street children in Manila are excluded from civil registries, Census, and other surveys. Street children's lack of a government-issued identification is especially worrying. Not only does it preclude them from accessing public health care, educational services, and possible

²³ NSCB. (n.d.). *Children in the Philippines*. Accessed 14 April 2016 at <http://nap.psa.gov.ph/children/dataLimits.asp>

humanitarian responses in the event of emergencies, but it can also increase their vulnerability to exploitation (UNICEF, 2012).

In 2014, the UN's Data Revolution Group released a powerful document entitled "A World that Counts" that emphasised the need for a data revolution to close inequalities by promoting equal access to information and equal visibility in data. Seen as the "raw material of accountability" (UN-IEAG, 2014), robust data on street children is critical. Without reliable data, there is simply no way for policy makers to understand the extent of the problem, or to know the amount of resources needed to adequately support the children.

There are many gaps in our knowledge of street children that must be filled in order for them to be included as members of society who can actively participate in disaster risk reduction activities and contribute to the sustainable development of their communities. Children's 'energy and number' alone make them viable instruments for change (Fernandez & Shaw, 2014), and in resource scarce environments such as Manila, investment in children could have far-reaching positive societal impacts.

The most important gap to fill in our knowledge of street children is a reliable population estimate. In Manila, not even stakeholders who work with the children everyday have estimates. Janet, director of a street child NGO stated, "[i]t's impossible. It would be really, really useful for somebody to do a study on how many kids there are." Later in the interview, Janet raised another concern about the children's lack of identification:

[There is] very little documentation by the government, there's nothing. One of our major issues is there's no missing person's database. Kids that we deal with are often just lost. You know, and we can't find them because we post a poster in this barangay and in that barangay and nobody sees and matches posters.

Though estimates of street children in Manila abound, these are rarely based on empirical data. When reported, estimates are rarely accompanied by the specific techniques used while others simply recycle out-dated figures from questionable research that might be heavily impacted by biased parties (see Table 6.1). Quantitative research on street children may be stifled by several challenges including operationalising street children, and sampling

Perhaps due to these challenges, there has been a strong tendency in the literature to simply replicate previous estimates rather than conduct original research, or to sidestep the discussion of the methodology used (Aptekar, 1994). There are, however, instances in which original research has been undertaken, and methodology is adequately addressed.

This section will identify the approaches that have been used to gather data on street children by government, civil society and academic sources, and identify strengths as well as areas where further research is needed. Underlying this chapter is an understanding that including children in data is fundamental to reducing the vulnerability of this population and fostering their adaptive capacity.

6.2 Civil registration: The first step to including street children

Children's registration at birth is both an obligation of the state and their parents and an important first step to ensuring children are counted in population estimates and are able to access public services. The UN-IEAG (2014, p. 19) best articulates the reasons why improving these systems are necessary, describing well-functioning civil registration of vital statistics (CRVS) systems as:

vital for policy making and for monitoring, generating statistics for policy formulation, planning and implementation, and monitoring of population dynamics and health indicators on a continuous basis at the national and local level.

CRVS data is used not only as a benchmark to improve the quality of other surveys (UN-IEAG, 2014), but also to "help to identify inequalities in access to services and differences in outcomes" (Mahapatra et al., 2007, p. 1). In the Philippines, CRVS is also used as "the foundation for the country's health policy and programmes as well as its implementation" (Republic of the Philippines, 2014, p. 7).

Registration is also a right guaranteed to children in Article 7 of the UNCRC.

7.1 The child shall be registered immediately after birth and shall have the right from birth to a name, the right to acquire a nationality and, as far as possible, the right to know and be cared for by his or her parents.

This right to be registered at birth, and consequently to attain legal documents that prove an individual's identity, is more than just words on paper. "An individual's right to be counted at both extremes of life is fundamental to social inclusion" (WHO, 2014c,

para 7). For children, birth registration and identification documents confer membership and the rights associated with that membership, namely to access public goods and services.

The need to improve upon the collection of vital statistics, particularly in developing countries, is well known (UN-IEAG, 2014; Mahapatra et al., 2007). In the Philippines, improving CRVS has received increasing attention following recommendations by the United Nations Commission on Information and Accountability for Women's and Children's Health as well as the Philippines' selection as a case study in 2014 in a recent global meeting on strengthening CRVS. Though the publication of a national investment plan (Republic of the Philippines, 2014) to create a fully functioning and sustainable CRVS system inspires hope, there appear to be inconsistencies between government understanding of registration completeness and other empirical evidence, including qualitative findings from the present study.

While a full exploration of CRVS in the Philippines is beyond the scope of this research, the following sections briefly present findings relevant to birth registration completeness and challenges to birth registration that may contribute to street children's absence from civil registries.

6.2.1 Empirical research on birth registration in the Philippines: Exploring inconsistencies

Findings of the present study as well as other empirical findings indicating shortcomings in the Philippine birth registration are somewhat inconsistent with government data on the quality and pervasiveness of the birth registration system.

The recently issued government investment plan for Philippine CRVS 2015-2019 reports that 93.5% of Filipinos are registered at birth (Republic of the Philippines, 2014, p. 11), though no reference is provided to determine the origin of this figure. Abouzahr et al. (2014, p. 61) state that this figure was determined following the 2010 Census. Personal communication with the Director of the Vital Statistics Division of the PSA (Reolalas, 2015) confirmed that the figure was derived from a question in the 2010 Census asking how many household births are registered at the Local Civil Registry Office (LCRO). Given

issues with the Census outlined in 6.3, there is cause to question the validity of the completeness statistic that may underrepresent the most disadvantaged.

A similar estimate was produced using the Preston and Coale method with data from the 2000 Census finding 87% completeness for birth registration (Hufana, 2010, p. 7); however, these results should be scrutinised given the shortcomings of that Census discussed in 6.3. An important assumption of the Preston and Coale method is that the data is accurate; here it is not.

In 2009, the Philippines was the first country to participate in a joint project by the WHO and the University of Queensland to develop a framework to assess their CRVS. The assessment consisted of interviews and focus groups with several actors at the subnational level including midwives, local registrars, and development partners (Abouzahr et al., 2014). Results from the project indicated the Philippines CRVS as 'adequate' (Hufana et al., 2009).

6.2.2 Challenges to birth registration in the Philippines

There are many challenges to achieving universal birth registration in the Philippines, all of which discriminate against the most poor and disadvantaged. These challenges, which are briefly discussed in the following section, include: a large percentage of home births; the geophysical characteristics of the Philippines; the decentralisation of governance; lack of capacity at the local level; unregulated fees and barriers to late registration; and a need for more financial investment in the broader CRVS system.

Home births

In developed countries where most births occur at health facilities, trained staff knowledgeable about registration processes facilitate wide coverage and accuracy in the reporting of births. In the Philippines, home births remain common. As at 2011, government reports indicate that as many as 80% of all births in ARMM and 45% of all births in the Philippines took place at home (Republic of the Philippines, 2014, p. 15). It is unclear what percentage of these home births is attended by a registered health officer, who, under Philippine law, is jointly responsible for reporting a birth event to the Registration Officer along with the parent or parents (NSO, n.d.). As such, there may

be little opportunity to capture these births, unless the parent or parents fulfil their legal reporting responsibility.

Geography and population

The geophysical characteristics of the Philippines archipelago, which encompasses about 2,000 inhabited islands, presents unique challenges to enforcing and standardising CRVS practices in geographically isolated, and culturally disparate areas. Government reports acknowledge “very wide geographical and sectoral variations in registration especially for those living in the geographically isolated mountainous and disadvantaged areas” (Republic of the Philippines, 2014, p. 11), particularly among Muslim populations with distinct birth and burial traditions (Republic of the Philippines, 2014; WHO, 2014c; Natividad, 2013). Abouzahr et al. (2014) note that conflict and the limited utility of civil registration documents in ARMM may also be partly to blame for low registration rates in the region.

Decentralisation

Related to geographic challenges, government structure similarly hinders the accurate reporting of all Filipino births. The Local Government Code (Republic Act 716) makes civil registration a responsibility of the local government through a designated city/municipal registrar. Decentralisation has profound implications for CRVS in the Philippines. Not only does the quality of the CRVS system vary at regional and LGU levels, but the systems also vary by the procedures and standards applied in the registration of vital statistics (WHO, 2014c; Republic of the Philippines, 2014; Natividad, 2013).

Lack of capacity

Lack of capacity of those involved with registration activities has also been noted as a challenge for Philippine CRVS (WHO, 2014c). The previously discussed decentralisation of CRVS may play an important role in limiting staff capacity; with the outsourcing of CRVS to LGUs, there are few concentrated centres of CRVS training in policies and best practice.

The joint WHO and University of Queensland project emphasised the lack of capacity at the regional level. Their project attempted to pilot test a framework at the local level using the regional province of Cavite as a test site; however, “the results of this test

showed that it was not possible at that level to get sufficient expertise to have discussions of all the issues covered by the framework” (Hufana et al., 2009, p. 6).

Unregulated fees and barriers to late registration

Though the first copy of the birth certificate should, by law, be provided free of charge, there are concerns that unregulated fees imposed by LGUs are presenting barriers to registration, particularly for the poor (WHO, 2014c, p. 10; Abouzahr et al., 2014). A report presented by the then Director of the Civil Registration Department of the PSO, Lourdes Hufana, attests that “[m]ost LGUs collect fees for both registration and in issuance of certified copies of civil registry documents” (Hufana, 2010, p. 6). Due to the highly decentralised nature of CRVS activities and the patronage system, corruption and/or non-compliance with law at the local level may be difficult to monitor and report.

A presentation to the UN by the National Statistics Office (NSO, n.d.), outlines the requirements for late registration. According to the presentation, if not registered within 30 days of birth, a parent must present an “affidavit of delayed registration; 2 documents proving birth of child; affidavit of 2 disinterested persons; [and a] certificate of marriage, if already married” (NSO, n.d., slide 26). Such requirements make late registration difficult, if not impossible, for children, particularly those born outside of a health facility.

Lack of investment

Undoubtedly, more funding would help to overcome some challenges, particularly in terms of enhancing the capacity of staff, strengthening the technical capacity of CRVS, and ensuring controls are in place to prevent and detect corruption across all levels of governance. The Philippines was one of four countries selected for a 2014 case study during a global meeting on CRVS procedures in Addis Ababa. It was estimated that an investment of \$25 million USD²⁴ was needed to achieve a fully functioning and sustainable system (WHO, 2014c).

²⁴ Republic of the Philippines sources put this number at \$26 million USD or \$30 million when adjusted by 15% to account for ‘risks and uncertainty’ (Republic of the Philippines, 2014, p. 8).

6.2.3 Consequences of failed CRVS

The present study has demonstrated the practical implications of a CRVS that fails to account for all births. If not registered, street children cannot acquire a government-issued identification, making it difficult, if not impossible for the children to access public health care or education. Stakeholder responses indicated that street children in Manila need an identification to enrol in school, enrol in PhilHealth (public health insurance scheme), and to get out of government ‘rescue’ shelters. Bhaskaran & Mehta (2011) noted a similar finding in their study of street children in India where only 19.2% of street children interviewed had proof of identity, and of those who did possess an I.D., not all were valid for accessing entitlements.

In addition to the consequences for those without government documents, there are implications for the broader society that are not often considered in the literature. One such implication is the proliferation of an identity black market.

The identity black market in Manila

Faults in the registration system have given rise to a black market of counterfeit or stolen government-issued identifications, as well as other ‘official’ documents such as academic diplomas, marriage annulment certificates, driver licenses, and even pilot licenses. Having visited an area rampant with street vendors selling these documents in Manila, I can attest to their existence (in plain sight, stretched along the side of a high-traffic road, with no attempt to shield activities), and also to the high demand for them.

I was unable to identify any academic research on this issue, though one journal article identified “minimizing falsification” as an aim of improving CRVS in the Philippines (Abouzahr et al., 2014). Acknowledgment of the extent and implications of the black market are thus far limited to popular media reports. An article in *The Inquirer*, entitled “Recto University: You name it, they have it!” (Garcia, 2014) discussed Garcia’s visit to a well-known black market area in Manila, widely known as ‘Recto University’ for its location on Claro Recto Street. In his interview with a vendor of counterfeit documents, Garcia discovered that the most common service requested is the ‘Department of Foreign Affairs Red Ribbon’, the authentication of Philippine documents needed to work, study and travel abroad (Garcia, 2014).

Not only does such a market have the potential to undermine the role of governments and institutions charged with issuing such documents, but also it may endanger the safety of the international public, if such qualifications attest to a certain quality of training, skill or capacity (such as the vision requirement needed to operate a vehicle) or in disguising the real identity of individuals who may have a criminal or otherwise dangerous past. A functioning CRVS may at least reduce the need for counterfeit government issued documents as well as assist in detecting individuals attempting to use a fake identification.

6.2.4 Summary

Despite efforts to strengthen CRVS, there remain several challenges to improving birth registration in the Philippines. The complex geography and population dispersion of the archipelago add to the related issues of decentralisation, lack of standardisation, and the illegal practice of charging registration fees at the LGU level, which may contribute to lower levels of registration of street children and other urban poor. Moreover, improving the system in Manila is not enough; the present study has shown that many street children in the city come from areas such as rural Mindanao where CRVS is even less reliable. The implications of a failed CRVS system include street children's exclusion from public services, and the rise of an identification black market with negative implications for public security, service delivery, and resource distribution.

Further, government data reporting high coverage of birth registration based on Census data is misleading. The following section details aspects of the Census that similarly result in the exclusion of street children and the urban poor from national data.

6.3 Street children in national Census and surveys

Assumptions about children in the Philippines, including the assumption that urban children fare better than rural children, are largely based on data from the Census and national survey data. Unfortunately, neither the Census nor any other nationally representative survey in the Philippines captures the most destitute and vulnerable urban children, including street children. This section sets out the specific methodological aspects of surveys in the Philippines that obstruct the visibility of street children in supposedly nationally representative data.

6.3.1 Exclusion from Census

The Philippine Census of Population and Housing (CPH) is conducted every five years²⁵; the most recent CPH was conducted in 2015, though the results are not yet publically available. Though the Philippine Statistics Authority (PSA)²⁶ reports that CPHs from 1990 to 2010 include the homeless population (PSA, n.d., 'Population of the Philippines Census Years 1799 to 2010', footnote a), this assertion has not been substantiated in the findings of this research, nor in government reports detailing the sampling procedures used in CPHs.

By definition a Census is an enumeration of every individual in a defined population. However, the types of households counted and the specific enumeration mechanisms used in Censuses systematically exclude the most impoverished in the Philippines.

On a fundamental level, any child who is not residing with an adult (e.g., a community based or street based child) is likely to be excluded on the basis that she/he is not a "responsible member of a household" as required by CPH procedures (NSO, n.d., p. 35). The very definition of 'household' utilised by the CPH may exclude street children and other sectors of the urban poor. A household, as defined by the CPH, is

a social unit consisting of a person living alone or a group of persons who sleep in the same housing unit and have a common arrangement in the preparation and consumption of food. (NSO-NCR, 2012, p. 13)

This definition of a household likely excludes street based and community based children who often reside in untraditional structures and untraditional places, which in Manila includes parks, Church yards, and cemeteries. Further, according to the Census 2000 Enumeration Manual (NSO, 1999, p. 14), housing units that "are still under construction with walls and roof not yet in place" are excluded from enumeration, possibly excluding street children from all categories who do not ordinarily reside in a traditional housing structure with four walls and a roof.

²⁵ A notable exception in recent decades was the delay of the 2005 Census until 2007 due to resource restraints.

²⁶ The PSA was established by the Philippine Statistical Act of 2013 (RA no. 10625) as the central statistics office, merging among other statistical bodies, the National Statistical Coordination Board (NSCB) and the National Statistics Office (NSO). The PSA is responsible for all national censuses and surveys.

Even if the urban poor are enumerated, they may still be under-estimated or excluded altogether from Census interviews. Enumeration of households occurs simultaneously with interviews involving a relatively simplistic, door-to-door canvassing process. While all households in the 2000 CPH were to be enumerated in the Listing Page (CPH Form 1), a systematic cluster sampling procedure was utilised to determine households that could participate in interviews. As illustrated in Table 6.1, the percentage of households to be included depended on the municipality's population density.

Table 6.1: Sampling procedure used in the 2000 Census of Population and Housing

# of Households in Municipality	% of HH's included in Census*	% of HH's to complete CPH3	% HH's to complete CPH2
1-500	100	100	0
501-1500	20	4	16
1501 and up	10	1	9

Source: prepared by author, based on data from PSA Data Archive, "Sampling Procedure", NSO, Philippines – 2000 Census of Population and Housing, Technical Notes

While 100% of the households located in a municipality of 500 households or less were included in Census interviews and received the detailed Sample Household Questionnaire (CHP Form 3), only 10% of households located in municipalities of 1501 households and over were included in interviews and only 1% received a CPH Form 3.

Following this sampling procedure, the least amount of information is collected from the urban poor, including street children, who often live in the most densely populated areas of Manila. Though 9% of those in the most densely populated areas were included in the sample for the Common Household Questionnaire (CPH2), the CPH3 form collects data more pertinent to the needs of this population. Items covered in the CHP3 that are not included in the CHP2 include: language, literacy, school attendance, usual activity/occupation, place of work, children ever born, number of children still living, age at first marriage, water supply, tenure status, monthly rent, kind of toilet facility, usual manner of garbage disposal, presence of household conveniences, and language spoken at home (NSO, 2012b).

Procedures for mapping enumeration areas in Manila similarly disadvantage the urban poor living in the most congested areas of the city. An NSO presentation on the 2010 CPH acknowledged the difficulties encountered in mapping:

The main problem in Census mapping is on highly congested areas, where our field men are having a hard time plotting the road networks or alleys even with the use of GPS and high-resolution images. Most of the residents in these areas are informal settlers. (Trazo, n.d., slide 35)

The presentation also raised issues encountered in the 2000 CPH that provided impetus for me to further explore the possibility of corruption in the Census.

Possible corruption in Census activities

Beginning in January 2000, BayanMap Corporation (BMC), a company privately owned by the prominent Lopez family, was contracted to produce digitized maps of all barangays in Manila from topographic aerial photos for the Census.

BMC undertook an extensive field survey in the barangays of Metro Manila to gather basic map information such as house numbers, street names, and other relevant map information to supplement the quality of the digital translation. (Trazo, n.d., slide 16)

By Census week, little more than 50% of the maps prepared by the BMC had been received by local Census officials (Olaivar, 2007; Trazo, n.d.). Problems encountered included delays, incomplete maps without street names or house numbers, inaccuracies in the maps provided, confusion, and the need to bring in internal cartographers at the last minute in order to properly identify enumeration areas (Trazo, n.d., slide 19). Most importantly, BMC never handed over the digitized maps in the electronic format; they only supplied printed copies of the maps that lacked critical information and contained inaccuracies (Olaivar, 2007).

Despite these failings, according to their 2002 Annual Report, the Benpres Holding Corporation²⁷, the umbrella company under which BMC operated, presented positive reports for its stakeholders that suggested that LGUs purchased maps that Benpres was obligated to provide for Census purposes.

Aside from being the first GIS company to be government-accredited under the e-commerce law, 3rd and 4th quarter spelled lucrative opportunities with

²⁷ Subsequently renamed Lopez Holdings Corporation.

government agencies such as the Commission on Elections, Metro Manila Development Authority and at least five LGUs (Local Government Units). (Benpres Holding Corporation, 2002, p.9)

Meanwhile, BayanMap has focused on selling applications of its digital maps to its traditional internal Lopez group clients as well as to local government entities who find that GPS/GIS mapping competencies can enhance management of their municipalities. (Benpres Holding Corporation, 2002, p.16)

BMC is one of many Lopez family holdings under the banner of the Lopez Holdings Corporation, which controls key energy, media, and water utility companies throughout the Philippines. Benpres also operates the country's largest telecommunications provider by revenue, ABS-CBN Communications, which is accessed by 97% of the country's television owners. The longstanding influence of the Lopez family in Philippine politics, particularly through their media operations, is well documented (Atkins, 2002; Kang, 2002; Roces, 2000; McCoy, 1993). Their personal connections to key political figures is similarly public knowledge. A year before being awarded the mapping contract, Manuel Lopez married the daughter of then President Joseph Estrada.

While the exact terms of the tender process and the contract between the national government and BayanMap Corp. are unknown, the failure of BMC to provide the contractually agreed maps in the correct format and in the established timeframe, raises serious concerns about the impartiality of Census data collection. That the maps are now being sold for commercial purposes by such a powerful corporation also raises important concerns about the privacy of data collected for Census purposes.

Decentralisation

Decentralisation also presents the potential for corruption at the lower levels of government. Batas Pambasa BLG 72, or 'The Census Law', provides that Census boards are established in each province, city and municipality who report to the National Census Coordinating Board. Thus, Census activities are carried out at the LGU level, with limited supervision from the Central Office due to funding and the country's complex topography (Lorica, n.d., slide 5). As the Census population determines Internal Revenue Allotment for LGUs, there is an incentive for some local leaders to enhance population figures, and, indeed, a PSO presentation indicates that number padding occurred in the 2010 CPH (Lorica, n.d.). While UN documents suggest that the involvement of local

officials has increased support in the undertaking of Census activities, they also acknowledge that issues concerning funding are politically charged in the Philippines (UNSD, 2001).

6.3.2 Exclusion from other nationally representative surveys

Other nationally representative surveys in the Philippines similarly exclude street children and sectors of the urban poor, because many rely on the sampling frame established in the CPH. The National Demographic and Health Survey (2011, p. 213) uses “a special sampling frame” based on that of the 2010 Census of Population and Housing. The 2008 Functional Literacy, Education and Mass Media Survey, 2008 Labor Force Survey, 2008 Annual Poverty Indicators Survey are all based on the master sample of households derived from the 2000 CPH. This is especially troubling given the inconsistencies, evidence of padding, and possible corruption of the 2000 CPH noted in the previous section.

Nationally, surveys that do not use a sampling frame from the CPH exclude street children and the city’s most disadvantaged in other ways. The Survey on Children (NSO 2001, 2011), one of the few nationally representative surveys of Filipino children, is a household survey attached to the quarterly Labor Force Survey. Again, the use of the household as the unit of analysis prevents the inclusion of many street children.

While the household survey method is the most commonly used approach to collecting information on child labor, it has limitations. Children who are homeless are often missed when the unit of measurement is the household. Many children both live and work in the street, and excluding them may therefore lead to an underestimate. (Ritualo, Castro, Gormly, 2003, p. 409)

Experts caution that household surveys may have large sampling errors if they do not address the diverse living circumstances and economic activities of urban children (Castro, Gormly, & Ritualo, 2005; Ritualo et al., 2003).

The Young Adult Fertility and Sexuality Study (YAFS) (1982, 1994, 2002, 2013), a cross-sectional survey now in its fourth wave, is suggested to be representative at the national and regional level. However, it too utilises a stratified sampling of households, thus ignoring children who would similarly not be captured in any of the aforementioned surveys.

6.3.3 Summary

The failings of the Census to account for the most impoverished in Manila not only result in an underestimation of the incidence of urban poverty, which is harmful in itself, but also has significant impacts for these communities. This is because Philippine Census results are used in decisions on the allocation of resources and revenue to local government units, delivery of services, and formulation of policies, plans and programs for health, education, labor, housing, social welfare (UNSD, 2001; NSO, 1999). For this reason, Census results are a politically sensitive issue in the Philippines (UNSD, 2001) and can significantly impact on those communities where residents are not included in enumeration. Moreover, even when residents of dense urban areas of the Philippines are included, they are the residents that we learn the least about in the Census.

Further, the CPH sampling frame is often replicated in other national surveys, implying that if an individual is not counted in the Census, s/he will also not be accounted for in other surveys. Even if a CPH sampling frame is not applied, street children and other urban poor are often excluded from national data due to the standard 'household' sampling strategy. CPH data is also used for completeness of estimates of registration; implying that if street children and other impoverished populations are absent in the Census, their absence from registration records will similarly go undocumented.

6.4 Quantitative research on street children

The absence of street children from government civil registries, Census and other representative surveys poses significant challenges to academics and civil society stakeholders charged with understanding and assisting this population.

Prior studies of street children in Manila have identified several practical challenges in researching the children. These challenges include the children's mobility; the difficulty in distinguishing them from other children; and the fact that they frequently lack any legal identification (Ruiz, 2006, Brown & Dodman, 2014).

Most quantitative research on street children to date has focused on the basic task of establishing estimates of the population as well as basic demographic data. There are currently few robust quantitative methods for producing reliable and valid population estimates of street children, and even fewer that are ethically and methodologically

sound. Most studies do not specify the techniques used; other studies simply evade the estimate question altogether or recycle out-dated figures from questionable research likely to be heavily impacted by biased parties (Connolly & Ennew, 1996).

Estimates of street children in Manila

When stakeholders were asked how many street children they believed there were in Manila, few ventured to estimate. Many, however, expressed the need for such estimates in order to adequately support this large, and potentially growing, population. Table 6.1 demonstrates why misconceptions about this population are rampant. Of the reports listed, only two of the estimates emerge from primary data collection (Lamberte, 2002; DSWD, 2010). The others have borrowed estimates from Lamberte (2002) or from Action International Ministries, whose estimate has remained relatively stagnant for over a decade and unlikely to be grounded in empirical data.

Table 6.2: Street children estimates in Manila by reporting entity and method

Estimate	Reporting Entity	Year	Method	Reference
100,000	University of the Philippines, Diliman	1998	Not specified, cites Stairway 1997 from DSWD estimates; however, not included in reference list and original report could not be located	Caparas, 1998
11,346	PIDS/UNICEF	2002	Calculation based on 1.6% of youth in Manila	Lamberte, 2002
50,000 to 75,000	University of the Philippines, Manila (Academia)	2002	Not specified, cites data 'forwarded' from DSWD and National Council for Social Development	Ocampo, 2002
50,000 to 70,000	ChildHope Asia Philippines (NGO)	2006	Not specified, cites approximation from Action International Ministries	Ruiz, 2006
50,000 to 75,000	Brigham Young University (Academia – Religious affiliated institution)	2010	Not specified, cites Ocampo 2002	Njord et al., 2010
11,346	UNICEF Policy Brief (Intergovernmental Organisation)	2010	Not specified, cites Lamberte 2002	UNICEF, 2010
3,072	Council for the Welfare of Children (Government)	2010	Not specified, cites a "Rapid appraisal" conducted by DSWD	CWC, 2012
111,208	De La Salle University (Academia – Religious affiliated institution)	2014	Not specified, cites Lamberte 2002	Sta. Maria, Martinez, Diestro Jr., 2014
75,000	Action International Ministries (Religious NGO)	Current	Not specified, not referenced	AIM website, n.d.

Source: prepared by author, data from the sources referenced in the last column

It is apparent from Table 6.1 that the nature of the entity is related to the tendency to underreport the number of street children in the case of the government (DSWD) and over-report in the case of NGOs. However, it is surprising that academics have also fallen into the trap of not only using recycled numbers, but also misquoting estimates that inflate the population as in the case of Sta Maria et al. (2014).

6.4.1 Operationalising street children

Given the criticisms of the term “street child” and lacklustre alternatives, it is understandable that many researchers avoid studying street children. Defining a street child is complicated without endeavouring to operationalise the term to produce meaningful research. The few studies that have operationalised “street child” and explicitly stated the operational definition have relied heavily on the street child classifications made by UNICEF (1984). These operational definitions typically include two scoping elements: age and contact with family.

Determining when a child is no longer a child and in need of special protection is often simplified by the standardization of “age” in years. That “children” are socially constructed is evident by the different ages used to define the group across cultures and institutions. The UNCRC defines children as all persons up to 18 years of age, and many NGO’s have similarly adopted this range. However some governments have established lower limits on the age range in order to permit the labour of younger individuals, or to serve other political ends. For example, Article 24 of the Indian Constitution and the Child Labour Act “defines a child as ‘a person who has not completed 14 years of age’” (Bhaskaran & Mehta, 2011, p. 15). Disregarding the legal definition, Save the Children’s 2011 survey of street children in Delhi instead adopted the UNCRC definition of children as up to age 18 including newborn babies. Gurgel, Da Vonseca, Neyra-Castaneda, Gill and Cuevas’ (2004) survey in Brazil, however, applied the legal definition of children for that country as any person under 19 years of age. These examples demonstrate that the age used to operationalise a child takes into account the legal context of a country except where legal ages are significantly lower than the widely accepted eighteen years.

The second element used to operationalise “street children” is the extent of contact with family. Nearly all research on street children to date relies on UNICEF’s “street-

living”, “street-working” and “children from street families” classifications, or the earlier “on the street/of the street” distinctions. The trend has been to apply these terms based on children’s responses to questions about the amount of time children have spent with their families in the prior two weeks. The children’s responses indicate the complex relationships maintained by most street children and their families and reveal that, contrary to popular belief, most children on the streets are not abandoned or orphaned. In fact, at times leaving home may be evidence of a coping mechanism in which children escape abusive or otherwise detrimental circumstances to make new lives for themselves or to help their families.

6.4.2 Sampling and method

Once the definition of ‘street children’ has been operationalised for the purpose of estimating the population, developing a sampling frame for a population about which very little is known still poses a key challenge.

Most surveys of street children reviewed did not expressly state their sampling method, though it can be inferred that many employed convenience sampling. The mobility of the children presents significant challenges to enumeration and sampling procedures. A survey of street children in Sudan illustrates this point.

We decided to conduct our survey solely in the markets of Juba and not also in the streets, due to the difficulties of measuring a mobile population. As a consequence the total number of children in street situation observed is of course under estimated. (EMDH, 2009, p. 11)

Not only are current sampling methods of street children populations not methodologically rigorous, but also subjective and inefficient. Sampling frames usually consist of areas “thought” to have many street children, or those reported by NGOs to have many street children. Most recruitment strategies involved approaching all children on the street in specific areas. For example, in a survey conducted in Tanzania, fieldworkers approached every person on the street in specific high-risk areas who appeared to be under the age of 25 (McAlpine et al, 2010). Not only can this process be very time-consuming, but it can also have a strong sampling bias depending on the timing of the survey.

Street child Census

In some instances, governments and organisations with or without the support of governments have endeavoured to conduct a Census of entire street child populations. However, more caution should be exercised when applying the term ‘census’, which generally denotes 100% participation of people in a specified area at a specified time.

Street children Censuses have been undertaken in India, where such studies on street children were reported as early as 1957 (Bhaskaran & Mehta, 2011). The most recent Census identified was conducted in 2010 in Delhi by Save the Children. Using the UNICEF classifications of street-living, street-working and children from street families, the Census identified 50,923 street children, but noted several limitations that may have resulted in an underestimate of the population including: children’s reluctance to participate due to fear of being watched by an employer; reluctance to participate for fear of losing employment; researchers could not get to areas thought to have high numbers of street children due to flooding (Bhaskaran & Mehta, 2011). The coincidental timing of the Commonwealth Games affected enumeration as the Indian Government was both rounding up street children to send them outside the city and simultaneously bringing in poor rural families with children to build infrastructure for the Games (Bhaskaran & Mehta, 2011).

These Censuses, also referred to as ‘rapid assessments’ or ‘headcounts’, have shown little methodological evolution since the 1980s (RCA, 2014). The methods currently employed have many limitations, such as being prone to double counting as children can move between areas being counted and can switch activities. Some ways of reducing double counting seem obvious but are not always considered. Railway Children of Africa improved the reliability of its headcount in Mwanza by only counting in a 24 hour period rather than over two days and risk counting a child twice who appeared in the street on both days (RCA, 2014).

Just as it is difficult to operationalise what constitutes a “street” it is also difficult to distinguish what is a “home”. A survey in Mumbai did not include slum children as children from street families based on specific infrastructure of the home; only children

whose families slept in the open sky or in temporary structures (made of bamboo, plastic, cardboard, flex material and/or tin) were counted (ActionAid, 2013).

Censuses rarely maintain comparability to other surveys – more standard language needs to be adopted. One exception was ActionAid’s (2013) use of an instrument that had been used in a Delhi survey (Save the Children, 2010), and was only slightly modified to account for regional differences and cultural sensitivities.

Capture Recapture

Apart from the Census, the capture recapture method has gained growing appeal in street child estimations, particularly where governments or organizations do not have the resources to expend on a Census. Originally developed as a tool in biology for estimating wild birds and insects (Gurgel et al., 2004), the capture recapture method was first used in demography in Sekar and Deming’s 1949 landmark paper estimating births and deaths near Calcutta (Hning & van der Heijden, 2009). Since then the capture recapture method has gained increasing popularity for quantitative research on elusive human populations such as the homeless, drug users, and sex workers. Despite its success in researching these populations, there are few studies applying the capture recapture method to street children outside of Brazil. This may partially explain Latin America’s early start on street children scholarship which has served as a catalyst for street children studies worldwide. In 2004, Gurgel et al. claimed to be the first to apply the method to street children research in Aracaju, Brazil. It was subsequently used in other such studies across the country.

The capture recapture method involves using incomplete lists from different sources then developing an estimation based on the overlap of individuals and list sizes (Gurgel et al. 2004). Bezeera et al. (2011) used three lists: two lists from street surveys conducted by the authors on two separate days of the week and a third from a government source. Gurgel et al. (2004) similarly used three lists: two from cross sectional street surveys during a midweek day and a weekend day, and one “built from the registers of all non-governmental (NGOs) and governmental associations working with street children in Aracaju” (p. 222). Thus, Gurgel et al.’s list is seemingly more inclusive as it utilised NGOs as well as governmental sources. The two papers also differed in their assumptions.

Table 6.3: Comparison of capture recapture assumptions in street children studies

Gurgel et al. (2004, p. 223)	Bezerra et al. (2011, p. 525)
The population is not necessarily homogenous	The population is of fixed size and composition (closed), and homogenous
Lists are not necessarily independent	The sources used are independent, allowing every population individual the same chance of inclusion in the lists

Source: prepared by author, based on the references cited in the header row

The difference in the assumptions matters as it affects the interpretation of overlaps between the lists. While a similarly small incidence of overlap was found in both studies, the estimate produced by Gurgel et al. (2004) can possibly be construed as an overestimate given the assumption of lists that are not necessarily independent, while Bezerra et al.'s (2011) assumption of independent sources means that the small overlap is likely due to a genuinely very large population (p. 526).

Though Gurgel et al. (2004) believe that it is the best way to produce reproducible estimates that are “less vulnerable to external manipulation” (p. 224), they also recognise that the capture recapture method has produced unreliable results in other situations. These situations, as explained by Tilling (2001), are a consequence of model assumptions (source independence and equal probability of being captured) that cannot be tested, and “violation of either could lead to over- or under-estimation of the true population size” (p. 12). However, an innovation in Rcapture, a statistical package designed to produce indicators of the model assumptions, is likely to have resolved the ambiguity in Tilling's paper. Regardless, more work is to be done before capture recapture can achieve the same success in demography that it has accomplished in the biological sciences.

Despite the many challenges of researching street children, progress must be made in estimates of the population. Estimates not only allow researchers to gauge whether the situation is deteriorating or improving, but also permit cross-country comparisons that demonstrate the influence of societal structures on the street children population.

6.4.3 Recruitment, participation and ethics

Unlike in other fields, the quantitative study of street children often requires that the primary approach, recruitment and data collection occur in the same preliminary

contact with the child, which presents novel challenges for researchers. Surveys of street children have reported low participation rates, with the timing at which recruitment occurred being key. A report from a survey of street children in Bangladesh illustrates why timing matters for participation.

After sun set, particularly after 8 PM sex workers (both male and female), tea and coffee sellers, children involved in drug business and the like remain busy either with customer or searching for the customer. Majority of such street children refused the study team to give any interview even after repeated requests. Consequently, the sample has relatively lower representation of those street children involved in earning activities at night. It is to be noted that the above-mentioned street children generally do not sleep at night, but they sleep during day time at parks. Street children in general were found reluctant to give any interview because they were, at the time of interview, tired and sleepy. Moreover they fear being interviewed. (FREDP, 2003, pp. 7-8).

As well as producing low participation rates, this approach raises ethical concerns not only in regards to respondent burden and consent, but may also put the children at risk of harm, if caught talking to an authority figure while working in exploitative conditions.

Street children may not wish to participate in research for a number of reasons. Street children have reported being fearful or scared to participate in research in some instances (DCI-PS, 2007, Palestine; ActionAid, 2013, India). Children were hostile to enumerators in Mumbai and refused to cooperate because they did not see the personal benefit from participation (ActionAid, 2013). There the street children also complained about being over-researched, as a government survey and another NGO survey had been conducted just prior (ActionAid, 2013), again raising concerns of respondent burden for participants in some places.

Published studies and reports on street children surveys rarely mention ethical considerations. Notable exception is the survey on street children in Tanzania which included a paragraph on the ethical review processes undertaken and attention to receiving informed consent (McAlpine et al., 2010). Nonetheless, researchers did not acknowledge the potential harm to participants, if the children were caught talking to researchers by employers or otherwise exploitative influences that must be taken into consideration in any recruitment strategy that involves approaching children on the street.

6.5 Qualitative research on street children

More evolution and creativity has occurred in the qualitative research of street children. In addition to the traditional qualitative techniques such as focus groups and interviews, researchers have found new ways to engage the participation of street children to provide rich insight into their lives and their experiences. It is in this space that most research to date has examined street children's experiences of natural disaster.

Though there are ethical implications and practical challenges to researching children in the aftermath of natural disaster, there is also great promise for creative methodologies in this field. Participatory research methods that incorporate a "citizenship role" resonate with children. Following the Christchurch earthquakes of 2010 and 2011, school-based methods for researching children included student-led film, book, and garden projects. In each, children enjoyed "contributing to something much larger and longer lasting; something that preserved their stories, their schools' and their families' experiences for history" (Gibbs, Mutch, O'Connor & MacDougall, 2013, p. 135).

Following an extensive consultation and piloting process, Gibbs et al. (2013) proposed using 'mobile methods' to explore children's resilience following the 2009 Victorian bushfires in Australia. Their method would allow children to act as tour guides of the local area, allowing them to point out and photograph places of significance for them.

In terms of practicalities, timing matters for post-disaster research involving children. After outlining research plans, conducting extensive consultations, Gibbs et al. (2013) found that parents and other adults were weary of involving children in research four years after the Victorian bushfires, as they believe that it would only make them revisit traumatic experiences, and that the children had already moved on with their lives and were finished talking about the bushfires (Gibbs et al., 2013).

Future research on children and disaster should incorporate the collaborative processes advanced by this small body of work. Establishing theoretical and context-driven work represents the next major step in advancing knowledge of the adaptive capacity of street children.

6.6 Other research challenges

In addition to the above discussed issues with sampling and recruitment strategies employed in the quantitative and qualitative research on street children, there are further challenges that may contribute to the lack of meaningful research to date on this population. The two that were considered to merit further attention include participant deception and uncertainty, and study design. This section addresses these two challenges in more detail.

6.6.2 Participant deception and uncertainty

Deception has been noted as a challenge in the street child literature, and has been attributed to habit, revenge and/or fear. As pointed out by Aptekar (1994, p. 200), the ability to lie and manipulate people is a survival skill for street children that may be psychologically linked to a desire to “get back at a society that devalues them” or “keep society at bay about the details of their lives”. A survey in India found that children often lied about their age in order to opt out of the study, to avoid being caught for violating child labour laws, and to avoid getting into problems with employers who were monitoring them (Bhaskaran & Mehta, 2011). Children may also resort to hiding, particularly when fearful of police or aware of government efforts to relocate them.

Even if children are not inclined to deceive researchers, they may not have the information requested, including basic demographic information. As previously noted, street children rarely have birth certificates and sometimes even a child’s parents may not know the child’s birthday (Aptekar, 1994).

6.6.3 Research design: Establishing causal relationships

Most of the research to date on street children, including this study, has been cross-sectional. While cross-sectional research is often chosen for its relatively lower costs, only through longitudinal research can causality be attributed to relationships that arise in the street child discourse.

Not only does longitudinal research require more resources, but it also presents many practical challenges inherent in the elusive nature of street children. As they often do not have a permanent residence, phone number or other means of permanent contact, following-up with street children can be difficult, but can be achieved through careful

consideration in the planning stages and stakeholder engagement. Engaging with stakeholders who have frequent contact with the children through the provision of services, as has been done in the present study, is one method through which important information about the study can be communicated to the children.

6.7 Conclusions

Street children are largely omitted from Census, civil registers and national surveys. Omissions can result from the indirect consequences of poor governance and corruption, or more directly, from methodological issues including incomplete enumeration and sampling frames. With such a high percentage of the population living in non-traditional structures, including street children, Censuses and surveys must evolve their conceptualisations of households to include unattended minors in order to incorporate this population.

As a result, street children often lack identification, which can create difficulty for accessing schools, healthcare, and even being released from the RACs. Further, their absence from data can result in underestimations of their population, and thus inadequate community resources. Importantly, their absence from CRVS also makes the disaggregation of disaster data an impossible exercise; we cannot account for the circumstances of children post-disaster who were never accounted for in the first place.

Where there is an absence of government data, academics have similarly failed to evolve methodologies to capture the extent and experiences of this population. More worrying, researchers do not appear to be building on prior work, nor producing the data necessary to build on their own. Best practice should include publishing instruments in order to establish, validate and standardise measures where possible. Qualitative researchers have proven the exception to this, and the development of participatory research methods has made great advances in enhancing our knowledge of how street children adapt to natural disasters.

CHAPTER 7

Conclusions and policy implications

7.1 Introduction

Adaptive capacity provides a powerful lens through which to examine the resilience of the vulnerable. Though studies of adaptive capacity have previously focused on large, complex systems with adequate resources to address a specified stressor, such as a natural hazard, this research has focused instead on street children with minimal resources who are exposed to multiple, overlapping stressors including hazards. Their vulnerability to such stressors is constructed socially: by governments who cannot account for them nor provide them with adequate support; and by cultural norms adhered to by communities and enforced by parents that flow from poor governance, in situations which require the need for street children to endure hard labour rather than receive the education necessary to build their adaptive capacity.

Street children in Manila are both extraordinarily vulnerable and resilient at the same time to the impacts of frequent natural disasters and climate change; however, the ways in which these two characteristics coexist have not been examined through the lens of adaptive capacity until the present study. Street children are an ideal unit of analysis for exploring adaptive capacity due to their ability to adapt to various stressors with limited resources. The current study has demonstrated that street children's adaptive capacity is not comprised of the traditional capital components. In the current study, a conceptual framework for street children's adaptive capacity has been developed based on a thorough review of the literature and stakeholder interviews. Findings have yielded a measure of adaptive capacity that captures their health, education, and the stability of these characteristics after disasters. These characteristics, linked to human capital, were identified as those that would be most likely to foster transformative change for both the street children and their communities.

This mixed methods research demonstrates the importance of a thorough review of the literature and a preliminary qualitative enquiry prior to quantitative data collection. Not only did the review and the analysis of data obtained from qualitative interviews assist in distinguishing the classifications of street children in Manila, but also it was critical in the formulation of concepts and measures applied in the survey interviews.

Contrary to the classifications of street children most commonly utilised in the international literature, the classifications that appear most useful in the context of Manila are: street based, community based and children of street families. These classifications, as used in the measure for the quantitative study are unique in that they capture not only the origin of support, but also the number of entities on which the children can rely for protection, emotional, and financial support. This aspect is important as it reiterates Norris et al.'s (2007) emphasis on the importance of redundancy of resources. These emerging categorisations not only distinguish the children by origin and redundancy of social support, but also spatially, as it was found that children tended to congregate in areas of the city with children in similar circumstances (i.e., of the same 'street based', 'community based' or 'children of street family' classification).

Using a measure of adaptive capacity based on the children's educational and health status and the stability of these variables after disaster, street children's adaptive capacity was found to be significantly related to both their location and their classification as a street based, community based or child of a street family. Both of these findings provide empirical support for the theory developed in Stage 1 of this study as well as the theoretical literature on adaptive capacity: an individual's adaptive capacity is closely linked to the resources available from their broader community. This finding is consistent with the 'strengths-based' policy framework outlined in the Sendai Framework for Disaster Reduction of 2015.

We know that the resources available to a street child are heavily constrained by the resources of the general community from which they come, and these resources varied greatly by area of Manila. However, contrary to the hypothesis developed in Stage 1 of the study and in the review of the literature, street based children appeared to fare better than community based children and children from street families in some indicators. Street based children demonstrated high levels of adaptive capacity and had higher mean and median years of schooling than the others. Operationalised as those with the fewest relationships and the most independent, street based children demonstrate that support from peers may be more important than from traditional familiar social structures to their adaptive capacity. These findings bolster the evidence from the qualitative analysis that for some children, not having contact with parents or

other family members, may be evidence of adaptation, if the family relies on the child to provide income for the family, to the detriment of the child's health or education.

Also contrary to expectations, cognitive social capital, as measured here, was not significantly related to adaptive capacity. Using an aggregate measure, cognitive social capital was operationalised as children's perceptions of trust in the community; a sense that most people in their community get along; a feeling of belonging; and perceptions of being taken advantage of by members of their community. This measure was not found to be significantly related to the child's sex, street child classification, or adaptive capacity. Street children's cognitive social capital was, however, found to be significantly related to their redundancy of resources; in other words, street children who had more people or entities to rely on for help, also had stronger perceptions of trust and belonging to their community. This finding could imply that cognitive capital is more closely tied to redundancy of resources rather than where those resources come from (i.e., a family member, NGO, church etc.). A strong relationship was also found between street children's cognitive social capital and living in the barangay where the interview took place, suggesting that having a source of support nearby enhances the children's perceptions of trust and belonging. Similarly, permanence of place, i.e., being born in Manila, also enhanced children's perceptions of trust and belonging to their communities.

A key finding in this study was the importance of having a government issued identification to access public services. The majority of children participating in the research did not have any government identification. Stakeholders emphasised the importance of an identification to access schools and health services and to being able to exit 'rescue centers' where street children can be detained for extended periods of time. Given the importance of education and health services to fostering the children's adaptive capacity, improvements in civil registration of birth and removing barriers to late registration are important first steps for fostering street children's adaptive capacity. Chapter 6 presented the critical need for more and higher quality data on children in the Philippines, not just in government, but also in academia. Researchers of street children should be more cautious about reproducing outdated estimates of street children, and they should endeavour to be more innovative in their approaches to enhancing understanding of this population.

Where others have failed to make substantial progress in enhancing the welfare of street children, civil society has proven an invaluable source for the children to access the resources needed to enhance their adaptive capacity. Though it is evident that civil society in Manila has stepped in to fill the vacuum created by ineffective policies pertaining to street children, closer engagement with government is necessary to bring about long term change. Community involvement alone cannot reverse exclusionary processes ingrained in large-scale structural problems; effective governance is necessary “to provide decent living standards for all and universal access to essential services” (SEKN, 2008, p. 13).

While governments, civil society and researchers still have much work to do to foster the adaptive capacity of street children, the children themselves are already doing the heavy lifting. Many of the street children involved in this research demonstrate considerable adaptive capacity; most attend school and display emotional resilience despite working long hours, enduring frequent natural hazards such as annual floods, and not having the traditional familial structure to protect or support them. Indeed, some street children adapt by rejecting traditional social structures in order to enhance their own capacity. This finding is inherently problematic. On the one hand, the finding raises the possibility that street children may be able to adapt without adequate formal social support; on the other hand, it provokes an uncomfortable realisation that these children are able to adapt not despite a lack of traditional familiar structures and community support, but because of it. Despite parents’ role as enforcers of societal norms that may prevent the children from engaging in drugs or promiscuous behaviour, not all societal norms advance a child’s adaptive capacity, as defined in this study. In Manila, the practice of encouraging children to work to support their families from a young age diminishes their adaptive capacity and the long-term contribution that children are able to make to their families and broader communities. However, encouraging all children to pursue the life of a street based child who was shown to have higher adaptive capacity in this study is not desirable policy either. Though highly adaptive, these children live with a multitude of stressors not measured in this study, including exploitation, abuse, and an uncertainty that may prevent them from making greater investments in their health and education. Additionally, it is unclear if the adaptive capacity of street based children can catalyse the transformation across scales

anticipated if such capacity is developed outside of normal societal structures and, indeed, often even without government identification. While ultimately their improved education and health may have community benefits, how much more of an impact could these extraordinary children have if given the opportunity?

Thus, policies designed to enhance the adaptive capacity of street children must reflect that such activities are as much for societies benefit as for the children. Children in the Philippines 'energy and number' alone make them prime candidates to tap into transformational potential (Fernandez & Shaw, 2014), and street children, in particular, represent a dynamic, adaptive population that have much to offer if given the resources to do so.

7.2 Contributions of the thesis

This thesis has contributed to knowledge of the impact of natural disasters on street children in six important ways. It has: (1) enhanced our understanding of the current health and education status of street children in Manila; (2) adapted and applied a classification of street children in Manila grounded in qualitative enquiry; (3) provided new evidence of the impacts of natural disasters on the health and education of street children; (4) provided a framework and measure for understanding the adaptive capacity of street children; (5) applied this measure and found significant relationships between the children's adaptive capacity, location, and classification; and finally (6) identified gaps in the evidence base, and suggested ways to foster the adaptive capacity of street children through inclusive data, policy and practice.

7.3 Research limitations

Despite the aforementioned contributions, the present study has several limitations which should be considered in the interpretation of results. These include practical, methodological and ethical considerations that impact on the quality of the study.

Small sample sizes, both in Stage 1 (n=25) and Stage 2 (n=41), had implications for the analysis and interpretation of results. Low response rates in Stage 1 limited the knowledge base on which the rest of the study could rely. Small sample sizes and the nature of some variables in Stage 2 did not permit more sophisticated tests of association or to establish direction of the relationships uncovered. One of the primary

benefits of quantitative-oriented research is its ability to produce generalisable data; however, a non-probability sampling strategy was necessary in the present study due to resource restraints, ethical considerations, and lack of reliable estimates of the target population.

A further important limitation of the present study is its cross-sectional design. Without a longitudinal design, causality could not be established for the relationships explored, particularly that of street children's adaptive capacity and social capital. However, the cross-sectional design was appropriate given resource constraints and contributed a baseline from which further studies can explore changes in these relationships over time.

Another limitation pertains to the recruitment strategy, which may involve a selection bias in participants towards children who were not as severely impacted by natural disasters. The recruitment strategy, which was motivated by ethical considerations, required NGO representatives to recruit children who were unlikely to be distressed when discussing their experience of natural disasters. Children who had recently suffered the loss of a loved one to a natural disaster were excluded from the study. Thus, the findings of this study, including analysis of the frequency and severity of natural disasters experienced, may underrepresent the extent to which the broader population of street children are affected by natural disasters. Further, the survey is likely to underrepresent street children who were working or attending informal schooling at the time the survey was administered during the day. While qualitative interviews were conducted at the convenience of the child, survey interviews were conducted during business hours due to the availability of interviewers and to promote reliability across the sites. The implications of this possible selection bias are unclear, but one stakeholder suggested this may lead to an underrepresentation of female street children who work as sex workers at night and attend informal schooling during the day. Thus, the potential for the under-representation of some children, particularly females, attending informal schooling should be taken into consideration in the interpretation of results, as well as the under-representation of children with working commitments that prevented their participation. However, every effort was taken to accommodate any child who met the criteria and was interested in participating.

Fear of government reprisal voiced by participating NGOs had implications for the present study. Extraordinary care had to be taken both in data storage procedures and in write-up to ensure that the confidentiality of NGO representatives and participants was protected. As such, locations of NGOs could not be reported; consequently, in-depth spatial analysis and visuals including maps and photographs can also not be provided.

7.4 Conclusion: Moving forward: Improving the evidence base

Improvements to the evidence base and longitudinal data will enable researchers to monitor and track variations in street children's adaptive capacity and to ensure that this population is receiving the support necessary from government, civil society, and the research community. Being able to adapt better to natural disasters, and the additional challenges of future climate change, will draw on the 'strengths' of street children in facing the multitude of other stressors each day.

The increased importance the Philippine government has placed on improving the civil registration process offers some hope that policies and practices around national data collection will be amended to be more inclusive of street children and other vulnerable populations. Civil society leaders have already taken important steps towards building collaborations to foster the sharing of knowledge between themselves and with government. Hopefully these efforts will continue in spite of the resource-scarce environment in which Manila's civil society operates.

Appendices

Appendix A: HREC Approved Ethics Application

Created by: **u5040112**
Record number: **6034**
Protocol type: **Full Ethical Review**
Protocol number: **2013/447**

Date entered: **03/08/2013**
Ethics program type: **Postgraduate**
Requested start date: **15/01/2014**
Requested end date: **15/06/2014**

Protocol title: **Identities Forged by Disaster: The Demography and Adaptive Capacities of Street Children in Manila**

Investigators

Name	Role	Department
Higgs, Shelby	Primary investigator	School of Demography, CASS Research School of Social Sciences, ANU
James, Helen	Supervisor	CHL General, CAP School of Culture, History and Language, ANU
Smyth, Bruce	Supervisor	School of Demography, CASS Research School of Social Sciences, ANU
Zhao, Zhongwei	Supervisor	School of Demography, CASS Research School of Social Sciences, ANU

Investigators Detailed

Name: Higgs, Shelby **Role:** Primary investigator

Expertise: I am a PhD student at ADSRI where I was awarded an Australian Research Council scholarship for the project Demographic Consequences of Asian Disasters: Family Dynamics, Social Capital and Migration Patterns. I have a Masters of Social Research from the ANU in which I received extensive training in quantitative and qualitative research. I am also the tutor for the graduate course DEMO8082 Social Research Practice. I have a graduate diploma from Pontificia Universidad Catolica de Chile, and an undergraduate degree in Politics and Middle Eastern Studies from New York University. While in the United States, I was a volunteer and board member for Court Appointed Special Advocates for Children, an organisation which provides a legal voice for abused and neglected children in family court proceedings. As a volunteer, I was a case worker working closely with immigrant children from Mexico and the Middle East, spending a minimum of three months meeting with each child in order to present my findings to an administrative judge on the child's behalf.

As a Chilean citizen living in South America for over 7 years, I have extensive experience living in developing countries. While living in Chile, I launched a project with friends to administer aid to tsunami-affected areas in Iloca and Duao. One aspect of the project consisted of working closely with children and the broader community to assist in rebuilding their school in Iloca. More recently I have demonstrated my passion

for empowering children by volunteering as an English teacher at Tanoker, an orphanage/community centre for children in Ledokombo, Indonesia. This experience will be valuable in conducting research for this project.

This research will be conducted in the Philippines which has two official languages, English and Filipino (Tagalog). I will use my native English to conduct most of the data collection and will have assistance from a native Tagalog speaker Research Assistant with the remainder.

Name: James, Helen **Role:** Supervisor

Expertise: Associate Professor Helen James is a researcher, lecturer and PhD chair and supervisor at the Australian Demographic and Social Research Institute at the Australian National University. She is the convener and co-lecturer for the course Population, Climate Change and Sustainable Development in the Master of Social Research program in ADSRI. She currently supervises eight PhD students, and three of her former PhD students have successfully completed their degrees.

Her educational background includes a Bachelor of Oriental Studies from the Australian National University, an MA and PhD from the University of Pittsburgh. Associate Professor Helen James has extensive qualitative fieldwork research experience in Asia. She was Executive Director of the Asia Research and Development Institute, and Director of the Thai Studies Centre, University of Canberra (1995-2000); and Head of Department at Thammasat University (1977-1980). Her multidisciplinary work draws on the disciplines of politics, history, anthropology, sociology and international studies in relation to Southeast/East Asia, Thailand and Myanmar (Burma). She has published eight books and over 60 articles and chapters in books. She has been a Visiting Scholar/Fellow at several international centres/universities including the Centre of International Studies, Cambridge University; the Swedish International Peace Research Institute, Stockholm; and the East-West Centre, Hawaii. In 2004 she was elected as a Life Member of Clare Hall, Cambridge University. Her fields of research are the demography of disasters, civil society and social capital, governance, poverty alleviation and sustainable development with special attention to the anthropology/sociology of religion, non-violence and state/civil society relations; international development, gender and health, citizenship, human rights and human security, interfaith dialogue and transnational history. Additionally, she is currently the primary investigator on the ARC project "Demography of Disasters: Social Capital, Family Dynamics and Migration Patterns" from which this research is funded.

Her experience with qualitative methods and particularly her knowledge of issues pertaining to development, power, governance and state/civil society relations in Asia have been invaluable to the formulation of this proposal and provide firm support for the viability and future success of this project.

Name: Smyth, Bruce **Role:** Supervisor

Expertise: Associate Professor Bruce Smyth is an ARC Future Fellow at ADSRI. Dr Smyth has a BA in Psychology and a PhD in Applied Sociology from the ANU on post separation patterns of parenting. Prior to joining the ANU in March 2007, Dr Smyth worked at the Australian Institute of Family Studies (AIFS) as a Senior Research Fellow, where he conducted five nationally representative quantitative surveys of divorce covering post-separation parenting, child support, and financial living standards after divorce. He was a member of the Ministerial Taskforce on Child Support, and in 2012 was awarded an Australian Research Council Future Fellowship to investigate

high conflict post-divorce shared-time families. Associate Professor Smyth and his research team are currently working on an Australian Research Council (ARC) Linkage Project Grant to examine the impacts of the 2006-2008 child support reforms in Australia.

In total, Associate Professor Smyth has over ten years of research experience involving qualitative, quantitative and mixed method research. His role as a supervisor in this study is instrumental in guiding the overall research design and providing critical feedback for the formulation of this protocol.

Name: Zhao, Zhongwei **Role:** Supervisor

Expertise: Professor Zhongwei Zhao holds a PhD in Demography from the University of Cambridge, an MA from the University of Exeter, and a Bachelor's degree from Peking University.

Professor Zhongwei Zhao has been a Professor at ADSRI since 2008. Prior to taking up his present appointment, he was a senior research associate at the Cambridge Group for the History of Population and Social Structure, and a Bye-Fellow at Pembroke College, University of Cambridge. He was a post-doctoral fellow at the University of New South Wales and the East-West Centre of Hawaii, and a researcher at Peking University.

Professor Zhongwei Zhao has published extensively in leading demographic journals on his quantitative research on Asian demography. His research interests include the environmental impacts on population health and mortality; the mortality and fertility transition in East Asia; computer micro-simulation in demographic research; changes in families, households and kinship networks; demographic estimation and mortality models; and demographic impacts of famines. His extensive knowledge of quantitative methods in the field of disaster are vital to the design and implementation of the final stage of this research which will involve a survey of the impacts of disaster and the capacity to confront such disaster.

External Investigators

Name	Role	Institution

Departments

Primary	Department	Faculty
Yes	School of Demography	CASS Research School of Social Sciences

Project Questions Detailed

Description of Project

Describe the research project in terms easily understood by a lay reader, using simple and non-technical language. This research project will explore the impacts of natural disasters on street children in Manila, focusing primarily on their education and health. The project will also explore the street children's adaptive capacity, or the various sets of dynamic resources they utilise to adapt to frequent natural disasters including floods, typhoons, earthquakes, volcanic eruptions and landslides.

This project will utilise a mixed method design, beginning with a qualitative phase. In this phase, interviews will be conducted with representatives from government agencies, non-governmental organizations and primary schools involved in the protection, care and/or rehabilitation of street children in order to draw out how their services either foster or reduce the children's ability to adapt and what additional resources the children need to adapt in the future. These interviews with key stakeholders will also be used to recruit the next round of respondents. Interviews with street children, aged 14 to 17 inclusive, is critical to understanding the impact of disasters on their lives, their adaptive capacity and the role Philippine governance, civil society and culture have played in either fostering or reducing such capacity. These interviews will inform the technique used in the following quantitative phase, which will consist of a survey questionnaire.

Location of Data Collection

Australia No

Overseas Yes

Provide country / area where data collection will be conducted Data collection will be conducted in Metro Manila, the Philippines.

Aims of the Project

List the hypothesis and objectives of your research project. The primary aims of this project are to (1) ascertain the impact of natural disasters on the health and education of street children in Manila; (2) identify the resources that comprise the adaptive capacity demonstrated by street children when confronted by natural disasters and assess how such capacity is fostered or reduced by governance, civil society and culture in Manila; (3) develop a theoretical framework to aid further study of the adaptive capacity of street children (4) investigate the demographic characteristics of street children in Manila, including information on the age, sex, and education; (5) assess current quantitative approaches to researching street children and provide recommendations for improvement or innovation; and finally (6) explore the policy implications of these findings.

Four research questions will guide this project:

- (1) How do disasters impact on the education and health of street children in Manila?
- (2) What are the adaptive capacities demonstrated by street children in response to disasters?
 - (a) How do governance, civil society and culture influence the adaptive capacities of street children in Manila?
- (3) What are the demographic characteristics of street children in Manila?

(4) How can quantitative approaches to researching street children be improved?

Very little is known of the impacts of disaster on street children's health and education. Though commonly thought of as having the least resources at their disposal for coping with the impacts of disaster, street children are also known to be extremely resilient. This resilience has not been explored in the context of adaptive capacity, a concept which helps to explain the four sets of resources used by individuals and communities that contribute to resilience (Norris et al. 2008). I expect to find that this research will highlight the limitations of this theoretical framework to address the resources used to promote resilience in street children, who lack access to many of the resource sets relied upon by other members of society. Examining the ways in which street children adapt to frequent natural disasters not only has important implications for their own future, but may also provide critical insights into adaptive strategies for the broader population by identifying unconventional resources as drivers of adaptation.

Background Review

Provide evidence that the proposed research is based on the relevant literature and indicate how the research draws from and will contribute to that literature. Highlight any ethical issues that have been considered and addressed in the literature. In both the Philippine and global context, the experience of childhood is increasingly urban (United Nations Children Fund [UNICEF], 2012, p. iv). Roughly 50% of Filipinos already live in urban areas, and this figure is expected to continue to increase with further population growth and urbanization. The resulting shift from rural to urban settings has long been associated with favorable outcomes for children due to closer proximity to quality schooling, sanitation, and health infrastructures. However, scholars caution against confusing proximity to resources with access, as many of the urban amenities that have afforded some urban children the so-called urban advantage over their rural counterparts rely heavily on aggregate figures that mask vast inequalities between the urban poor and urban rich (Bartlett, 2008; UNICEF, 2012). In fact, entire populations of the most destitute urban dwellers, street children, are usually omitted from all analysis (Ruiz, n.d.), though they are estimated to number over 50,000 in Metro Manila alone (Njord, Merrill, Njord, Pachano, & Hackett, 2010; Ocampo, 2002).

Despite their absence in such analyses, street children have not wholly escaped the attention of scholars, and there has been a surge in scholarship fueled by the 1989 United Nations Convention on the Rights of the Child (hereafter UNCRC) charged with understanding this global phenomenon. The scholarship centers around two key issues: defining street children and understanding why the children are on the streets. Despite much criticism, the most cited definition of street children is by classification into three categories: street living children who have run away from their families and live alone on the streets; street working children who spend most of their time on the street, fending for themselves but return home on a regular basis; and children from street families who live on the streets with their families (Bhaskaran & Mehta, 2011, p. 19). Criticisms include the need to recognise the children as individuals with unique circumstances rather than as members of a homogenous group and the observation that street children often do not agree or like to be nominated as street children. Viewing the street child as an identity from a psychological perspective may resolve much of the typological controversy, as it is understood to be a simplistic form of social representation that mediates the relationship between the individual and the social world (Chrysoschoou, 2003, p. 225). As an identity, street children need not incorporate the self or social identity of the children themselves.

As for their origins, though poverty is often cited as the primary reason for the existence of street children, a growing body of international literature endeavours to

produce more nuanced contextual analysis of the social, economic and political processes that affect the demography of street children in specific geographic areas. Genocide (Veale & Dona, 2003, Rwanda), HIV/AIDS (UNICEF, 2006, Ethiopia), structural abuse and violence against children (Conticini & Hulme, 2006, Bangladesh) are among the push factors identified as profoundly impacting on the number and characteristics of street children in those countries.

The push factors associated with Filipino street children have attracted less attention, and the few reports available consist predominantly of works by charitable organizations that either omit reference to research methods used or simply replicate data from other countries. Of particular concern is the absence from the analysis of natural disasters, which are so pervasive in the everyday experience of Filipinos that Bankoff (2003) applies the construct cultures of disaster to capture the dynamic and salient relationship between disasters and every sphere of the Filipino experience.

Coinciding with the notion of childhood as an increasingly urban experience, there must be a realization that the experience of childhood in the Philippines and many developing countries may also be increasingly shaped by disasters. On a global level, climate change is expected to lead to an increase in the frequency and intensity of natural disasters; it will be the people in the poorest societies, especially children, who will bear the brunt (Save the Children 2008, p. 1). The Philippines is no exception to the trend and is expected to experience an increase in the frequency and severity of hydrological hazards (Allen, 2006), with some reports indicating sea level rise has the potential to displace millions in the Manila area by 2025 (Villarin, Loyzaga, & La Vina, 2008). In Manila, the Philippines capital city and most populous urban centre with over 21 million people, residents face multiple hazard events each year including earthquakes, typhoons, landslides and frequent, seasonal flooding which often result in disaster. Though in the past such disasters were associated with purely geophysical characteristics of place, natural disasters are now more appropriately regarded as the consequence of natural hazards at the nexus of human populations and pre-existing vulnerabilities in those environments which often occur as a result of poor governance (Hutton & Haque, 2004; International Strategy for Disaster Reduction [ISDR], 2004; Wisner, Blaikie, Cannon, & Davis, 2004). Thus, while the population at risk from such hazards in Manila is increasing, so too may be their vulnerability to such hazards as population pressures interact with already adverse economic, social, political and historical circumstances that have created deep divides in the Philippine city (Gaillard, Liamzon, & Maceda, 2005). Of these circumstances, widespread political corruption, the political influence of the Catholic church, and socio-economic inequalities stemming from its colonial past are all commonly cited aspects of the Philippines which are thought to contribute to disaster vulnerability, a process which is now known to be intricately connected with the vulnerability created for many people through their normal existence (Wisner et al., 2004, p. 3). Within this broader framework of disaster vulnerability in Manila, research shows that it is the street children who bear the heaviest losses relative to their means and to what few belongings they may have, as well as being the group with the narrowest range of coping strategies (Zoleta-Nantes, 2002, pp. 255-256).

On the other hand, few studies have endeavoured to explore the adaptive capacities of street children, despite evidence of highly adaptive behaviours by some indicators in which street children are found to fare better than children who live with their families (Bender, Thompson, McManus, Lantry, & Flynn, 2007; Connolly & Ennew, 1996). This gap in the literature could be attributed to the challenges of researching this population as well as the lack of theoretical frameworks suited to address a population with such limited forms of capital at their disposal. While resilience frameworks such as that developed by Norris, Stevens, Pfefferbaum, Wyche & Pfefferbaum (2008) have proven very useful in understanding communities adaptive capacities, variables used in the framework may be ill-suited to explaining a street child's situation. For example, given

the hardships of financial savings while living on the street (as it could prove more dangerous than useful), other forms of capital such as social capital may be more important for street children. Ingenuity is another form of currency on which street children rely heavily, as demonstrated by their survival strategies in research from the Philippines and Ghana (Orme & Seipel, 2007, Ghana; Zoleta-Nantes, 2002, Philippines).

Faced with such realities, the following study seeks to fill a critical gap in our knowledge of the dynamics of disasters and their impact on street children in Manila. Specifically, this study will investigate the demography of street children, focusing in on the under-studied characteristics of education and health, and how such characteristics have been shaped by disasters.

The study will also identify the adaptive capacities of street children. It will develop an innovative analytical framework suited specifically to street children and taking into account the dynamics of governance, civil society and culture. Research demonstrates that context is imperative to understanding the adaptive capacities of individuals when confronting natural disasters. Governance, civil society and culture all impact on how individuals perceive and act on information and communication from varying sources as well as on the development and maintenance of social capital to obtain the resources needed for enhanced resilience (Norris et al., 2008). For the purposes of this research, governance incorporates the whole range of institutions and relationships involved in the process of governing (Pierre & Peters, 2000, as cited in Huitema et al., 2009, p. 27) which determine the way power is disseminated throughout the society. This includes laws, policies, organizational structures as well as the power relations and practices that have developed and the rules that are followed in practice (Huitema et al., 2009, p. 27). Civil society, on the other hand, comprises the formal and informal structures that serve[s] to balance the power of the state and to protect individuals from the states power and are imperative for a modern democracy (Fukuyama, 2001, p. 11). Intricately woven into the processes of governance and civil society, culture relates to the collective programming of the mind that distinguishes one group or category of people from another (Hofstede & McCrae, 2004, p. 58).

Most literature to date focuses on the roles of governance, civil society and culture in shaping vulnerability. This study will instead examine the roles of governance, civil society and culture in fostering or reducing the adaptive capacity of street children in order to investigate more appropriate intervention policies and strategies.

Methodology

In language appropriate for a lay reader, explain why the methodological approach minimises the risk to participants. (For surveys, include justification of the sample size). Very little research to date has explored the impact of natural disasters on street children, and even less has addressed their adaptive capacity. This research will utilise a mixed method design beginning with an exploratory qualitative phase to investigate this under-studied issue. The research design is in keeping with Connolly and Ennews (1996) recommendation that all street children research be grounded in preliminary qualitative inquiries.

The first stage will involve interviews with five informants from each of the following entities in Metro Manila: Philippine government agencies, non-governmental organizations and primary schools. Some pre-identified entities which may yield potential informants for Stage 1 are identified in the table in Appendix H. In-depth, semi-structured interviews with stakeholders will provide their perceptions of the impacts of natural disasters on street children and the children's adaptive capacity.

These interviews will also be used to identify informants for subsequent stages of data collection and guide further research. It is assumed that all respondents in this stage will have a professional level of spoken English which will permit the primary investigator to conduct all fifteen interviews in this stage. Interviews will be face-to-face and limited to forty-five minutes each in length so as to minimise respondent burden.

Stage 2 involves face-to-face, semi-structured interviews with street children identified from Stage 1 so as to not run the risk of including children who do not meet the selection criteria. Engaging the participation of the children is not only an effective way of collecting data for these particular research questions, but it is also in keeping with emerging principles of research on children which stress children as active agents and subjects of rights (Thomas de Benitez, 2011, p. 17). There are ethical implications in involving children in research including the issue of informed consent, and potential harm. Additional issues arise with street children, including the potential of illegal activity and the issue of disseminating results. The benefit of interviews, as has been noted in previous research with street children, is that it permits the children to speak without being judged by peers. Separate interviews are also preferable over focus groups for practical reasons, as it allows flexibility in the scheduling of interviews with this elusive population. The interviewer for Stage 2 will be the Research Assistant (RA), a native-Tagalog speaker with a good command of English and training in interviewing. The RA will be a graduate student at the affiliate institution, the University of the Philippines, Diliman and recruited through the assistance of my contact, Professor Cynthia Zayas, Director of the Center for International Studies, with whose Centre I have a formal attachment.

The RA will be provided with an interview guide which he/she will translate into Tagalog and which addresses three broad topics to be discussed: (1) the impacts of disaster on the street childrens lives; (2) the strategies and resources used to overcome such impacts; and (3) street childrens recommendations on how the subsequent stages of research should be conducted. Interviews will be digitally recorded, transcribed and translated into English by the Research Assistant. All interviews in Stage 2 will be thirty minutes in length so as to minimise respondent burden and in keeping with principles of researching children. Participants in Stage 2 will also be provided a small, culturally appropriate compensation for their time, which will be based on data gathered from respondents in Stage 1.

Provide the survey method, a list of the questions to be asked or an indicative sample of questions. These should give a good sense of the most intrusive/sensitive areas of questioning. An indicative guide for semi-structured interviews for Stage 1 is provided in Appendix F. The thematic sections to be covered are as follows:

1. Participant's basic demographic information and role at entity
2. Entity's involvement with street children
3. Perceived impacts of disasters on street children
4. Street children's strategies and resources to adapt
5. Influence of Philippine culture on street childrens strategies and resources to respond to disaster

An indicative interview guide for Stage 2 is provided in Appendix G that is similar in structure to the above guide.

**What mechanisms do the researchers intend to implement to monitor the conduct and progress of the research project? For example:
How often will the researcher be in touch with the supervisor?**

Is data collection going as expected? If not, what will the researcher do?

Is the recruitment process effective?

How will the researcher monitor participants willingness to continue participation in the research project, particularly when the research is ongoing?

The primary researcher (Shelby) will be in touch with her Primary Supervisor, Associate Professor Helen James, on a weekly basis by e-mail to update her on the status of the research and debrief if necessary. While on fieldwork, the primary investigator will also have the benefit of having a contact on location at the University of the Philippines, Professor Cynthia Zayas, for additional guidance and support if necessary. Such contact will be utilised to resolve any questions pertaining to data collection, participation, or emergent ethical issues that need to be addressed in a timely fashion. I will also be in contact with Professor Josefina Natividad, Director of the Population Institute at the University of the Philippines, and a collaborator on the ARC project through which this research is funded.

With the cross-sectional design of the research, it is unlikely that participants will continue their participation after the initial meeting. However, it will be made clear to the participants, both in the written participant information and consent forms, and orally at the beginning of the interviews that each participant's participation in the research is voluntary and they are free to discontinue their participation at any time without repercussion.

Participants

Provide details in relation to the potential participant pool, including:

target participant group;

identification of potential participants;

initial contact method, and

recruitment method. For the first stage of the research, the target participant group consists of fifteen individuals who work for schools, government agencies, and non-governmental organizations involved in the protection, care, and/or rehabilitation of street children in Manila. Formal letters containing a primary approach letter (Appendix A), a participant information sheet (Appendix B) and the consent form (Appendix C) will be sent to twenty entities (five overflow) that have been identified throughout the literature review and through public information on the internet. The primary approach letter will ask for a volunteer from each entity who speaks English and would consent to participate based on the information provided. Great care has been taken in the construction of the forms and will be communicated orally, that no participant feel coerced to participate in any way from his/her employer. He or she may also opt to have the interview in a neutral location instead of the default option of conducting the interview at his/her office in an effort to minimize respondent burden.

Fifteen participants for Stage 2, interviews with street children, will be identified by participants from Stage 1. This form of recruitment is considered better than alternatives that have been used in prior research including approaching the children on the street which has been noted for putting the children at risk of harm from peers or their employers. Great care will be taken so that the children do not feel as if they are being coerced into participating. Recruitment in subsequent stages will ensure that only children who meet the following criteria be asked to participate: native speaker of Tagalog, between the ages of 14 to 17 inclusive, have not lost a close relative or friend in a natural disaster in the past two years, and spends the majority of his/her day working and/or living on the street. Initial contact will be made by the Research Assistant at the respective NGO/government agency/school. He/she may also opt to change the venue to a neutral location, but one in which the RA and Primary

Investigator deem as not posing a safety risk to the participant or researchers.

A subsequent quantitative stage (3) of fieldwork will follow in April 2014 which will build on the data gathered from informants in the first two stages. This information will assist in building a sample and inform the data collection technique for Stage 3.

Proposed number of participants 30

Provide details as to why these participants have been chosen? Stage 1 participants will not be chosen, as such, but will need to self-identify or be identified by their relevant organisation or agency, as the appropriate persons to consult on this project.

Stage 2 participants will be recruited based on the information obtained in Stage 1.

Cultural and Social Considerations/Sensitivities

What cultural and/or social considerations/sensitivities are relevant to the participants in this research project? A cultural consideration that has been brought to my attention throughout the literature review and preliminary conversations with Filipinos is the need for formality in communications with the stakeholders to be interviewed in Stage 1. Filipinos, particularly those in the public service, prefer formal letterheads and affiliation with a known entity. It has been suggested that I use my affiliation with the University of the Philippines to my advantage as people may not be willing to speak with me unless I have contact with a university with local presence. This is why a primary letter (Appendix A) has been chosen over an e-mail.

A social consideration that must be taken into account is that the street children themselves may object to their categorization as a street child, as has been found in previous research. As all communication with the children will be in Tagalog, I am hoping to learn through the Stage 2 interviews an appropriate name for the children in Tagalog that the children agree with and are happy for me to address them throughout the research. Other social considerations include the relative vulnerability of the children in nearly every aspect. This research seeks to empower them by including their opinions of what they want people to know about themselves.

Incentives

Will participants be paid or any incentives offered? If so, provide justification and details. A small compensation for the participants in Stage 2, the street children, will be provided. In this instance I have carefully considered both the potential for harm stemming from having any sort of commodity in their possession and the impact on consent due to the potentially coercive effect of providing a commodity; however, I feel that these potential risks are outweighed by the need to provide the children with some compensation for their time. In previous research in the Philippines, children who participated in a focus group discussion were given a bag of rice. "Children who returned home often gave the rice to their family, whereas those living on the street traded the rice at restaurants or shops for food" (WHO, n.d., p. 30). The same WHO research training module noted the negative implications of providing such incentives, particularly for future activities if the incentives are not maintained (WHO, n.d.).

Due to the complexity of the issue, the topic of compensation will be raised with key stakeholders in Stage 1 in order to identify a small gift that is culturally appropriate, not valuable enough to be coercive or to expose the children to harm, but also

commensurate with the time the children will spend in their participation in the research.

Benefits

What are the anticipated benefits of the research? The research will result in an improved understanding of the impacts of natural disasters on street children in Manila as well as how they adapt to such disasters. While most studies focus on the vulnerability of street children, this project will emphasize the adaptive capacity of this population. It is anticipated that the street children not only possess a skill set that is valuable and worthy of study in its own right, but may also hold lessons for the general population on how to adapt in a world increasingly impacted by disasters. Further, this study fills a critical gap by investigating street children and disasters in the context of Manila, one of the most disaster prone cities in the world.

The primary researcher will benefit from using new methods and applying them to a different geographical context and burgeoning field of research in which little is known. The benefits to the broader research community will include a new framework through which the adaptive capacity of street children can be understood and analysed and compared to other communities. It will also serve to guide the future research of street children by enhancing our understanding of how research can incorporate the perspective of the children themselves.

To whom will the benefits flow? The benefits of this research will flow to the researcher, the broader research community, policy-makers, and practitioners/stakeholders and to the street children themselves. It is hoped that with a better understanding of the ways in which the street children are impacted by natural disasters, governments and civil society can take more appropriate actions to foster the adaptive capacity of the children.

Potential Risks

Indicate if you consider there are any potential risks associated with the proposed procedures, whether to participants or to researchers. Tick the appropriate risk categories.

Negligible harm Yes

Physical harm No

Psychological harm Yes

Devaluation of personal worth Yes

Social harm Yes

Economic harm No

Legal harm Yes

Other No

Provide details of the risks associated with the research. There are several potential risks for street children in this research. Discussing the impacts of natural disasters and the childrens ability to cope with such disasters may cause psychological distress and/or devaluation of personal worth. Distress or feeling of devaluation may also be caused to children who are not invited to participate due to exclusionary factors. Additionally, because the children are likely to be approached in an

organisation frequented by their peers, there may be a perceived social harm associated with talking with outsiders. The children may also be at risk of legal harm if they disclose information to the researchers that indicates they or someone else is at risk of severe and imminent harm. Children may also formulate the opinion that their participation in this research may somehow benefit them in ways not anticipated by the researcher. For this reason, a sentence has been included in the oral consent script to advise that this research may not directly help them out of their situation.

There may also be risks to the safety of the participants and researchers as the research will be conducted throughout various neighbourhoods in Metro Manila where street children reside where there is the risk of crime and natural disasters.

To whom do the risks apply? These risks apply to the street children, the participants of Stage 2, and to the researchers.

What, if any, strategies will be used to negate, minimise and manage these risks? The research design has been carefully constructed so as to mitigate these risks. The risks to the safety of the researchers and participants will be mitigated by conducting the interviews at the offices of NGO's, schools and/or government agencies that the participants often frequent. However, doing so presents the risk that the children may be exposed to social risk if their peers are present. For this reason, the children will be asked prior to interviews if they would prefer to meet in a neutral, public location that is not viewed by the Research Assistant as posing a safety risk to himself/herself, the primary investigator or the child. Fieldwork has been timed to correlate with dry season in Manila, from January to May, so as to minimize the risk of encounter with natural hazards/disasters. Furthermore, risks to the safety of the children must be taken in the context of the risk the children face in their everyday lives.

The risk of distress or devaluation if not invited to participate in the research will be mitigated by recruiting directly from the advice of participants of Stage 1 so as to avoid inviting children who do not meet all the criteria of the research. Additionally, a referral list (Appendix E) of free, local service providers will be provided to the participants and communicated orally should the participant need to seek help after the interview. The risk of legal harm is thought to be minimal as the researcher does not intend to disclose any information provided in the interviews unless a participant reveals a risk of severe and imminent harm to himself/herself or others. Participants will be made aware of the consequences of such disclosures both before the interviews and during the interview if the researcher perceives a participant may disclose information of such nature. This risk mitigation strategy is discussed in depth in the Full Questions Detailed portion of this protocol.

Justification

Indicate how the benefits of the research justify the risks. The benefits of this research outweigh any potential risks as the research findings may not only guide future protection, care, support or rehabilitation of street children but may also have greater implications for the way the general population views adaptation to natural disaster.

While most research on street children to date focuses solely on their vulnerability, other research has identified some indicators in which street children are more resilient than peers. Switching the focus from vulnerability to the ways in which street children adapt to disaster may prove not only empowering to the children themselves, but may offer better solutions as to how to foster such adaptive capacity. Furthermore, evidence of adaptive capacity in spite of the lack of traditional resources identified in current

frameworks may fundamentally alter the way in which academics, government policy makers and perhaps the wider public view the adaptive process as it pertains to natural disasters.

Informed Consent

Indicate how informed consent will be obtained from participants. At least one of the following boxes MUST be ticked 'Yes'.

In writing Yes

Return of survey or questionnaire No

Orally Yes

Other No

If Oral Consent or Other, provide details. Oral consent will be sought from the children. It is likely that many of the children will be illiterate without any formal education, necessitating the use of oral consent and avoiding embarrassment to any of the children. The oral consent statement which is to be translated into Tagalog and read to the children prior to the interviews is available at Appendix D.

Will consent be obtained on behalf of a participant with impaired capacity? If so, advise from whom consent is being sought. Not applicable.

Will consent be obtained from other interested parties? If so, describe why this is to be done and outline the process to obtain this consent. No, in this project the children to be interviewed will be referred by participants of Stage 1 interviews. They will have passed the "babysitter test" and thus deemed of requisite maturity to understand the implications of the participation in this research and offer consent on their own behalf.

Confidentiality

For the collection of information, please tick the appropriate categories. At least one of the following boxes MUST be ticked 'Yes'.

In what form will personal information be collected?

Identified information No

Re-identifiable / coded information Yes

Non-identifiable No

In what form will personal information be stored?

Identified information No

Re-identifiable / coded information Yes

Non-identifiable No

In what form will personal information be published or reported?

Identified information No

Re-identifiable / coded information Yes

Non-identifiable No

Describe the procedures that will be adopted to ensure confidentiality during the collection phase and in the publication of results. All researchers will be advised that they are to respect the confidentiality of all participants. Participants will only be identified by name on a list that will be stored electronically and separately from all other research materials which will only refer to the participant by a randomly assigned number. No real names or identifying details will be used in the thesis, presentations, publications or future research projects unless a participant explicitly asks to be identified by his/her real name. In that case, the consent form will be altered to reflect that the participant would like his/her name to be used in the dissemination of the research.

If participants are to be identifiable, or potentially identifiable in any publication or report, outline the procedures for participants to authorise the release of their responses / information and to confirm the accuracy of attributed comments. No identifiable information will be used in any publication or report. If any potentially identifiable information is to be used, the researcher will contact the participant and ask for permission to use the information. Additionally, all participants of Stage 1 interviews will receive a copy of the researcher's thesis prior to submission for feedback and can raise any concerns at that time.

Will a recording of participants be made? Yes

If yes, for what purpose will this recording be used?

Will this be retained and used beyond the initial transcription / analysis or will it be erased following transcription?

How will confidentiality be ensured?

How will specific consent for any subsequent use be obtained? Recording of participant interviews will be used for data analysis. Researchers will not ask the participants name on the recording but other identifiable information may be recorded. Once the recordings are transcribed, the recordings will be retained for five years on a password encrypted USB drive stored in the primary researcher's locked office at ANU separate from USB containing the list of participant names. Consent for all anticipated subsequent uses has been included in the oral and written consent obtained prior to each interview.

Data Storage Procedures

Provide an overview of the data storage procedures for the research. Include security measures and duration of storage. Participants real name and assigned random number will be stored on a password encrypted USB and stored separately from all other research materials in a locked desk at the University of the Philippines while in the field. This will be sent via registered post to the primary researcher's office at ANU. Audio recordings of interviews which will contain only the numbers given to participants will similarly be held on a password encrypted USB but stored in a different locked box while in the field, and will be transported in the luggage of the primary researcher on return to Australia. Upon return to Australia, the USB containing the recordings will be stored for five years in a locked office at the ANU. The USB containing the names of participants and codes will also be kept for five years, in a separate locked box at the ANU. After five years, all files will be deleted from the USBs.

Debriefing

Will participants be debriefed at the completion of the research? Provide details and include agencies to whom participants may be referred if they have been distressed by the procedures. Yes, participants will be debriefed at the completion of the research. All participants will receive the Referral List in Appendix E after the interview. These resources will be communicated orally to the participants of Stage 2 at the conclusion of the interview.

Feedback

Provide details of how the results of the research will be reported / disseminated, including the appropriate provision of results to participants. If appropriate, provide details of any planned debriefing of participants. At the completion of my research, I will email the participants of Stage 1 with a briefing on the outcomes of my research. This will be done prior to submitting my thesis for examination so that in the event of any further feedback, it can be incorporated into my final thesis.

Dissemination of results to street children is a challenging issue due to the elusiveness of this population. It is a topic discussed at length in Young and Barrett (2001) who emphasise the need to involve them in the ethics of disseminating sensitive social topics (p. 133). For this reason, I am including questions concerning how the children would like to be researched in the future. They will also be asked if they would like to receive a copy of the section of the report containing information from their interview and how the researchers might contact them to do so.

As for debriefing, at the conclusion of every interview the RA or primary investigator will thank the respondent for his/her participation and gauge his/her demeanour. If the respondent demonstrates visual signs of distress or communicates such distress, he/she will be given the written referral list (Appendix E) containing contacts of free, local counselling services for a variety of issues. In the case of the children, this information will also be communicated orally if necessary.

Supporting Documentation

Please ensure electronic copies of any supporting documentation have been uploaded the documents tab of the relevant protocol.

Information Sheet

Consent forms

Has this work been approved by another Human Research Ethics Committee (HREC)? No

If yes, please give the name of the approving HREC.

Funding

Is this research supported by external funding? Yes

Provide the name/s of the external sources of funding. Please include grant number/s if available. Australian Research Council (DP120100606)

Is the research conducted under the terms of a contract of consultancy agreement between the ANU and the funding source? No

Describe all the contractual rights of the funding source that relate to the ethical consideration of the research. The funding source has no ethical implications for this study as no restrictions have been placed on the design or dissemination of the research.

Full Questions Summary

Question	Answer
If this proposal has been reviewed and approved by any other Human Research Ethics Committee, please complete the Expedited Review. Please read the list carefully and tick 'Yes' to any of the below that relates to your research.	No
Healthy members of the community	Yes
University students	No
Employees or officers of a specific company or organisation	Yes
Members of a specific community group, club or association	No
Clients of a service provider	Yes
Children and young people	Yes
Members of a socially disadvantaged group	Yes
People who belong to a group	No
People who may be involved in illegal activities	Yes
People whose primary language is other than English	Yes
People in other countries	Yes
Aboriginal and / or Torres Strait Islander Peoples	No
People in a dependent or unequal relationship	No
Hospital in-patients	No
People highly dependent on medical care who may be unable to give consent	No
People with a cognitive impairment, an intellectual disability, or a mental illness	No
Women who are pregnant and the human foetus	No
Bodies or body organs, human tissue or samples	No
Other	No
Children (under 14)	No
Young People (aged 14 - 17)	Yes
Adults (aged 18 or over)	Yes
Adults (aged 60+)	Yes
Anonymous questionnaires or surveys	No
Coded (potentially identifiable) questionnaires or surveys	No
Identifiable questionnaires or surveys	No
Observation (overt)	No
Observation (covert)	No
Interviews (structured or unstructured)	Yes
Telephone Interviews	No
Focus Groups	No
On-line research	No
Taping - audio/video	Yes
Photos	No
Individually identifiable data	Yes
Re-identifiable data	Yes
Non-identifiable data	No
Physical examination of participants (e.g. blood pressure, heart and temperature monitoring)	No
Collection of body tissues or fluid samples	No
Procedures involving physical experiments (e.g. exercise, reaction to computer images)	No
Procedures involving administration of substances (e.g. drugs, alcohol, food)	No
Examination of medical, educational, personnel or other confidential records	No
Surgical procedures	No

Question	Answer
Clinical Trial	No
Comparison or evaluation of clinical procedures	No
Comparison or evaluation of counselling or training methods	No
Comparison or evaluation of drugs or surgical or other therapeutic devices	No
Investigation of effects of an agent (drug or other substance)	No
Other	No
Does this research involve human gametes (eggs or sperm)?	No
Does this research involve excess ART embryos?	No
Does your proposal involve the collection, use or disclosure of personal information WITHOUT the consent of the participant?	No
Does your proposal involve deception of participants, concealment and/or covert observation?	No
Does your proposal require the approval of another agency?	No
Does the researcher have a conflict of interest, or perceived conflict of interest?	No
Are there any other ethical issues associated with the research that you wish to bring to the attention of the HREC?	No

Full Questions Detailed

Healthy members of the community Yes

Employees or officers of a specific company or organisation Yes

Clients of a service provider Yes

Children and young people Yes

Indicate the ages and/or age range of participants Participants in this research will be aged 14+. One aspect of the research involves the participation of street children between the ages 14-17 inclusive in face-to-face interviews. The upper age limit of 17 is in accordance with the UNCRC and the Philippine governments definition of a child as a person below 18 years of age (National Statistical Coordination Board of the Philippines [NSCB], n.d.; UNCRC, 1989); though the governments definition also permits the inclusion of individuals over age 18 who are unable to fully take care of herself/himself from abuse, neglect, cruelty, exploitation or discrimination because of a physical or mental disability or condition (NSCB, n.d., definition of a child). Based on the requisite maturity assessment, the adherence to the age 17 and under limitation is justified. The lower limit of 14 is more conservative than prior research on street children in other countries, but consistent with street children research in the Philippines (Njord et al., 2010).

The National Statement on Ethical Conduct in Human Research specifies that consent to participate in research hinges on a child's capacity to understand what the research entails (NHMAR, 2009, p. 55). The capacity to consent is not determined by age, but rather by level of maturity; and consent is required, but not sufficient, for the participation of young people who are able to understand the relevant information but whose relative immaturity means that they remain vulnerable (NHMAR, 2009, p. 55).

The researcher will seek to mitigate this risk by making a careful assessment of the child's maturity based on the advice of adults who have had previous interactions with the child such as school teachers, and NGO or government workers. The maturity assessment is taken into account in the research design in which participant recruitment is done in successive stages using the informant sampling method and flexible design. A common research practice in determining the maturity of children to consent to participate in medical research is the babysitter test. Underlying this practice is the notion that a child who has the requisite maturity to take responsibility for another being must also have the maturity to act in his or her own welfare when consenting to participate in research. The babysitter test will be applied in this research when recruiting children informants in addition to the age requirements.

Which of the following will be appropriate? Explain why.

Parental/Guardian consent to be sought and/or

The young person is capable of consenting without parental /guardian consent

Other

In this research in which parental consent may not be available or may even be adverse to the best interest of the child, parental consent will not be sought. In these instances, NHMARC subsection 4.2.7.b.ii allows for consent to be given by a guardian or other primary care giver, or any organisation or person required by law (2009, p. 55). This research will seek the consent of a parent or guardian, primary care giver, or any organization or person required by law only after a careful assessment of any potential impact on the child and only with the consent of the child. In the research of street children, it is likely that there will not be an adult to grant consent, and the NHMARC has several provisions which allow an ethical review body to approve research in which only the young person consents. One such provision is 4.2.8 which permits a child to consent if it is satisfied that he or she is mature enough to understand and consent, and not vulnerable through immaturity in ways that would warrant additional consent from a parent or guardian (NHMARC, 2009, p. 55). Given that this research will only recruit street children participants through informants from NGOs, schools or government organizations, and that the babysitter test has been satisfied, consent of the child should be sufficient. Subject to 4.2.14, all participants aged 17 and younger will be given oral instruction that their participation in the research is voluntary in age-appropriate language, and they are free to leave at any time without consequence.

Indicate how you intend to seek the consent of the child or young person Oral consent will be sought from the children in Tagalog, their native language. Oral consent is considered appropriate in this situation as many of the children are expected to be illiterate. The requirement that he/she be a native speaker of Tagalog is one of the exclusionary criteria, and their consent will be sought from a Research Assistant who is a native Tagalog speaker. The script for obtaining oral consent can be found in Appendix D.

Members of a socially disadvantaged group Yes

People who may be involved in illegal activities Yes

How will this situation be handled? What information about these possibilities and cautions will be provided to potential participants? Prior research on street children has indicated that they are likely to be involved in the consumption of illegal drugs and may participate in other illegal activity including theft (Bhaskaran & Mehta, 2011; Le Roux & Smith, 1998; Njord et al., 2010; Orme & Seimel, 2007; UNESCO et al., 2001). Street children are also known to be victims and sometimes perpetrators of

physical and sexual abuse (Young and Barrett, 2001).

Participants will be instructed prior to interviews that all information provided will be kept confidential unless the researcher believes a participant is in extraordinary and imminent danger of bodily harm or poses an extraordinary risk of harm to himself/herself or to another specified person. Only in instances of specific and extraordinary risks will the researcher consider breaching confidentiality, accounting for the exceptional risk of harm that street children encounter throughout their normal existence. In each instance, a careful assessment of the child's best interest will be made. Young and Barrett (2001) explore the ethical issues of researching street children and ultimately conclude that "researchers must ask themselves whether it is in the best interests of the child to break their confidence and report such harm (and then to whom) or whether producing general statements through research is a better way of advocating children's rights and protecting the children involved" (p. 132). If the risk of not reporting the potential harm outweighs the risk of harm to the child if reported, the appropriate authorities will be advised based on the nature of the risk.

Drug use is likely to be a common issue raised in focus group discussions with street children. Young and Barrett (2001) acknowledge street children "have very good reasons to engage in this illegal activity. They range from force by older children to the necessity of blocking out 'bad thoughts', harsh weather or hunger pains" (p. 131). Thus, while "it is essential for researchers not to advocate or support drug use, it is necessary to understand the unique circumstances which perpetuate this lifestyle" (Young and Barrett, 2001, p. 131). In keeping with this precedent, and in light of the unique circumstances of street children, confidentiality will not be breached unless a child's drug use is of such an extent that he or she is at imminent risk of severe bodily harm.

If the researcher believes that a participant is at risk of breaching the condition of confidentiality, he or she will promptly be reminded of the provision. Additionally, at the conclusion of the interviews, participants will be offered (and be communicated orally) a list of professional service providers in Appendix E for a range of issues relating to their emotional and physical wellbeing, including services for those who wish to seek help to manage alcohol or drug problems.

People whose primary language is other than English Yes

Indicate in which language(s) the research will be conducted Interviews with stakeholders will be conducted in English, one of two official languages of the Philippines commonly used in professional and educational communication. Interviews with children, however, will be conducted in Tagalog by a native Tagalog speaking research assistant. All communications with the children, including oral consent to participate in the research, will be given in Tagalog. Only children whose native tongue is Tagalog will be invited to participate in the interviews.

Will the literacy level of the potential participant pool likely be an issue? Yes

If the research is being conducted in a language unfamiliar to either the participant or researcher, what steps will be taken to ensure that participation is given freely and voluntarily? Only respondents with an adequate level of English, the researcher's native tongue, will be invited to participate in interviews. Only children whose native tongue is Tagalog, the same native language as the research assistant conducting the interviews, will be invited to participate in the interviews in Stage 2.

Will participants be provided with written information in the language in which the research will be conducted? Yes

If not, explain why NA

People in other countries Yes

Will the research be conducted in an overseas setting which is politically unstable and/or where perceived criticism of the government or institution could attract punitive action? No

Does the researcher require a research visa to conduct the research overseas?
Yes

Describe the procedures by which overseas participants can obtain further information or make a complaint about the research project. Include details of a local contact for inquiries or complaints after the researcher has left the area As I have obtained a formal affiliation with the University of the Philippines, Diliman, I will be able to leave the contact details of a local contact from that institution, Professor Cynthia Zayas, Director of the Centre for International Studies, for participants to make an inquiry or complaint. Professor Zayas will also be available for additional guidance and support if necessary. Such contact will be utilised to resolve any questions pertaining to data collection, participation, or emergent ethical issues that need to be addressed in a timely fashion. Professor Zayas research interests focus primarily on the anthropology of disasters. Past research includes adaptation to disasters in the Philippines and Japan. She has also conducted extensive research on the indigenous Ayta after the Mt Pinatubo eruption. She is a native Filipina and her cultural insight will be critical in the development of this research.

These details have been provided in the participant information sheets in Appendix B as well as the referral list in Appendix E.

Young People (aged 14 - 17) Yes

Adults (aged 18 or over) Yes

Adults (aged 60+) Yes

Interviews (structured or unstructured) Yes

Taping - audio/video Yes

Individually identifiable data Yes

Re-identifiable data Yes

Appendix B: Stage 1 Participant Information Sheet

Identities Forged by Disaster: The Demography and Adaptive Capacity of Street Children in Manila

Participant Information Sheet

Researcher: Ms Shelby Higgs, Primary Investigator. I am a postgraduate student at the Australian Demographic and Social Research Institute in the College of Arts and Social Sciences at the Australian National University. I hold a Master's degree in Social Research from the ANU, a Graduate Diploma from the Catholic University of Chile and a Bachelor of Arts from New York University.

Project Title: Identities forged by disaster: The demography and adaptive capacity of street children in Manila

General Outline of the Project: This project will involve interviews to investigate how street children adapt to natural disasters in Manila. Specifically, this study will explore the types of resources they access and from whom and what resources they lack in order to continue to adapt in the future. There will be a focus on how natural disasters impact on street children's health and education. Five representatives from each of the following entities in Manila will be interviewed: primary schools, government agencies and non-governmental organisations involved in the protection, care and/or rehabilitation of street children. Based on these interviews, ten children will be recruited to participate in face-to-face interviews.

The data collected from the interviews will be transcribed and analysed by content analysis involving the use of NVivo software. Data collected during this project will be used in my doctoral thesis, and may also be used in publications, journal articles and future research projects.

Participants may request the results from the project by contacting the primary investigator via email, post or telephone using the information provided below.

Participant Involvement: Participation in this project is **voluntary** and participants may, without any penalty, decline to take part or withdraw from the research at any time without providing an explanation, or refuse to answer a question. If the participant wishes to withdraw, all data related to his or her contribution will be destroyed.

Participants will be asked to participate in an interview discussion. Participants will be asked to consent to the recording of his/her interview. If consent is granted, the interview recordings will be transcribed and analysed using the content analysis software NVivo.

Interviews will be conducted in the workplace of the participant unless the participant would prefer to meet at the researcher's field office at the Center for International Studies at the University of the Philippines, Diliman campus in Quezon City. The interviews will be forty-five minutes in length. Only one meeting will be required.

Participants may experience some discomfort from their participation in the interview due to the sensitive nature of some of the questions. A referral list of free, local services will be provided at the conclusion of the interview should the participant wish to seek help or talk to someone.

Exclusion criteria: Potential participants may be excluded from the project if they do not consent to the use of audio recording. Audio recording of the interviews is necessary in order to accurately report data. Participants will also need to have a good command of the English language as the interview will be conducted in English.

Confidentiality: Only the researchers will have access to the audio recordings and the list of names of participants. Neither your name nor identifiable details of your interview will be disclosed in the thesis, publications, presentations or future research projects. You will be assigned a unique serial number; the recording of your interview and all subsequent materials will only identify you by that number.

However, confidentiality may be breached if the participant reveals that he/she or another individual is at risk of severe and imminent harm. In that case, the appropriate authorities will be advised with the information supplied by the participant.

Data Storage: Interview data will not contain names or addresses or other readily interpretable identifiers, but only unique serial numbers of participants. Electronic record of these serial numbers will be stored under secure password protected conditions. This information will be stored separately from the data from the interviews.

During the data collection process, digital audio recordings and any interview notes will be stored in a secure office at the University of the Philippines on password protected USBs. Upon return to Australia, the data will be analysed from a secure office at the ANU on a password protected computer. The data will be stored on a password protected USB for five years from publication, then will be destroyed.

Queries and Concerns: Should you have any further requests for information or concerns related to participation in this project, please contact me, the Primary Investigator, or my supervisor at:

Primary Investigator:
Shelby Higgs
ADSRI, College of Arts and Social Sciences
Australian National University
Work Telephone: +61 2 6125 1386
Email: Shelby.Higgs@anu.edu.au

Supervisor:
Associate Professor Helen James
ADSRI, College of Arts and Social Sciences
Australian National University
Work Telephone: +61 2 6125 7607
Email: Helen.James@anu.edu.au

If the primary investigator cannot be reached, the local contact for this study in Manila is:
Professor Cynthia Zayas
Director, Center for International Studies
University of the Philippines, Diliman
Email: cis@up.edu.ph

Ethics Committee Clearance: The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee. If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager
The ANU Human Research Ethics Committee
The Australian National University
Telephone: +61 (0) 2 6125 3427
Email: Human.Ethics.Officer@anu.edu.au

Appendix C: Stage 1 Consent form

Identities forged by disaster: The demography and adaptive capacity of street children in Manila Project

Consent to Participate in Interviews

I _____ agree to participate in the project "Identities forged by disaster: The demography and adaptive capacity of street children in Manila."

- a) I acknowledge that I have read the Participant Information Sheet for the study and I understand what is required of me.
- b) I understand that the interview will be audio-taped. If I do not wish for the interview to be recorded, I may instruct the investigator to discontinue the audio-tape at any time.
- c) I am aware that my participation in this project is voluntary. I may choose not to answer some questions and that I am free to withdraw from participating at any time and that any information already provided during the interview will be destroyed.
- d) I understand that information gathered from interviews may be used in a doctoral thesis, publications, journal articles and possible future projects.
- e) I understand that all information provided is strictly confidential, unless the researcher feels there is an imminent, specific and extraordinary risk of harm to the participant, and that no identifying information will be provided to anyone outside of the research team.
- f) I understand that I can retract all or part of this consent at any time.

SIGNED _____

DATE _____

Appendix D: Stage 1 Primary approach email



<<ADDRESS>>

Dear <<Title>> <<Name>> or To Whom it May Concern,

I am writing to ask for your assistance with an important research project entitled "Identities Forged by Disaster: The Demography and Adaptive Capacity of Street Children in Manila". This research is for my doctoral thesis at the Australian National University and forms part of a larger project, *Demographic Consequences of Asian Disasters: Family dynamics, social capital and migration patterns*, funded by the Australian Research Council.

This research involves interviews with key stakeholders from five of each of the following entities in Manila: primary schools, government agencies and non-governmental organisations involved in the protection, care and/or rehabilitation of street children. Based on these interviews, fifteen children will be recruited to participate in interviews.

Your organisation's contact details were selected from the internet based on its involvement in issues relating to the protection, care and or rehabilitation of street children. I am hoping that your organization has someone who is willing to volunteer to be interviewed for this research. This volunteer will need to have a good command of English. Taking part is voluntary and he/she would be able to discontinue his/her involvement at any time. The interview will take approximately 45 minutes and arrangements can be made to do the interview at his/her workplace or at my office at the Center for International Studies, University of the Philippines, Diliman campus.

You are welcome to e-mail me if you have any questions about the study that you would like to discuss or if you would like to make an appointment to be interviewed at Shelby.higgs@anu.edu.au or at the contact details below.

Thank you for reading this letter. I hope you will take part in this important study.

Yours sincerely,

Shelby Higgs
The Australian Demographic and Social Research Institute
College of Arts and Social Sciences
The Australian National University
Room 3019, Coombs Building
Fellows Road, ACT 0200, AUSTRALIA
T: +61 2 6125 1386 M: +61 4 0444 0573

shelby.higgs@anu.edu.au

Appendix E: Stage 1 Semi-structured interview guide for stakeholders

[This guide varied slightly according to the entity of the participant]

Introduction

Good [morning/afternoon/evening]. My name is Shelby and I am a PhD student at the Australian National University. I am here to talk to you about your organization's work with street children and your perspective on the impact of natural disasters on the children.

Before we get started, I would like to remind you that your participation in this research is voluntary and you can stop at any time.

1. Demographic Information and Role at the Entity

- How long have you been at [entity]?
- What is your role at [entity]?
- Please tell me a little bit about [entity] and its involvement with street children.

2. Entity's Involvement with Street Children

- How does [entity] define street children?/Whom do you consider to be street children?
- What are the demographic characteristics of street children in Manila? (Probes: gender, age, education)
- How are estimates of street children in Manila produced?
 - Do you agree with these estimates?
- In what way does your organization engage with street children?
- What do you see as the biggest challenges facing street children?

3. Street Children and Disasters

I am now going to ask you about street children and their responses to natural disaster.

- What type of natural disasters impact street children the most? (Probes: earthquakes, volcanic eruptions, flooding, typhoons, or landslides)
- In what ways do natural disasters affect street children?
- What are street children's most pressing needs after natural disasters?
 - How are these needs met?
 - How do these needs differ from other children in Manila?
- Is their education affected by natural disasters?
- Is their health affected by natural disasters?

4. Adaptation to disaster

- How do street children cope with natural disasters?
- How does your organization help street children to cope with natural disasters?
- Are there additional resources that would help street children better cope with natural disasters?
- What role do you think Philippine culture plays in the way Filipinos think about natural disasters?

5. Influence of Philippine culture on adaptation to disaster

- Describe how you perceive Philippine culture to influence the way Filipinos think about disaster.
- What role does Philippine culture play in the way Filipinos *respond* to disaster?
- How does this role differ from one group to another in Filipino society?
- What role does Philippine culture play on the way street children respond to disaster?
- How does Philippine culture affect the way in which street children are viewed by society?
- How does Philippine culture affect the way in which street children are assisted during or after disasters?
- How does Philippine culture relate to other issues relating to street children?

6. Research Recommendations

- What are your recommendations for future research on street children? (Probe: are there any techniques you think would be useful in incorporating into the future research of street children?)
- How would you involve street children in research about themselves?
- What would you consider an appropriate compensation for children's participation in research?
- Is there some aspect of street children and disasters that we have not covered that you would like to address?

Appendix F: Stage 1 Semi-structured interview guide for street children

Introduction

Good [morning/afternoon/evening]. My name is Shelby and I am a PhD student at the Australian National University. I am here to talk to you about your experiences with natural disasters and how you cope with them. Before we get started, I would like to remind you that your participation in this research is voluntary and you can stop at any time.

1. Demographic Information and Relationship to Recruitment Entity

- How long have you been coming to [entity]?
- What types of activities or services do you receive at [entity]?
- Who do you spend most of your time with? (Probe: family, friends)

2. Street Children in Manila

- How would you define a 'street child' in Manila? Would you consider yourself one?
- How many children do you think live on the streets of Manila?
- What do you see as the biggest challenges facing children living on the streets in Manila?

3. Children and Disasters

I am now going to ask you about your experience with natural disasters.

- Have you ever experienced a natural disaster? (When? What type?)
- What type of natural disasters impacts you the most? (Probes: earthquakes, volcanic eruptions, flooding, typhoons, or landslides)
- How did these experiences impact you?
- What are your most pressing needs after natural disasters?
 - How are these needs met?
 - Who do you turn to for help?
- Is your schooling ever affected by natural disasters?
- Is your health ever affected by natural disasters?

4. Adaptation to disaster

- How do you cope with natural disasters?
- Does [entity] help you and other children to cope with natural disasters? How?
- Do any government agencies help you and other children to cope with natural disasters? How?
- Are there additional resources that would help you and other children better cope with natural disasters?

5. Research Recommendations

- What would you like the world to know about you and other children in Manila?
- How do you feel about children being asked to participate in research about them?
- Is there some aspect of children and disasters in that we have not covered that you would like to address?

Appendix G: Stage 2 Participant information sheet



Participant Information Sheet

Researcher: Mrs Shelby Higgs, Primary Investigator

I am a postgraduate student at the School of Demography in the College of Arts and Social Sciences at the Australian National University. I hold a Master's degree in Social Research from the ANU, a Graduate Diploma from the Catholic University of Chile and a Bachelor of Arts from New York University.

Project Title: Survey of children in Metro Manila: Health, education and disasters

General Outline of the Project:

Description and Methodology: The aim of this project is to better understand your family relationships, health, education and experience of disasters through face-to-face survey interviews conducted by an NGO representative.

Participants: Participants are individuals between the ages of 14 and 17 years old inclusive who receive service(s) from one or more of the 5 NGOs included in the study. 50 participants from each of the 5 NGOs (a total of 250 participants) will be interviewed.

Use of Data and Feedback: Data collected during this project will be used in my doctoral thesis, and may also be used in publications, journal articles, conference presentations and future research. Feedback from the survey will be provided to the NGOs by email should you wish to know the results.

Participant Involvement:

Voluntary Participation & Withdrawal: You will be asked to orally consent to participate in a survey interview. Participation in this project is **voluntary** and you may, without any penalty, decline to take part or withdraw from the research at any time without providing an explanation, or refuse to answer a question. A decision to withdraw or not answer a question will not in any way affect your relationship with the NGO, the NGO representative, or the services you receive from the NGO.

If you wish to withdraw before completing the interview, you may decide whether or not the researcher may use the information already provided by you. If you wish to withdraw after completing the interview, it may not be possible to destroy the information already collected as no names and few identifiable details are recorded on the survey.

What does participation in the research entail? You will be asked to respond to a series of questions from a list of options. The questions will be asked verbally by an NGO representative and do not require you to read or write.

You may experience some emotional distress from participation in the interview due to the sensitive nature of some of the questions. These include questions about your experience of natural disasters, and your family, education, and health. A referral list of free, local services will be provided at the conclusion of the interview should you wish to seek help or talk to someone.

Location and Duration: Interviews will be conducted at the NGO office from which you were recruited. The interviews take around 20 minutes to complete from start to finish. Only one interview will be required.



Risks: There are two potential risks of this research. The first is that your information may be identified by a third party. The risk of this occurring is low given that your name will not be recorded and the additional measures taken by the research team to ensure that all data is password-protected and securely stored. The second risk is that you may experience discomfort or distress due to the sensitive nature of some of the questions asked. If that happens during the interview, the NGO representative has been advised to stop the interview and to give you an information card containing a free list of referral services. One of those services, Crisis Line, is provided at the end of this sheet. You may contact them at any time for a free, confidential talk.

Benefits: We expect that this research will improve our understanding of your experiences with family, education, health and natural disasters. It is also hoped that this research will help to understand the ways in which you cope with these experiences in order to enhance policies and services designed to support you.

Implications of Participation: Choosing not to participate in the survey or not to answer one or more questions will not in any affect your relationship with the NGO, NGO representative, or any services received from the NGO.

Exclusion criteria:

Participant Limitation: Potential participants may be excluded if they do not fluently speak the same language as the NGO representative conducting the interview or do not fit within the age range of 14 to 18 inclusive.

Confidentiality:

Confidentiality: Only the primary researcher and NGO representatives will have access to the surveys. Names of the participants will not be recorded. Neither your name nor identifiable details of your interview will be disclosed in the thesis, publications, presentations or future research projects.

Confidentiality will be protected as far as the law allows; however, confidentiality may be breached if the participant reveals that he/she or another individual is at risk of severe and imminent harm. In that case, the appropriate authorities will be advised with the information supplied by the participant.

Data Storage:

Where: Surveys will not contain your name or other readily interpretable identifiers. During the data collection process, completed surveys will be stored in a locked drawer at the NGO where the interview was conducted. Completed surveys will be picked up by the primary researcher within 4 days, scanned into a password-protected document, sent by email to the primary researcher's ANU email, and transported to Australia by USB. Hard copies of the surveys will be destroyed in the Philippines. Upon return to Australia, the data will be analysed in STATA from the primary researcher's secure office at the ANU on a password-protected computer.

How long: Data will be stored on a password-protected computer at ANU for at least five years from the time of publications arising from the research.

Handling of Data following the required storage period: At the end of the storage period, the data will be retained in a de-identified format and may be used in future research.



Queries and Concerns:

Contact Details for More Information:

Primary Investigator:

Shelby Higgs

School of Demography

College of Arts and Social Sciences

Australian National University

Work Telephone: +61 2 6125 3034

Email: Shelby.Higgs@anu.edu.au

Supervisor:

Associate Professor Helen James

School of Culture, History and Language

College of Asia Pacific

Australian National University

Work Telephone: +61 2 6125 7607

Email: Helen.James@anu.edu.au

Overseas Contacts:

Professor Cynthia Zayas

Director, Center for International Studies

University of the Philippines, Diliman

Email: cis@up.edu.ph

Contact Details if in Distress:

Crisis Line: The Crisis Line is a free, anonymous and confidential telephone counseling service. It is not affiliated with any specific religious ministry. You can call 893-7606 or 893-7603, Monday to Friday, 9 a.m. to 9 p.m. to discuss a wide range of issues including family & other relationship issues, growing up, alcohol & substance abuse, health & well-being, natural calamities, crime, suicide, depression & related problems.
Email: crisisline@i-manila.com.ph

Ethics Committee Clearance: The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 2013/447). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager

The ANU Human Research Ethics Committee

The Australian National University

Telephone: +61 2 6125 3427

Email: Human.Ethics.Officer@anu.edu.au

Appendix H: Stage 2 Survey of children in Manila

SURVEY OF CHILDREN IN METRO MANILA: HEALTH, EDUCATION AND DISASTERS

CHILD HEALTH, EDUCATION AND DISASTERS QUESTIONNAIRE FORM	
A1. Interviewer number: _____	A2. Month / Day / Year of interview: ____ / ____ / 2016
A3. Child gender: ☐ Male ☐ Female ☐ Other/Unknown	A4. Child's age at last birthday: _____

Before starting the interview, please ensure that the participant:

- 1) Is 14 to 17 years of age (inclusive);
- 2) Would pass the 'babysitter test' (is the child mature enough to temporarily care for another child?);
- 3) Is fluent in the language of the interviewer and the language in which the interview is administered (Tagalog or English); and
- 4) Is unlikely to be distressed by discussing themes such as family, health, and natural disasters.

If eligible, please read the script below before beginning the interview:

I'm going to ask you some questions about your health, schooling, and experience of natural disasters. We need your help to do this. This survey will take about 20 minutes. You don't have to participate if you don't want to, and you don't have to answer any questions that you don't want to. You can also quit the survey at any time. Everything you say will be kept confidential unless I am concerned that you or someone you know is at high risk of danger. Do you have any questions before we start?

Q	QUESTION	CODES & INSTRUCTIONS
A5	Does he/she want to continue?	☐ Yes → Record time started & proceed to the survey ☐ No → "That's ok. I understand. Thank you for your time." End survey and record on page 8.

TIME STARTED: _____

SECTION I: General Demographic Information [GDI]		
I'd like to begin by asking you some general background questions about you and your family.		
Q	QUESTION	CODES & INSTRUCTIONS
1	Do you live in the barangay where we are now?	☐ Yes ☐ No
2	Were you born in Metro Manila?	☐ Yes → SKIP TO 3 ☐ No
2a	Where were you born? (Island group)	☐ Luzon ☐ Visayas ☐ Mindanao ☐ Abroad ☐ Other/unknown
2b	Why did you leave? (Check all that apply)	☐ For me to find work ☐ For my family to find work ☐ To be with family ☐ Cyclone/flood/other natural disaster ☐ Conflict ☐ Other/Unknown
3	Do you have a birth certificate?	☐ Yes → SKIP TO 4 ☐ No
3a	Why do you not have a birth certificate?	☐ Never had one ☐ Lost ☐ Other/Unknown
4	Do you have a UMID or SSS card?	☐ Yes ☐ No
5	How often do you see your (biological) mom?	☐ Everyday ☐ Some days ☐ Once a week ☐ Never → SKIP TO 5b
5a	How often do you sleep in the same place as your mom?	☐ Every night → SKIP TO 6 ☐ Most nights (4+ nights per week) → SKIP TO 6 ☐ Sometimes (less than 4 nights per week) ☐ Never

5b	What stops you from seeing your mom? <i>Mark all that apply.</i>	☐ Does not live in same city ☐ In jail ☐ Deceased ☐ Other/Unsure
6	How often do you see your (biological) dad?	☐ Everyday ☐ Some days ☐ Once a week ☐ Never → SKIP TO 6b
6a	How often do you spend the night with your dad?	☐ Every night → SKIP TO 7 ☐ Most nights (4+ nights per week) → SKIP TO 7 ☐ Sometimes (less than 4 nights per week) ☐ Never
6b	What stops you from seeing your dad? <i>Mark all that apply.</i>	☐ Does not live in same city ☐ In jail ☐ Deceased ☐ Other/Unsure
7	How many brothers and sisters do you have (total)? <i>Include all biological siblings, half-brothers and half-sisters.</i>	☐ None ☐ One ☐ Two ☐ Three ☐ Four ☐ Five or more
8	Who usually sleeps in the same place with you at night?	☐ Both parents (and siblings, if any) ☐ One parent (and siblings, if any) ☐ A friend or a group of friends ☐ No one (sleeps alone) ☐ Other
9	When you need money for something, how do you get it?	☐ From my parents ☐ From a sibling ☐ From another adult ☐ From a friend ☐ I make my own money

SECTION II: Education [E1]		
I'd now like to ask you some questions about school.		
Q	QUESTION	CODES & INSTRUCTIONS
10	Have you ever gone to school? <i>Includes formal and informal school</i>	☐ Yes ☐ No → SKIP TO 11
10a	What is the highest grade you finished?	☐ Preschool/Kindergarten ☐ First grade ☐ Second grade ☐ Third grade ☐ Fourth grade ☐ Fifth grade ☐ Sixth or Seventh grade ☐ High school Year 1 ☐ High school Year 2 ☐ High school Year 3 ☐ High school Year 4 or higher
10b	Are you currently going to school?	☐ Yes ☐ No → SKIP TO 11
10c	What kind of school do you go to?	☐ Public/government school ☐ Private school ☐ NGO school ☐ Other/unknown
10d	How often do you usually go to school each week? <i>When school is in session, not during breaks</i>	☐ Every school day → SKIP TO 12 ☐ Most days (3 or 4 days per week) → SKIP TO 12 ☐ Some days (1 or 2 days per week) ☐ It depends on the season (wet/dry)
11	What stops you from going to school? <i>Mark all that apply.</i>	☐ I cannot afford it ☐ I need to work ☐ Bullying ☐ I do not want to go ☐ I do not have an identification document ☐ Other
12	Are you able to read the newspaper in your native language?	☐ Yes ☐ No ☐ Unsure

SECTION III: Health [H1]		
I'd now like to ask you some questions about your health and wellbeing at the moment.		
Q	QUESTION	CODES & INSTRUCTIONS
13	When was the last time you were sick?	☐ Today ☐ This week ☐ This month ☐ This year ☐ Unsure
14	How often do you feel anxious or depressed?	☐ Never ☐ Sometimes ☐ Often
15	How often do you feel pain or discomfort?	☐ Never ☐ Sometimes ☐ Often
16	How often do you feel too sick to go to school or play?	☐ Never ☐ Sometimes ☐ Often
17	How often after flooding or other disasters do you feel sick?	☐ Never ☐ Sometimes ☐ Often
18	How often after flooding or other disasters do you feel anxious or depressed?	☐ Never ☐ Sometimes ☐ Often
19	What is your main source of drinking water?	☐ Community well ☐ Community tap ☐ Hand pump ☐ Other/unsure
20	Where do you usually throw away your trash? (Example: a food wrapper)	☐ Trash can ☐ In the water (river, etc.) ☐ On the street ☐ Other/unsure

SECTION IV: Disasters [D1]		
Now some questions about natural disasters (such as floods, typhoons, and landslides) and their impact on you.		
Q	QUESTION	CODES & INSTRUCTIONS
21	Have you ever experienced a natural disaster?	☐ Yes ☐ No → SKIP TO 29 ☐ Unsure/Unknown
22	What disasters have you experienced? <i>Mark all that apply.</i>	☐ Flood ☐ Typhoon ☐ Fire ☐ Landslide ☐ Volcanic eruption ☐ Earthquake ☐ Other
23	How often does it flood where you live?	☐ Never ☐ Sometimes ☐ Often
24	When it floods, are you more or less likely to go to school?	☐ I don't go to school → SKIP TO 25 ☐ More likely → SKIP TO 25 ☐ Less likely ☐ No change
24a	Why? <i>Mark all that apply.</i>	☐ The school is flooded ☐ The school is used as a temporary shelter ☐ I cannot get to school ☐ I don't like to go to school when it is flooded ☐ I have work ☐ Other
25	When it floods, are you more or less likely to work?	☐ More likely ☐ Less likely ☐ No change ☐ I don't work
26	When it floods, are you more or less likely to be hungry?	☐ More likely ☐ Less likely ☐ No change

27	When it floods, are you more or less likely to get sick?	☐ More likely ☐ Less likely ☐ No change
28	Where is the safest place for you to be during a flood?	☐ A house (any private home) ☐ School ☐ NGO/charity ☐ Police station ☐ A building ☐ On the street ☐ Other
SECTION V: Social Networks & Conclusion Finally I'd like to ask you some questions about your community and the people in it.		
Q	QUESTION	CODES & INSTRUCTIONS
29	Do you think most people in your neighbourhood can be trusted?	☐ Yes ☐ No
30	Do you think most people in your community get along?	☐ Yes ☐ No
31	Do you feel you are a part of this community?	☐ Yes ☐ No
32	Do you think most people in your community would take advantage of you if given the chance?	☐ Yes ☐ No
33	Can policemen be trusted?	☐ Yes ☐ No
34	Can teachers be trusted?	☐ Yes ☐ No
35	Can Church workers be trusted?	☐ Yes ☐ No
36	If you had a problem, who would you go to for help? <i>Mark all that apply.</i>	☐ Family (parent and/or sibling) ☐ Friend ☐ NGO/charity ☐ Someone at Church ☐ Police ☐ Teacher ☐ Other

End script:

That's all the questions I have for you.

Thank you for participating. If you have any questions or worries about this survey, or you would like to hear about the results, please contact one of the researchers on this card. There are also some numbers of places on there where you can get help if you are feeling upset about anything we've talked about today. Would you like for me to read out any of this information to you?

TIME ENDED: _____

Interviewer Final Check		
Q	QUESTION	CODES & INSTRUCTIONS
A6	Was the survey completed?	☐ Yes ☐ No, participant withdrew before it began ☐ No, participant withdrew during the survey ☐ No, participant could not complete the survey for another reason
A7	Any observations/notes from this interview that you wish to share. (Optional)	

Researcher Final Check		
Q	QUESTION	CODES & INSTRUCTIONS
A8	Observations/notes from this interview	_____

Appendix I: Stage 2 Survey instructions for interviewers

SURVEY OF CHILDREN IN METRO MANILA: HEALTH, EDUCATION AND DISASTERS

Instructions for Interviewers

Thank you for your help in this important research! This document is provided to help you administer the survey.

There are 6 steps to administering the survey

1. Identify potential participants based on eligibility criteria listed on the front sheet of the survey. Children are eligible to participate if you answer 'yes' to the following:
 - Is the child 14 to 17 years of age (inclusive)?
 - Would you allow the child to babysit other children?
 - Children may consent to participate in research on their own behalf if they pass the 'babysitter test'. The babysitter test is a way of knowing whether the child has the requisite maturity to consent to participate in research – would you allow this child to babysit other children? If so, the child may voice their consent prior to beginning the interview.
 - Does the child fluently speak the language in which the survey will be conducted?
 - Is the child unlikely to be distressed by discussing themes such as family, health, school, and natural disasters?
 - Applying your personal experience with the child, please use your best judgment to determine if the child is likely to be upset given his or her background. Children who may be upset by the questions should not be approached to participate.
2. Obtain consent from the child by reading the script on the front page of the survey. Do not begin until the child has voiced their desire to continue.
3. Conduct the survey by reading the questions and answers out loud to the child and recording their responses by placing an "X" in the appropriate checkbox. In some cases, the question will say "Mark all that apply." That means that the child may choose more than one of the available responses, and you should place an "X" in each.
4. Store the completed survey in a locked drawer.
5. Contact the primary researcher (Shelby Higgs) at shelby.higgs@anu.edu.au once all surveys are complete.
6. A member of the researcher team will collect the questionnaire from you at your convenience and provide the pizza voucher to compensate you and the children for your time.

What to do if ...

1. The child becomes distressed during the interview (this includes crying or other emotional cues):
 - *Ask the child if they wish to continue the interview. If they do not want to continue, immediately end the interview. Read them the **END SCRIPT** and give them the card with the list of local services. Mark #3 in A8*
2. The child does not want to participate either from the beginning or at any time during or after the interview.
 - *Immediately end the interview. Thank them for their time and give them the card with the list of local services and research contact information. Offer to read the information to them. Record in A8.*
3. The child does not want to give a real name
 - *It's ok. Children do not need to provide a real name. Their real names will not be used in any reports or publications.*
4. You believe the child is lying
 - *It's ok. Continue the interview, and note any observations in A9.*
5. The child becomes hyperactive or loses interest during the interview.
 - *Try to continue the interview as best possible. If you are unable to continue the interview, record this in A8.*
6. The interview could not be finished for any other reason.
 - *Read the end script and record in A8.*

Thank you for your participation!

Primary Researcher Contact Details:

[Shelby Higgs](#)

School of Demography

The Australian National University

Room 2022, Coombs Building

Fellows Road, ACT 0200, AUSTRALIA

T: +61 2 6125 3034 M: +61 4 0444 0573

Shelby.Higgs@anu.edu.au

References

- Abouzahr, C., Azimi, S.Y., Bersales, L., Chandramouli, C., Hufana, L., Khan, K., ... Sauyekenova, L. (2014). Strengthening civil registration and vital statistics in the Asia-Pacific region: learning from country experiences. *Asia-Pacific Population Journal*, 29(1), 39-73.
- Abramson, D., Grattan, L., Mayer, B., Colten, C., Arosemena, F., Bedimo-Rung, A., & Lichtveld, M. (2015). The resilience activation framework: A conceptual model of how access to social resources promotes adaptation and recovery in post-disaster settings. *Journal of Behavioural Health Services & Research*, 42(1), 42-57.
- Achmad, C. (2012). *Street children have rights too! Problems faced by street children globally and in the Philippines, and why their rights need protection*: KidsReport, September 2012. Retrieved from <http://media.leidenuniv.nl/legacy/kidsreport-street-children-have-rights-too.pdf>
- ActionAid. (2013). *Making street children matter: A census survey in Mumbai*. Retrieved from http://www.solutionexchange-un-gen-gym.net/wp-content/uploads/2015/11/actionaid_Making-Street-Children-Matter.pdf
- Adger, W. (2003). Social capital, collective action, and adaptation to climate change. *Economic Geography*, 79(4), 387-404.
- Alagappa, M. (2004). *Civil society and political change in Asia: Expanding and contracting democratic space*. Stanford: Stanford University Press.
- Albert, J., Quimba, F., Ramos, A., & Almeda, J. (2012). Profile of Out-of-School Children in the Philippines: Discussion Paper Series. Makati City, The Philippines: Philippine Institute for Development Studies.

- Aldrich, D. (2011). The power of people: Social capital's role in recovery from the 1995 Kobe earthquake. *Natural Hazards*, 56, 595-611. doi: 10.1007/s11069-010-9577-7
- Alexander, D. (1997). The Study of Natural Disasters, 1977-1997: Some reflections on a changing field of knowledge. *Disasters*, 21(4), 284-304.
- Alexander, D. (2013). Resilience and disaster risk reduction: An etymological journey. *Natural Hazards Earth Systems Science*, 13, 2707–2716. doi:10.5194/nhess-13-2707-2013
- Allen, K. (2006). Community-based disaster preparedness and climate adaptation: local capacity-building in the Philippines. *Disasters*, 30(1), 81-101.
- Almond, D., Edlund, L., Li, H., & Zhang, J. (2007). *Long-term effects of the 1959-1961 China famine: Mainland China and Hong Kong*. Cambridge, MA: National Bureau of Economic Research.
- Amilasan, A., Ujiie, M., Suzuki, M., Salva, E., Belo, M., Koizumi, N., Yoshimatsu, K., ... Ariyoshi, K. (2012). Outbreak of Leptospirosis after flood, the Philippines, 2009. *Emerging Infectious Diseases*, 18(1), 91-94.
- Ancheta-Templa, M. (2004). *Contradictions on victimization, survivor behavior and the Philippine justice system: A study of the situation of children in conflict with the law in Davao*. Quezon City, Philippines: Save the Children – UK, Philippines Programme.
- Andolong, I. (2015, April 23). Informal settlers relocated – only to live in squalor. *CNN Philippines*. Retrieved from <http://cnnphilippines.com/metro/2015/04/23/A-far-from-happy-life-at-Happy-Land.html>1
- Aptekar, L. (1989). Characteristics of the Street Children of Colombia. *Child Abuse and Neglect*, 13, 427-437.
- Aptekar, L. (1994). Street Children in the Developing World: A Review of their Condition. *Cross-Cultural Research*, 28(3), 195-224.

Arulpragasam, J., Fernandez, L., Matsuda, Y., Ofindo, R., & Stephens, M. (2011).

Building Governance and Anti-Corruption in the Philippines' Conditional Cash Transfer Program. Philippine Social Protection Note, March 2011, No. 1.

Retrieved from the World Bank website:

http://siteresources.worldbank.org/EASTASIAPACIFICEXT/Images/226299-1251872399239/Philippines_CCT.pdf

Asian Development Bank (ADB). (2010). *An agenda for high and inclusive growth in the Philippines*. Mandaluyong City, Philippines: Cielito Habito.

Asian Development Bank (ADB). (2012). Asian Development Outlook 2012: Confronting Rising Inequality in Asia. Retrieved from <http://www.adb.org/sites/default/files/pub/2012/ado2012.pdf>

Asian Development Bank (ADB). (2014a). *Asian Development Outlook 2014: Fiscal Policy for Inclusive Growth*. Retrieved from <http://adb.org/sites/default/files/pub/2014/ado-2014.pdf>

Asian Development Bank (ADB). (2014b). Republic of the Philippines National Urban Assessment. Retrieved from <http://www.adb.org/sites/default/files/publication/42817/philippines-national-urban-assessment.pdf>

Atkins, W. (2002). *The Politics of Southeast Asia's New Media*. London: RoutledgeCurzon.

Australian Agency for International Development (AusAid). (2012). *Australia-Philippines Development Cooperation Program*. Retrieved from <http://www.ausaid.gov.au/countries/eastasia/philippines/Pages/default.aspx>

Australian Bureau of Statistics (ABS). (2012). *Information Paper: Methodology for Estimating Homelessness from the Census of Population and Housing, 2012*. Retrieved from

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/2049.0.55.001Main%20Features42012?opendocument&tabname=Summary&prodno=2049.0.55.001&issue=2012&num=&view=>

Australian Embassy of The Philippines. (2012). *Metro Manila to benefit from disaster risk data from Australia-Philippines Project*. Retrieved from <http://www.philippines.embassy.gov.au/mnla/medrel110916.html>

Back, E., Cameron, C., & Tanner, T. (2009). Children and Disaster Risk Reduction: Taking Stock and Moving Forward. *Children in a Changing Climate Research*. Brighton, UK: United Nations Children Fund.

Badan Pusan Statistik [Indonesian Statistics Office]. (n.d.). *The number and distribution of population*. Retrieved from the Badan Pusan Statistik webpage at <http://sp2010.bps.go.id/>

Baker, R., Panter-Brick, C., & Todd, A. (1996). Methods Used in Research with Street Children in Nepal. *Childhood*, 3, 171-193.

Baldo, E., Belizario, V., De Leon, W., Kong, H., & Chung, D.-I. (2004). Infection status of intestinal parasites in children living in residential institutions in Metro Manila, the Philippines. *The Korean journal of parasitology*, 42(2), 67-70.

Ballesteros, M. (2010). Linking Poverty and the Environment: Evidence from Slums in Philippine Cities. Discussion Paper Series. Makati City: Philippine Institute for Development Studies.

Ballesteros, M., and Egana, J. (2013). Efficiency and Effectiveness review of the National Housing Authority Resettlement Program. *Philippine Institute for Development Studies, Discussion Paper Series*, 2013(28).

Bankoff, G. (2003). *Cultures of disaster: society and natural hazards in the Philippines*. New

York City: RoutledgeCurzon.

Bankoff, G. (2004). In the eye of the storm: the social construction of the forces of nature and the climatic and seismic construction of God in the Philippines. *Journal of Southeast Asian Studies*, 35(1), 91-112.

Bankoff, G. (2006). Winds of Colonisation: The meteorological contours of Spain's imperium in the Pacific 1521-1898. *Environment and History*, 12, 65-88.

Bankoff, G., & Hilhorst, D. (2009). The politics of risk in the Philippines: Comparing state and NGO perceptions of disaster management. *Disasters*, 33(4), 686-704.

Barnard, H. (1966). Street Children. *Peabody Journal of Education*, 44(2), 120.

Bartlett, S. (2008). Climate change and urban children: impacts and implications for adaptation in low- and middle-income countries. *Environment and Urbanization*, 20(2), 501-519.

Baustista, J. (2010). Church and State in the Philippines: tackling life issues in a 'culture of death'. *Sojourn: Journal of Social issues in South Asia*, 25(1), 29-53.

BegninO. (2010). Day Ten, Post- Ondoy. In E. Or (Ed.), *After the Storm: Stories on Ondoy* (pp. 59-63). Pasig City, Philippines: Anvil Publishing.

Bender, K., Thompson, S. J., McManus, H., Lantry, J., & Flynn, P. (2007). Capacity for Survival: Exploring Strengths of Homeless Street Youth. *Child & Youth Care Forum*, 36(1), 25-42.

Benpress Holdings Corporation. (2002). *Benpress Holdings Corporation Annual Report*.

Retrieved from

http://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&ved=0CCwQFjADOAo&url=http%3A%2F%2Flopez-holdings.ph%2Fcomponent%2Fdocman%2Fdoc_download%2F362-2002-17a%3FItemid%3D674&ei=EiCSVbjGlcGumAX9zluABw&usg=AFQjCNEQaSpka0j7zdgopc3j2LQQB6-DHg&sig2=XDiuaJcVfixuHB0K1B0kcw

- Benson, C., & Clay, E. (2004). *Understanding the economic and financial impacts of natural disasters (Vol. 4)*. Washington, D.C.: World Bank Publications.
- Berman, R., Quinn, C., & Paavola, J. (2012). The role of institutions in the transformation of coping capacity to sustainable adaptive capacity. *Environmental Development*, 2, 86-100.
- Berner, E. (2000). Poverty Alleviation and the Eviction of the Poorest: Towards Urban Land Reform in the Philippines. *International Journal of Urban and Regional Research*, 24(3), 554-566.
- Bezerra, K., Gurgel, R., Ilozue, C., & Castaneda, D. (2011). Estimating the number of street children and adolescents in two cities of Brazil using capture–recapture. *Journal of Paediatrics and Child Health*, 47(8), 524-529.
- Bhaduri, B., Bright, E., Coleman, P., & Urban, M. (2007). LandScan USA: a high-resolution geospatial and temporal modeling approach for population distribution and dynamics. *GeoJournal*, 69(1-2), 103-117.
- Bhaskaran, R., & Mehta, B. (2011). *Surviving the Streets: A census of street children in Delhi by the Institute for Human Development and Save the Children*. New Delhi, India: Save the Children. Retrieved from <http://www.alnap.org/resource/6493>
- Binay, J. (2004). *Making Megacities Safer from Earthquake Impacts: A Shared Vision for Metro Manila and Makati City in the Philippines*. Retrieved from http://www.iitk.ac.in/nicee/wcee/article/13_9006.pdf
- Bogdan, R., & Biklen, S. (1992). *Qualitative research for education. An introduction to theory and methods*. Boston, MA: Allyn & Bacon.
- Bonanno, G., & Diminich, E. (2012). Annual Research Review: Positive adjustment to adversity – minimal-impact resilience and emergent resilience. *Journal of Child Psychology and*

Psychiatry, 54(4), 378-401. doi: 10.1111/jcpp.12021

Brown, D., & Dodman, D. (2014). *Understanding children's risk and agency in urban areas and their implications for child-centred urban disaster risk reduction in Asia: Insights from Dhaka, Kathmandu, Manila and Jakarta*. Asian Cities Climate Resilience, Working Paper Series No. 6:2014. Retrieved from International Institute for Environment and Development website: <http://pubs.iied.org/pdfs/10652IIED.pdf>

Brown, H., Smit, B., Somorin, O., Sonwa, D., & Nkem, J. (2014). Climate change and forest communities: Prospects for institutional adaptive capacity in the Congo Basin Forests. *AMBIO*, 43, 759-769. Doi: 10.1007/s13280-014-0493-z

Brune, N., & Bossert, T. (2008). Building social capital in post-conflict communities: Evidence from Nicaragua. *Social Science & Medicine*, 68(5), 885-893.

Brunkard, J., Namulanda, G., & Ratard, R. (2008). Hurricane Katrina deaths, Louisiana, 2005. *Disaster Medicine and Public Health Preparedness*, 2(4):215-223.

Cafe, D. (2012). The Social Construction of Disaster: Ondoy (Ketsana) in the Context of Sagrada Familia and Inquierer.net. *Asian Social Science*, 8(10), 45-57.

Cai, Y., & Feng, W. (2010). *Reproductive Consequences of China's Great Leap Forward Famine*. Paper presented at the Demographic Responses to Economic and Environmental Crisis, Reitaku, Japan.

Cambodian Street Children Network (CSCN). (2011). *Cambodian Street Children Profile 2011*. Retrieved from http://friends-international.org/resources/research/Street_Children_Profile_2011.pdf

Cannon, T. (1994). Vulnerability analysis and the explanation of 'natural' disasters. In A. Varey (Ed.), *Disasters, Development and Environment* (pp. 13-30). Chichester, UK: John Wiley & Sons.

- Caparas, M. (2012). The Bahay Tuluyan and its junior educators program: Strengthening the street children's resilience. *Philippine Social Sciences Review*, 55(1-4), 237-258.
- Castro, C., Gormly, S., & Ritualo, A. (2005). The SIMPOC Philippine Survey of Children 2001: Data source for analysing occupational injuries to children. *Public Health Reports*, 120(6): 631-641.
- Catani, C., Gewirtz, A., Wieling, E., Schauer, E., Elbert, T., & Neuner, F. (2010). Tsunami, war, and cumulative risk in the lives of Sri Lankan Schoolchildren. *Child Development*, 81(4), 1176-1191.
- Cayabyab, M. (2011). Valenzuela City Aims for Zero Presence of Street Children. *Valenzuelako eNewsletter*. Retrieved from <http://www.valenzuela.gov.ph/index.php/article/news/543#>
- Citizens' Disaster Response Center (CDRC). (2011). *Philippine Disaster Report 2011*. Retrieved from <http://www.cdrc-phil.com/wp-content/uploads/2009/08/PDR-2011.pdf>
- Chester, D. (2005). Theology and disaster studies: The need for dialogue. *Journal of Volcanology and Geothermal Research*, 146(4), 319-328.
- ChildHope Philippines. (2003). *A Situationer of Street Children in the Philippines*. Paper presented at the Civil Society Forum on Protecting the Rights of Street Children in Southeast Asia, Bangkok, Thailand. Retrieved from <http://www.streetchildren-philippines.org/A%20SITUATIONER%20OF%20STREET%20CHILDREN%20IN%20THE%20PHILIPPINES.pdf>
- Child Protection Centres and Services (Nepal). (2007). *The street children of Kathmandu: Study, approaches, and comments on the daily life of street-based children of the Nepalese capital*. Belgium: CPCS and CPCS INT.
- Chryssochoou, X. (2003). Studying identity in social psychology. *Journal of Language and*

Politics, 2(2), 225-241.

Cola, R. (1993). The needs of children following a disaster: the 1990 earthquake in the Philippines. *Disasters*, 17(3), 248-254.

Concepcion, M., & Flieger, W. (1968). Studies of fertility and fertility planning in the Philippines. *Demography*, 5(2), 714-731.

Connell, J. (1997). Beyond Manila: Walls, malls and private spaces. *Environment and Planning*, 31, 417-439.

Connolly, R., & Zheng, Z. (2003). Determinants of school enrollment and completion of 10 to 18 year olds in China. *Economics of Education Review*, 22, 379–388.

Connolly, M., & Ennew, J. (1996). Introduction: Children Out of Place. *Childhood*, 3(2): 131-145.

Conticini, A., & Hulme, D. (2007). Escaping Violence, Seeking Freedom: Why Children in Bangladesh Migrate to the Street. *Development and Change*, 38(2), 201-227.

Cook, M. (1995). Children's Protection Programs in the Philippines. *Focus*, September 1995: Australian Agency for International Development.

Cooke, R. (2002). National Survey of Street Children [Jamaica]. Report Prepared for The Child Support Unit, Ministry of Health. Retrieved from <http://www.cda.gov.jm/sites/default/files/content/National%20survey%20of%20Street%20Children.pdf>

Cosgrove, J. (1990). Towards a working definition of street children. *International Social Work*, 33, 185-192.

Costello, M., & Casterline, J. (2009). Fertility decline in the Philippines: Current status, future prospects. Manila, The Philippines: Population Council. Retrieved from <http://www.un.org/esa/population/publications/completingfertility/RevisedCOSTELLO>

- Cramm, J., van Dijk, H., & Nieboer, A. (2012). The Importance of neighbourhood social cohesion and social capital to the well being of older adults in the community. *The Gerontologist*, 53(1), 142-150.
- Creswell, J. (1998). *Qualitative inquiry and research design: Choosing among five designs*. Thousand Oaks, CA: Sage.
- Creswell, J., Plano Clark, V., Guttman, M., & Hanson, E. (2003). Advanced mixed methods research design. In A.Tashakkori and C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Crombach, A., & Elbert, T. (2014). The benefits of aggressive traits: A study with current and former street children in Burundi. *Child Abuse & Neglect*, 38(6), 1041-1050. doi: 10.1016/j.chiabu.2013.12.003
- Cruz, J. (2010). *Estimating Informal Settlers in the Philippines*. Paper presented at the 11th National Convention on Statistics, Makati City, The Philippines.
- Currie, G. (Ed.) (2011). *New perspectives and methods in transport and social exclusion research*. Bingley, U.K.: Emerald Group.
- Cutter, S.L. (1996). Vulnerability to environmental hazards. *Progress in Human Geography*, 20(4), 529-539.
- Cutter, S.L., Mitchell, J., & Scott, M. (2000). Revealing the Vulnerability of People and Places: A Case Study of Georgetown County, South Carolina. *Annals of the Association of American Geographers*, 90(4), 713-737.
- Cutter, S.L. (2003). The Vulnerability of Science and the Science of Vulnerability. *Annals of the Association of American Geographers*, 93(1), 1-12.

Cutter, S.L., Boruff, B., & Shirley, W. (2003). Social vulnerability to environmental hazards.

Social Science Quarterly, 84(2), 242-261.

Cutter, S.L., & Corendea, C. (2013). *From social vulnerability to resilience: measuring progress*

toward disaster risk reduction. EHS Source, UNU-EHS. Retrieved from

<http://collections.unu.edu/view/UNU:1885>

Cutter, S.L., Ismail-Zadeh, A., Alcantara-Ayala, I., Altan, O., Baker, D.N., Briceno, S., ... Wu, G.

(2015). Global risks: Pool knowledge to stem losses from disasters. *Nature*, 522(7556), 277-279. doi: 10.1038/522277a

Datar, A., Liu, J., Linnemayr, S., & Stecher, C. (2012). The impact of natural disasters on child

health and investments in rural India. *Social Science & Medicine*, 76(2013), 83-91.

David, C., & Albert, J. R. (2012). *Primary Education: Barriers to Entry and Bottlenecks to*

Completion. Discussion Paper Series. Philippine Institute for Development Studies.

Makati City, Philippines.

Davies, S. (2009). Are coping strategies a cop out? *Introductory Development Studies Bulletin*,

24(4), 60-72. doi: 10.1111/j.1759-5436.1993.mp24004007.x

Defence for Children International – Palestine Section (DCI-PS). (2007). *Children in the Street:*

The Palestinian Case. Retrieved from

<http://www.abudis.net/ChildrenintheStreetEnglish.pdf>

De Clercq, B., Vyncke, V., Hublet, A., Elgar, F.J., Ravens-Sieberer, U., Currie, C., Hooghe, M.,

Ieven, A., & Maes, L. (2012). Social capital and social inequality in adolescents' health in 601 Flemish communities: A multilevel analysis. *Social Science & Medicine*, 74, 202-210.

DeGraff, D., Billsborrow, R., & Herrin, A. (1996). Children's education in the Philippines: Does

high fertility matter? *Population Research and Policy Review*, 15, 219-247.

De Moura, S. L. (2002). The social construction of street children: configuration and implications. *British Journal of Social Work*, 32(3), 353-367.

Demographic Research and Development Foundation (DRDF) and University of the Philippines Population Institute (UPPI) (2014). *2013 YAFS4 Key Findings*. Quezon City: DRDF and UPPI.

Delica, Z. (1993). Citizenry-based Disaster Preparedness in the Philippines. *Disasters*, 17(3), 239-247.

Delica, Z. (1998). Balancing Vulnerability and Capacity: Women and Children in the Philippines. In E. Enarson & B. Morrow (Eds.), *The Gendered Terrain of Disaster: Through Women's Eyes*. Westport CT: Praeger Press.

Denzin, N., & Lincoln, Y. (Eds.). *The Sage Handbook of Qualitative Research* (3rd ed.). Thousand Oaks, CA: Sage.

Department of Health [DOH]. (n.d.) *The Surge of Leptospirosis*. Retrieved from <http://www.lib.unimelb.edu.au/recite/citations/apa6/ref18-ElecSourceWebWithAuthor.html?style=1&type=4&detail=1>.

Department of Justice (DOJ). (n.d.). Child protection program. Retrieved from <https://www.doj.gov.ph/child-protection-program.html>

Department of Social Welfare and Development (DSWD). (2011). *Pantawid Pamilyang Pilipino Program (4Ps)*. Department of Social Welfare and Development. Retrieved from <http://www.car.dswd.gov.ph/programs-services/core-programs/pantawid-pamilyang-pilipino-program-4ps/>

De Silva, D., & Yamao, M. (2007). Effects of the tsunami on fisheries and coastal livelihood: a case study of tsunami-ravaged southern Sri Lanka. *Disasters*, 31(4), 386-404.

D'Lima, H., & Gosalia, R. (1992). *Street children of Bombay: A situational analysis*. Noida, India:

Child Labour Cell, National Labour Institute.

- Dobson, J., Bright, E., Coleman, P., Durfee, R., & Worley, B. (2000). LandScan: A global population database for estimating populations at risk. *Photogrammetric engineering and remote sensing*, 66(7), 849-857.
- Dyson, T. (1991). On the Demography of South Asian Famines Part II. *Population Studies*, 45(2), 279-297.
- Enarson, E. and Meyreles, L. (2004). International perspectives on gender and disaster: differences and possibilities. *International Journal of Sociology and Social Policy*, 24(10/11), 49-93.
- Enfants du Monde – Droits de l'Homme (EMDH). (2009). *Survey of Children in Street Situation in Juba*. Retrieved from <http://www.gurtong.net/LinkClick.aspx?fileticket=tY%2Fu1r63giE%3D&tabid=124>
- Engle, N. (2011). Adaptive capacity and its assessment. *Global Environmental Change*, 21(2), 647-656.
- Ennew, J. (1994). *Street and working children: A guide to planning*. London, UK: Save the Children.
- Ennew, J. (2003). Difficult circumstances: Some reflections on 'street children' in Africa. *Children, Youth and Environments*, 13(1), 128-146.
- Ennew, J., & Swart-Kruger, J. (2003). Introduction: Homes, places and spaces in the construction of street children and street youth. *Children, Youth and Environments*, 13(1), 1-21.
- Eriksen, S.H., Brown, K., & Kelly, P. (2005). The dynamics of vulnerability: Locating coping strategies in Kenya and Tanzania. *The Geographical Journal*, 171(4), 287-305.

- Eriksen, S.H., & Kelly, P. (2007). Developing credible vulnerability indicators for climate adaptation policy assessment. *Mitigation and Adaptation Strategies for Global Change*, 12(4), 495-524.
- Esplanada, J. (2012, October 14). Women should hold their own in disasters - UN. *Inquirer Global Nation*. Retrieved from <http://globalnation.inquirer.net/52720/women-should-hold-their-own-in-disasters-un>
- Farazmand, A. (2003). Chaos and transformation theories: A theoretical analysis with implications for organization theory and public management. *Public Organization Review*, 3(4), 339-372.
- Fernandez, G., & Shaw, R. (2014). Participation of youth councils in local-level HFA implementation in Infanta and Makati, Philippines and its policy implications. *Risk, Hazards & Crisis in Public Policy*, 5(3), 259-278.
- Fernandez, G., & Shaw, R. (2015). Youth participation in disaster risk reduction through science clubs in the Philippines. *Disasters*, 39(2), 279-294. doi: 10.1111/disa.12100
- Foundation for Research on Educational Planning and Development (FREPD). (2003). A *Baseline Survey of Street Children in Bangladesh*. Retrieved from the International Labour Organisation's webpage:
http://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKewjyYyK54_MAhWJJQKHSkyAEsQFggcMAA&url=http%3A%2F%2Fwww.ilo.org%2Fip-ecinfo%2Fproduct%2Fdownload.do%3Ftype%3Ddocument%26id%3D287&usg=AFQjCNEweQglFWg09eE4hTL346RAP7QCJA&sig2=_VRq0tByL-Vz0Mzy7t_tbg
- Frankenberg, E., Sikoki, B., Sumantri, C., Suriastini, W., & Thomas, D. (2013). Education, vulnerability, and resilience after a natural disaster. *Ecological Sociology*, 18(2),
- Frerks, G. (2010). Principles ignored and lessons unlearned: A disaster studies perspective on

the tsunami experience in Sri Lanka. In D. McGilvray & M. Gamburd (Eds.), *Tsunami Recovery in Sri Lanka: Ethnic and Regional Dimensions* (pp. 143-162). New York City: Routledge.

Fukuyama, F. (2001). Social capital, civil society and development. *Third World Quarterly*, 22(1), 7-20.

Gaillard, J., Liamzon, C., & Maceda, E. (2005). Act of nature or act of man? Tracking the root causes of increasing disasters in the Philippines. *Philippine Geographical Journal*, 49(1-4), 45-66.

Gaillard, J. (2008). Alternative paradigms of volcanic risk perception: The case of Mt. Pinatubo in the Philippines. *Journal of Volcanology and Geothermal Research*, 172(3), 315-328.

Gaillard, J., Pangilinan, M., Cadag, J., & Masson, V. (2008). Living with increasing floods: Insights from a rural Philippine community. *Disaster Prevention and Management*, 17(3), 383-395.

Gaillard, J., & Pangilinan, M. (2010). Research Note: Participatory Mapping for Raising Disaster Risk Awareness Among the Youth. *Journal of Contingencies and Crisis Management*, 18(3).

Gaillard, J., & Cadag, J. (2012). From marginality to further marginalization: Experiences from the victims of the July 2000 Payatas trashslide in the Philippines. *Jàmbá: Journal of Disaster Risk Studies*, 2(3), 197-215.

Garcia, R. (2014, February 28). 'Recto University': You name it, they have it! *Inquirer.net*. Retrieved from <http://lifestyle.inquirer.net/152690/recto-university-you-name-it-they-have-it>

Gavieta, R., & Onate, C. (1997). Building regulations and disaster mitigation: The Philippines. *Building Research & Information*, 25(2), 120-123.

- Geertz, C. (1993). Ethnic conflict: Three alternative terms. *Common Knowledge*, 2(3), 54-65.
- Gibbs, L., Mutch, C., O'Connor, P., & MacDougall, C. (2013). Research with, by, for and about children: Lessons from disaster contexts. *Global Studies of Childhood*, 3(2), 129-141.
doi: 10.2304/gsch.2013.3.2.129
- Glasser, I., & Bridgman, R. (1999). *Braving the Street: The Anthropology of Homelessness*. Oxford, UK: Berghahn Books.
- Global Facility for Disaster Risk Reduction (GFDRR). (2014). *Philippines: Country Program Update, May 2014*. Retrieved from
<https://www.gfdr.org/sites/gfdr/files/region/PH.pdf>
- Godschalk, D. (2003). Urban hazard mitigation: Creating resilient cities. *Natural Hazards Review*, 4(3), 136-143.
- Guha-Sapir, D., Hoyois, P., & Below, R. (2013). *Annual Disaster Statistical Review 2013: the number and trends*. Louvain-la-Neuve, Belgium: Centre for Research on the Epidemiology of Disasters (CRED). Retrieved from
http://www.cred.be/sites/default/files/ADSR_2013.pdf
- Gray, C., Frankenberg, E., Gillespie, T., Sumantri, C., & Thomas, D. (2009). *Population Displacement and Mobility in Sumatra after the Tsunami*. Retrieved from
<http://iussp2009.princeton.edu/papers/90318>
- Greene, G., Paranjothy, S., & Palmer, S. (2015). Resilience and vulnerability to the psychological harm from flooding: the role of social cohesion. *American Journal of Public Health*, 105(9), 1792-1795.
- Greene, J. C., & Caracelli, V. (1997). Defining and describing the paradigm issue in mixed-method evaluation. In J. C. Greene & V. J. Caracelli (Eds.), *Advances in mixed-method*

evaluation: The challenges and benefits of integrating diverse paradigms (pp. 5-17).

(New Directions for Evaluation, No. 74). San Francisco: Jossey-Bass.

Greenough, P., Lappi, M., Hsu, E., Fink, S., Hsieh, Y., Vu, A. & Kirsch, T. (2008). Burden of disease and health status among Hurricane Katrina–displaced persons in shelters: A population-based cluster sample. *Annals of Emergency Medicine*, 51(4), 426-432.

Grbich, C. (2013). *Qualitative data analysis: An introduction*. (2nd ed.). London, UK: Sage.

Guba, E., & Lincoln, Y. (2005). Paradigmatic controversies, contradictions and emerging influences. In N. Denzin & Y. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* 3rd ed. (pp.191-215). Thousand Oaks, CA: Sage.

Gulle, R. (2010). Daghang Salamat, Ondoy. In E. Or (Ed.), *After the Storm: Stories on Ondoy* (pp. 27-37). Pasig City, Philippines: Anvil Publishing.

Gultiano, S., & Xenos, P. (2004). *Age structure and urban migration of youth in the Philippines*. Paper presented at the Age-Structural Transitions: Demographic Bonuses, But Emerging Challenges for Population and Sustainable Development, Paris.

Gurgel, R., Da Fonseca, J., Neyra-Castaneda, D., Gill, G., & Cuevas, L. (2004). Capture-recapture to estimate the number of street children in a city in Brazil. *Archives of disease in childhood*, 89(3), 222-224.

Habitat for Humanity International. (2012). *Disaster Response Shelter Catalogue*. Americus, GA.

Habito, C. (2012, June 25). No free lunch: Economic growth for all. *Philippine Daily Inquirer*. Retrieved from <http://opinion.inquirer.net/31439/economic-growth-for-all>

Harris, M. S., Johnson, K., Young, L., & Edwards, J. (2011). Community reinsertion success of street children programs in Brazil and Peru. *Children and Youth Services Review*, 33(5), 723-731.

- Hayami, A. (2010). *Estimation of Spanish Influenza Mortality in Imperial Japan: 1918-20*. Paper presented at the Demographic Responses to Economic and Environmental Crises, Reitaku, Japan.
- Heijmans, A., & Victoria, L. (2001). Citizenry-based & development-oriented disaster response. *Center for Disaster Preparedness and the Citizens' Disaster Response Center*. Retrieved 04/03/2013 from http://www.preventionweb.net/files/727_CBDODR2001.pdf
- Hindin, M. J. (2005). Family dynamics, gender differences and educational attainment in Filipino adolescents. *Journal of Adolescence*, 28(3), 299-316.
- Hinkin, T. (1998). *A brief tutorial on the development of measures for use in survey questionnaires*. Retrieved from Cornell University site at <http://scholarship.sha.cornell.edu/cgi/viewcontent.cgi?article=1515&context=articles>
- Hning, D., & van der Heijden, P. (2009). Recent developments in life and social science applications of capture recapture methods. *Advanced Statistical Analysis*, 93(13).
- Hofstede, G. & McCrae, R. (2004). Personality and Culture Revisted: Linking Traits and Dimensions of Culture. *Cross-Cultural Research*, 38(52).
- Holiday, A. (2007). *Doing & Writing Qualitative Research*. (2nd ed.). Thousand Oaks, CA: Sage.
- Hufana, L., Cajita, J., Morante, L., Lopez, J., Tan, C., Mikkelsen, L., & Aung, E. (2009). *Assessing the production, quality and use of national vital statistics: a case study of the Philippines*. University of Queensland, Health Information Systems Knowledge Hub. Retrieved from <http://www.uq.edu.au/hishub/docs/DN02/HISHUB-DN02-06-WEB-7Mar12.pdf>
- Hufana, L. (2010). Civil registration and vital statistics: Philippines. Presentation at the 11th National convention on Statistics, Manila, Philippines. October 4-5, 2010.
- Huitima, D., Mostert, E., Egas, W., Moellenkamp, S., Pahl-Wostl, C. & Yalcin, R. (2009).

Adaptive water governance: Assessing the institutional prescriptions of adaptive (co)-management from a governance perspective and defining a research agenda. *Ecology and Society*, 14(1), 26.

Human Rights Watch. (2009). *"You Can Die Anytime": Death Squad Killings in Mindanao*.

Retrieved from

http://www.hrw.org/sites/default/files/reports/philippines0409webwcover_0.pdf

Hunter, C. (2012). Is resilience still a useful concept when working with children and young people? *Journal of the Home Economics Institute of Australia*, 19(1), 45-52.

Hutchcroft, P., & Rocamora, J. (2003). Strong Demands and Weak Institutions: The Origins and Evolution of the Democratic Deficit in the Philippines. *Journal of East Asian Studies*, 3, 259-292.

Hutton, D., & Haque, C. (2004). Human Vulnerability, Dislocation and Resettlement: Adaptation Processes of River-bank Erosion-induced Displacees in Bangladesh. *Disasters*, 28(1), 41-62.

International Federation of Red Cross and Red Crescent Societies. (2009). *World Disasters Report 2009. Focus on early warning, early action*. Retrieved from <http://www.ifrc.org/Global/WDR2009-full.pdf>

International Federation of Red Cross and Red Crescent Societies. (2010). *World Disasters Report 2010. Focus on urban risk*. Retrieved from <http://www.ifrc.org/Global/WDR2010-full.pdf>

International Organization for Migration. (2010). *World Migration Report 2010: The Future of Migration: Building Capacities for Change*. Geneva, Switzerland. Retrieved from http://publications.iom.int/bookstore/free/WMR_2010_ENGLISH.pdf

Intergovernmental Panel on Climate Change (2001). *Climate Change 2001: Impacts*,

Adaptations and Vulnerability, Contribution of working group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. In J.J. McCarthy, O.F. Canziani, N.A. Leary, D.J. Dokken and K.S. White (Eds.). Cambridge, UK: Cambridge University Press.

Intergovernmental Panel on Climate Change (2007). Climate change 2007: Impacts, adaptation and vulnerability, Contribution of working group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. In M. Parry, O. Canziani, J. Palutikof, P. van der Linden & C. Hanson (Eds.), (pp. 7-22). Cambridge, UK: Cambridge University Press.

James, H., & Paton, D. (2015). Social capital and the cultural context of disaster recovery outcomes in Myanmar and Taiwan. *Global Change, Peace & Security*, 27(2), 207-228. doi: 10.1080/14781158.2015.1030380

Jensen, E., & Ahlburg, D. (2004). Why does migration decrease fertility? Evidence from the Philippines. *Population Studies*, 58(2), 219-231.

Joerin, J., & Shaw, R. (2011). Mapping Climate and Disaster Resilience in Cities *Community, Environment and Disaster Risk Management* (Vol. 6, pp. 47-61): Emerald Group Publishing Limited.

Johnson, R., & Onwuegbuzie, A. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, 33(7), 14-26.

Kaminsky, D. C. (1995). Street children. *World Health*, 48, 26-26.

Kanbur, R., Rhee, C., & Zhuang, J. (2014). *Inequality in Asia and the Pacific: Trends, drivers and policy implications*. London, UK & Manila, The Philippines: Routledge & the Asian Development Bank.

Kang, D. (2003). *Crony Capitalism: Corruption and Development in South Korea and the*

Philippines. Cambridge, UK: University Press.

Kawachi, I., & Berkman, L. (2000). Social cohesion, social capital, and health. In L.

Berkman and I. Kawachi (Eds.), *Social Epidemiology* (pp. 174-190). New York: Oxford University Press.

Kawaguchi, H. (2010). *Decrease of Child Deaths from Smallpox After the Introduction of Vaccination on the Outskirts of Edo (Tokyo), Japan*. Paper presented at the Demographic Responses to Economic and Environmental Crises, Reitaku, Japan.

Kelly, P., & Adger, W. (2000). Theory and practice in assessing vulnerability to climate change and facilitation in adaptation. *Climatic Change*, 47(4), 325-352.

Klein, R., Nicholls, R., & Thomalla, F. (2003). Resilience to natural hazards: How useful is this concept? *Global Environmental Change Part B: Environmental Hazards*, 5(1-2), 35-45.
doi:10.1016/j.hazards.2004.02.001

Kombarakaran, F. (2004). Street children of Bombay: their stresses and strategies of coping. *Children and Youth Services Review*, 26, 853-871.

Kraft, A., Nguyen, K-H., Jimenez-Soto, E., & Hodge, A. (2013). Stagnant neonatal mortality and persistent health inequality in middle-income countries: A case study of the Philippines. *PLoS One*, 8(1), e53696. doi: [10.1371/journal.pone.0053696](https://doi.org/10.1371/journal.pone.0053696)

Krasny, M., Kalbacker, L., Stedman, R., & Russ, A. (2015). Measuring social capital among youth: Applications in environmental education. *Environmental Education Research*, 21(1), 1-23. doi: 10.1080/13504622.2013.843647

Kuhn, R. (2009, March-April). *Facts on the Seashore: Conflict, Population Displacement, and Coastal Vulnerability on the Eve of the Sri Lankan Tsunami*. Paper presented at the meeting of Population Association of America, Washington, D.C.

- Kumpulainen, S. (2006). Vulnerability concepts in hazard and risk assessment. In P. Schmidt-Thome (Ed.), *Natural and Technological Hazards and Risks Affecting the Spatial Development of European Regions Vol. 42* (pp. 65-74). Helsinki: Centre for Urban and Regional Studies.
- Labog-Javellana, J., & Zamora, F. (2010). Manuel Lopez appointed RP envoy to Japan. *Philippine Daily Inquirer*. Retrieved from <http://newsinfo.inquirer.net/inquirerheadlines/nation/view/20101010-296898/Manuel-Lopez-appointed-RP-envoy-to-Japan>
- La Greca, A., Lai, B., Joormann, J., Auslander, B., & Short, M. (2013). Children's risk and resilience following a natural disaster: Genetic vulnerability, posttraumatic stress and depression. *Journal of Affective Disorders*, 151(3), 860-867. doi: 10.1016/j.jad.2013.07.024
- Lalor, K. (1999). Street Children: A comparative perspective. *Child Abuse & Neglect*, 23(8), 759-770. doi: [http://dx.doi.org/10.1016/S0145-2134\(99\)00047-2](http://dx.doi.org/10.1016/S0145-2134(99)00047-2)
- Lanuza, G. (2004). The Theoretical State of Philippine Youth Studies: Current trends and future directions. *Young*, 12(4), 357-376.
- Lasco, R., Puhlin, F., Jaranilla-Sanchez, P., Delfino, R., Gerpacio, R., & Garcia, K. (2009). Mainstreaming adaptation in developing countries: The case of the Philippines. *Climate and Development*, 1, 130-146.
- Lavell, A., & Oppenheimer, M. (2012). Climate Change: New Dimensions in Disaster Risk, Exposure, Vulnerability and Resilience. In C. B. Field, V. Barros, T. F. Stocker, D. Qin, D. J. Dokken, K. L. Ebi, M. D. Mastrandea, K. J. Mach, G. Plattner, S. Allen, M. Tignor & P. Midgley (Eds.), *Managing the risks of extreme events and disasters to advance climate change adaptation* (pp.25-64). Cambridge, UK: Cambridge University Press.

- Le Roux, J., & Smith, C. S. (1998). Causes and characteristics of the street child phenomenon: A global perspective. *Adolescence*, 33(131), 683-688.
- Leone, F., & Gaillard, J. C. (1999). Analysis of the institutional and social responses to the eruption and the lahars of Mount Pinatubo volcano from 1991 to 1998. *GeoJournal*, 49(2), 223-238.
- Liu, T. (2010). *Determinants of Reconstruction after Major Earthquakes in Taiwan*. Paper presented at the Demographic Responses to Economic and Environmental Crises, Reitaku, Japan.
- Lo, J. (2010). *The Impact of the Chi-chi Earthquake on Demographic Changes: An Event History Analysis*. Paper presented at the Demographic Responses to Economic and Environmental Crises, Reitaku, Japan.
- Longstaff, P. (2005). *Security, resilience, and communication in unpredictable environments such as terrorism, natural disasters, and complex technology*. Program on Information Resources and Policy: Harvard University. Retrieved from http://pirp.harvard.edu/pubs_pdf/longsta/longsta-p05-3.pdf
- Lonigan, C., Shannon, M., Finch, A., Daughterty, T., & Taylor, C. (1991). Children's reactions to a natural disaster: Symptom severity and degree of exposure. *Advances in Behavior Research and Therapy*, 13(3), 135-154.
- Lopez Holdings Corp. (2001). BayanMap invests in FindMe.com. Retrieved from Lopez Holdings webpage: http://lopez-holdings.ph/investor_relations.php?id=325
- Lorenz, D. (2013). The diversity of resilience: contributions from a social science perspective. *Natural Hazards*, 67, 7-24. doi: 10.1007/s11069-010-9654-y
- Lorica, G. (n.d.). *Census-taking in the Philippines*. Retrieved from <http://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse>

Luna, E. (2001). Disaster mitigation and preparedness: the case of NGOs in the Philippines.

Disasters, 25(3), 216-226.

McAlpine, K., Henley, R., Mueller, M., & Vetter, S. (2010). A survey of street children in

Northern Tanzania: How abuse or support factors may influence migration to the

street. *Community Mental Health Journal*, 46:26-32. doi: 10.1007/s10597-009-9196-5

McFarlane, A. (1987). Posttraumatic phenomena in a longitudinal study of children following a

natural disaster. *Journal of the American Academy of Child & Adolescent Psychiatry*,

26(5), 764-769. doi: 10.1097/00004583-1987090000-00025

McFarlane, A., & Van Hooff, M. (2009). Impact of childhood exposure to a natural disaster on

adult mental health: 20-year longitudinal follow-up study. *British Journal of Psychiatry*,

195(2), 142-148. doi: 10.1192/bjp.bp.108.054270

McGeown, K. (2012, October 24). Philippine politics - it's a family affair. *BBC News*. Retrieved

from www.bbc.co.uk/news/magazine-19994432

Madrid, B. (n.d.). Towards a national survey on violence against children. Retrieved from

https://srsg.violenceagainstchildren.org/sites/default/files/consultations/better_data/presentations/bernadette_madrid_towards_a_national_survey_on_vac.pdf

Mahapatra, P., Shibuya, K., Lopez, A., Coullare, F., Notzon, F., Rao, C., Sretzer, S. (2007). Civil

registration systems and vital statistics: Successes and missed opportunities. *Lancet*.

Retrieved from <http://cdrwww.who.int/healthinfo/statistics/WhoCounts2.pdf>

Maller, C., & Stenger, Y. (2011). Housing, heat stress, and health in a changing climate:

promoting the adaptive capacity of vulnerable households, a suggested way forward.

Health Promotion International, 26(4), 492-498.

Mandleco, B., & Peery, J. (2000). An Organizational Framework for Conceptualizing Resilience

in Children. *Journal of Child and Adolescent Psychiatric Nursing*, 13(3), 99-111.

Manyena, S. (2006). The concept of resilience revisited. *Disasters*, 30(4), 434-450.

Maplecroft. (2012). Climate Change and Environmental Risk Atlas 2013. Retrieved from

http://maplecroft.com/about/news/ccvi_2013.html

Margold, J. (1995). Egalitarian ideals and exclusionary practices: U.S. pedagogy in the colonial Philippines. *Journal of Historical Sociology*, 8(4), 375-394.

Marín, A., Gelcich, S., Araya, G., Olea, G., Espíndola, M., & Castilla, J. C. (2010). The 2010 tsunami in Chile: Devastation and survival of coastal small-scale fishing communities. *Marine Policy*, 34(6), 1381-1384.

Marshall, B., Astone, N., Blum, R., Jejeebhoy, S., Delaney-Moretlwe, S., Brahmbhatt, H., Olumide, A., & Wang, Z. (2014). Social capital and vulnerable urban youth in five global cities. *Journal of Adolescent Health*, 55(6), S21-S30.
doi:10.1016/j.jadohealth.2014.08.021

Martin, G., & Magne, M. (2015). Agricultural diversity to increase adaptive capacity and reduce vulnerability of livestock systems against weather variability: A farm-scale simulation study. *Agriculture, Ecosystems & Environment*, 199, 301-311

Martin, M-L. (2010). Child participation in disaster risk reduction: The case of flood-affected children in Bangladesh. *Third World Quarterly*, 31(8), 1357-1375. doi:
10.1080/01436597.2010.541086

Masten, A. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychology*, 23(2), 493-506. doi: 10.107/S0954579411000198

Masten, A., & Narayan, A. (2012). Child Development in the Context of Disaster, War and Terrorism: Pathways of Risk and Resilience. *The Annual Review of Psychology*, 63, 227-

- Masten, A. (2014). Global perspectives on resilience in children and youth. *Child Development*, 85(1), 6-20. doi: 10.1111/cdev.12205
- Matyas, D., & Pelling, M. (2014). Positioning resilience for 2015: the role of resistance, incremental adjustment and transformation in disaster risk management. *Disasters*, 39(1), s1-s18. doi: 10.1111/disa.12107
- Merrill, R., Njord, L., Njord, R., Read, C., & Pachano, J. (2010). The effect of family influence on indicators associated with street life among Filipino street children. *Vulnerable Children and Youth Studies: An International Interdisciplinary Journal for Research, Policy and Care*, 5(2), 142-150. doi: 10.1080/17450121003615369
- Mertens, D. (1998). *Research methods in education and psychology: Integrative diversity with quantitative and qualitative approaches*. London: Sage.
- Michel, J., Michel, M., Nadan, J., & Nowzari, H. (2013). The street children of Manila are affected by early-in-life periodontal infection: Description of a treatment modality: Sea salt. *Journal of the Israel Dental Association*, 30(1): 1-9.
- Miles, M., & Huberman, M. (1994). *Qualitative analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.
- Mitchell, T., Tanner, T., & Haynes, K. (2009). Children as agents of change for Disaster Risk Reduction: Lessons from El Salvador and the Philippines. In T. Mitchell & N. Hall (Eds.), *Children in a changing climate*, Brighton, UK: Institute of Development Studies.
- Morrow, B. (1999). Identifying and mapping community vulnerability. *Disasters*, 23(1), 1-18.
- Moser, C. (1998). The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies. *World Development*, 26(1), 1-19.

- Mugisha, F. (2006). School enrolment among urban non-slum, slum and rural children in Kenya: Is the advantage eroding? *International Journal of Educational Development*, 26(5), 471-482.
- Murphy, P., & Hogan, T. (2012). Discordant order: Manila's neo-patrimonial urbanism. *Thesis Eleven*, 112(1), 10-34.
- Muruyama, S., & Higashi, N. (2010). *Smallpox and Population Change in 18th and 19th Century Amakusa Islands, Kyusyu, Japan*. Paper presented at the Demographic Responses to Economic and Environmental Crisis, Reitaku, Japan.
- Nakagawa, Y., & Shaw, R. (2004). Social capital: A missing link to disaster recovery. *International Journal of Mass Emergencies and Disasters*, 22(1), 5-34.
- National Health and Medical Research Council (NHMRC), Australian Research Council, & Australian Vice-Chancellors' Committee. (2007 - updated May 2015). *National Statement on Ethical Conduct in Human Research*. Retrieved from http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72_national_statement_130207.pdf
- National Disaster Coordinating Council. (2009). *Final Report on Tropical Storm Ondoy and Typhoon Pepeng*. Quezon City, Philippines: National Disaster Management Center.
- National Statistical Coordination Board (NSCB). (n.d.). Children in the Philippines. Retrieved from <http://nap.psa.gov.ph/children/dataLimits.asp>
- National Statistical Coordination Board of the Philippines. (n.d.). Definition of Child. Retrieved from <http://www.nscb.gov.ph/children/defTerms.asp>
- National Statistics Office [Philippines]. (n.d.). *Civil registration system in the Philippines*. Retrieved from http://www.unsiap.or.jp/e-learning/el_material/PSS/1312_vital2/s4_civil_registration.pdf

National Statistics Office [Philippines]. (1999). *Census 2000 Enumerator's Manual*. Retrieved from <http://census.gov.ph/nsoda/index.php/catalog/78/technicaldocuments>

National Statistics Office [Philippines]. (2001). *2001 Survey on Children*. Final report. Manila, Philippines: International Labour Organization.

National Statistics Office [Philippines]. (2010). Statistics on Filipino Children. *Journal of Philippine Statistics*, 61(4). Retrieved from <https://psa.gov.ph/sites/default/files/4thQ2010.pdf>

National Statistics Office & International Labour Organisation-International Program on the Elimination of Child Labor (NSO & ILO-IPEC). (2011). *2011 Survey on Children*. Manila, Philippines: International Labour Organization.

National Statistics Office [Philippines]. (2012a). *Philippines in Figures*. Retrieved from <http://www.census.gov.ph/tags/philippines-figures>

National Statistics Office [Philippines]. (2012b). *Technical Notes on the 2000 Census of Population and Housing*. Retrieved from <http://web0.psa.gov.ph/content/technical-notes-2000-census-population-and-housing-cph>

National Statistics Office – National Capital Region (NSO-NCR). (2012). Special Release: 2010 Census of Population and Housing – Final Results. Retrieved from http://www.nso-ncr.ph/special%20release/2010%20CPH%20Special%20Release_NCR.pdf

National Statistics Office [Philippines]. (2014). *Philippines in figures: 2014*. Retrieved from <http://www.census.gov.ph/sites/default/files/2014%20PIF.pdf>

Natividad, J. (2013). Teenage Pregnancy in the Philippines: Trends, correlates and data sources. *Journal of the ASEAN Federation of Endocrine Societies*, 28:1. DOI: <http://dx.doi.org/10.15605/jafes.028.01.07>

- Neuman, W.L. (2011). *Social Research Methods: Qualitative and Quantitative Approaches* (7th ed.). Boston, MA: Pearson/Allyn and Bacon.
- Neumayer, E., & Plumper, T. (2007). The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981-2002. *Annals of the Association of American Geographers*, 97(3), 551-566.
- Newman, S., Carroll, M., Jakes, P., & Higgins, L. (2014). Hurricanes and wildfires: Generic characteristics of community adaptive capacity. *Environmental Hazards*, 13(1), 21-37.
doi: 10.1080/17477891.2013.841090
- Njord, L., Merrill, R., Lindsay, R., & Pachana, J. (2010). Drug Use Among Street Children and Non-Street Children in the Philippines. *Asia-Pacific Journal of Public Health*, 22(2), 203-211.
- Norris, F., & Stevens, S. (2007). Community resilience and the principles of mass trauma intervention. *Psychiatry*, 70(4), 320-328.
- Norris, F., Stevens, S., Pfefferbaum, B., Wyche, K., & Pfefferbaum, R. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American Journal of Community Psychology*, 41(1), 127-150.
- Norris, F., Tracy, M., & Galea, S. (2009). Looking for resilience: Understanding the longitudinal trajectories of responses to stress. *Social Science & Medicine*, 68(12), 2190-2198.
- Ocampo, P. (2002). Protecting children's rights in a developing country. *Pediatrics International*, 44, 570-575.
- O'Kane, C. (2002). Marginalized children as social actors for social justice in South Asia. *British Journal of Social Work*, 32(6), 697-710.
- O'Keefe, P., Westgate, K., & Wisner, B. (1976). Taking the naturalness out of natural disasters. *Nature*, 260, 566-567.

- Olaivar, V. (2007). Use of contemporary practices in census mapping: The Philippine experience. Retrieved from the UN STATS webpage:
http://unstats.un.org/unsd/censuskb20/Attachments/2007PHL_bangkok-GUID2d1bdfc864134958adad5891fcd99c6b.pdf
- Orbeta, A., & Pernia, E. (1999). Population Growth and Economic Development in the Philippines: What Has Been the Experience and What Must Be Done? *Discussion Paper Series No. 99-22*. Makati City, Philippines: Philippine Institute for Development Studies.
- Orbeta, A. (2005). Poverty, vulnerability and family size: Evidence from the Philippines. *Research Paper Series No.68*. Tokyo, Japan: The Asian Development Bank Institute.
- Orbeta, A. (2006). Poverty, fertility preferences and family planning practice in the Philippines. *Philippine Journal of Development*, 33(61), 129-160.
- Orme, J., & Seipel, M. (2007). Survival strategies of street children in Ghana: A qualitative study. *International Social Work*, 50(4), 489-499.
- Ostrea, E., Ostrea, A., Villanueva-Uy, M., Chiodo, L., & Janisse, J. (2014). Alluvial and riparian soils as major sources of lead exposure in young children in the Philippines: The role of floods. *Environmental Science Pollution Resources*, 22, 5082-5091.
- Owoaje, E., Adebisi, A., & Asuzu, M. (2009). Socio-demographic characteristics of street children in rural communities undergoing urbanization. *Annals of Ibadan Postgraduate Medicine*, 7(1), 10-15.
- Oxfam. (2014). *Beyond safe land: why security of land tenure is crucial for the Philippines' post-Haiyan recovery*. Joint agency briefing paper, August 2014. Retrieved from https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/bp-beyond-safe-land-security-tenure-philippines-110814-en.pdf
- Padolina, C. (2012, January). *Citizen's Disaster Response Centre Experience of Urban Response -*

Lessons from the Philippines. Paper presented at the meeting of Active Learning Network for Accountability and Performance in Humanitarian Action, Chennai, India.

Panter-Brick, C. (2002). Street Children, Human Rights, and Public Health: A Critique and Future Directions. *Annual Review of Anthropology*, 31,147-171. doi: 10.2307/4132875

Park, S., Marshall, N., Jakku, E., Dowd, A., Howden, S., Mendham, E., & Fleming, A. (2012). Informing adaptation responses to climate change through theories of transformation. *Global Environmental Change*, 22,115-126.

Parrenas, R. S. (2003). The care crisis in the Philippines: children and transnational families in the new global economy. In B. Ehrenreich & A. Hochschild (Eds.), *Global woman: nannies, maids, and sex workers in the new economy* (pp. 39-54). New York, NY: Metropolitan Books.

Paton, D., & Johnston, D. (2001). Disasters and communities: vulnerability, resilience and preparedness. *Disaster Prevention and Management*, 10(4), 270-277.

Paton, D. (2008). Risk communication and natural hazard mitigation: how trust influences its effectiveness. *International Journal of Global Environmental Issues*, 8(1), 2-16.

Paton, D., Smith, L., Daly, M., & Johnston, D. (2008). Risk perception and volcanic hazard mitigation: Individual and social perspectives. *Journal of Volcanology and Geothermal Research*, 172(3), 179-188.

Paton, D., Sagala, S., Okada, N., Jang, L., Petra, B., & Gregg, C. (2010). Making sense of natural hazard mitigation: Personal, social and cultural influences. *Environmental Hazards*, 9(2), 183-196.

Paton, D. (2012, September). *Facilitating Adaptive Capacity for Natural Hazards: Exploring cross cultural and cultural perspectives*. Paper presented at the meeting of Australian Demographic and Social Research Institute, Canberra, Australia.

- Paul, S., & Routray, J. (2009). Flood proneness and coping strategies: the experiences of two villages in Bangladesh. *Disasters*, 34(2), 489-508.
- Peek, L. (2008). Children and disasters: understanding vulnerability, developing capacities, and promoting resilience – an introduction. *Children, Youth and Environments*, 18(1), 1-29.
- Pelling, M. (1997). What determines vulnerability to floods; a case study in Georgetown, Guyana. *Environment and Urbanization*, 9(1), 203-226.
- Pelling, M. (2003). *The vulnerability of cities: natural disasters and social resilience*. London, UK: Earthscan.
- Perez, R. (2002). *Assessment of vulnerability and adaptation to climate change in the Philippines Coastal Resources Sector*. Manila: National Disaster Reduction Branch, Philippine Atmospheric, Geophysical and Astronomical Services Administration.
- Philippine Atmospheric, Geophysical and Astronomical Services (PAGASA). (2013). *Climate of the Philippines*. Retrieved from <http://kidlat.pagasa.dost.gov.ph/cab/statfram.htm>
- Philippine Statistics Authority (PSA). (n.d.). Population of the Philippines: Census Years 1799 to 2010. Retrieved from http://www.nscb.gov.ph/secstat/d_popn.asp
- Pogoy, F., & De Guia, T. (2005). Lung function test of toluene abusers among urban street children ages 7 to 18 years old. *Chest*, 128(4). Retrieved from <http://journal.publications.chestnet.org/article.aspx?articleID=1213325>
- Poortinga, W. (2012). Community resilience and health: The role of bonding, bridging, and linking aspects of social capital. *Health & Place*, 18, 286-295.
- Porio, E. (2009). Shifting spaces of power in Metro Manila. *City: analysis of urban trends, culture, theory, policy, action*, 13(1), 110-119. doi: 10.1080/13604810902726301
- Porio, E. & Crisol, C. (2004). Property rights, security of tenure and the urban poor in Metro

Manila. *Habitat International*, 28(2), 203-219. doi: 10.1016/S0197-3975(03)00068-7

Pornasodoro, K., Silva, L., Munarriz, M., Estepa, B., & Capaque, C. (2014). Flood risk of Metro Manila barangays: A GIS based assessment using multi-criteria techniques. *Journal in Urban and Regional Planning*, 1(1), 51-72.

Prowse, M. (2008, November 28). Pro-poor adaptation: The role of assets. *Overseas Development Institute*. Retrieved from <http://www.odi.org.uk/opinion/2501-pro-poor-adaptation-role-assets>

Pullum, T. (2010, March-April). *Estimating Changes in Orphanhood after the January 2010 Haiti Earthquake*. Paper presented at the meeting of Population Association of America, Washington, D.C.

Quimpo, N. (2008). *Contested Democracy and the Left in the Philippines after Marcos*. New Haven, Connecticut: Yale University Southeast Asian Studies.

Racelis, M., & Ick., J. (Eds.). (2001). *Bearers of Benevolence: The Thomasites and public education in the Philippines*. Anvil, Manila.

Rajkumar, A., Premkumar, T., & Tharyan, P. (2008). Coping with the Asian tsunami: Perspectives from Tamil Nadu, India on the determinants of resilience in the face of adversity. *Social Science & Medicine*, 67(5), 844-853.

Railway Children Africa (RCA). (2014). *Children on the Streets of Mwanza*. Retrieved from http://www.streetchildrenresources.org/wp-content/uploads/gravity_forms/1-07fc61ac163e50acc82d83eee9ebb5c2/2014/04/Head-count-Mwanza-2013-Full-Report-FINAL.pdf

Reololas, A. (2016). Private email to researcher.

Republic of the Philippines. (1976). Presidential Decree No. 940 – Establishing Manila as the Capital of the Philippines and as the Permanent Seat of the National Government.

Retrieved from

<http://www.chanrobles.com/presidentialdecrees/presidentialdecreeno940.html#.Ut9qZLSwrlU>.

Republic of the Philippines. (2014). *Civil registration and vital statistics investment plan 2015-2019*. Retrieved from https://issuu.com/alexdesigns/docs/csrv_inside_pages_v4

Ricci, J., & Becker, S. (1996). Risk factors for wasting and stunting among children in Metro Cebu, Philippines. *American Journal of Clinical Nutrition*, 63, 966-975.

Rigg, J., Grundy-Warr, C., Law, L., & Tan-Mullins, M. (2008). Grounding a natural disaster: Thailand and the 2004 tsunami. *Asia Pacific Viewpoint*, 49(2), 137-154.

Ritualo, A., Castro, C., & Gormly (2003). Measuring child labor: Implications for policy and program design. *Comparative Labor Law & Policy Journal*, 24(2), 401-434.

Robredillo, L. (1996). The Challenges of the Times and the CBCP's Responses: An Historical Essay on the Catholic Bishops' Conference of the Philippines. *Bishops' Symposium on the 50 Years of CBCP*, 24 January 1996.

Roces, M., White, M., Dayrit, M., & Durkin, M. E. (1992). Risk factors for injuries due to the 1990 earthquake in Luzon, Philippines. *Bulletin of the World Health Organization*, 70(4), 509.

Roces, M. (2000). Kinship Politics in Post-War Philippines: The Lopez Family, 1945-1989. *Modern Asian Studies*, 34(1), 181-221.

Roma-Sianturi, D. (2009). "Pedagogic Invasion": The Thomasites in Occupied Philippines. *Kritika Kultura*, 12, 5-26.

Rosario-Braid, F., Tuazon, R., & Lopez, A. (Eds.) (2011). *The future of Filipino children: Development issues and trends*. Asian Institute of Journalism and Communication, UNICEF. Retrieved from <http://www.aijc.com.ph/Megatrend%20final%20complete.pdf>

- Ruiz, H. (2006). *A Study of Policies and Programmes in the Philippines Addressing the Right of Street Children to Education*. Retrieved from http://www.streetchildren.org.uk/uploads/Publications/1_policies_and_programmes.pdf
- Ruwanpura, K. (2008). Temporality of disasters: The politics of women's livelihoods 'after' the 2004 tsunami in Sri Lanka. *Singapore Journal of Tropical Geography*, 29(3), 325-340.
- Sagala, S., Okada, N., & Paton, D. (2009). Predictors of Intention to Prepare for Volcanic Risks in Mt Merapi, Indonesia. *Journal of Pacific Rim Psychology*, 3(2), 47-54.
- Sakellariou, C., & Lall, A. (2000). Child Labour in the Philippines: Determinants and Effects. *Asian Economic Journal*, 14(3), 233-253.
- Santos, K. (2010, February 5). Philippines: NGO teaches street kids to save. *Highbeam Business*. Retrieved from <http://business.highbeam.com/409433/article-1G1-218342181/philippines-ngo-teaches-street-kids-save>
- Sapienza, J., & Masten, A. (2011). Understanding and promoting resilience in children and youth. *Current Opinion in Psychiatry*, 24(4), 267-273. doi: 10.1097/YCO.0b013e32834776a8
- Save the Children. (2008). *In the Face of Disaster: Children and Climate Change*. London, UK: International Save the Children Alliance.
- Scerri, C. (2009). Sagip or huli? Rescue of street children in Caloocan, Manila, Pasay and Quezon Cities. Manila, The Philippines: Bahay Tuluyan & UNICEF.
- Scheffran, J., & Battaglini, A. (2011). Climate and conflicts: the security risks of global warming. *Regional Environmental Change*, 11, 27-39.
- Schipper, L., & Pelling, M. (2006). Disaster risk, climate change and international development: scope for, and challenges to, integration. *Disasters*, 30(1), 19-38.

- Selby, D., & Kagawa, F. (2012). *Disaster Risk Reduction in School Criteria: Case Studies from Thirty Countries*. Geneva, Switzerland: United Nations Children Fund.
- Sen, A. (2000). *Social exclusion: Concept, application and scrutiny*. Social Development Papers No. 1. Manila: Office of Environment and Social Development, Asian Development Bank.
- Shaw, R., & Goda, K. (2004). From disaster to sustainable civil society: The Kobe experience. *Disasters*, 28(1), 16-40.
- Sherman, S., Plitt, S., Hassan, S., Cheng, Y., & Zafar, T. (2005). Drug use, street survival, and risk behaviours among street children in Lahore, Pakistan. *Journal of urban health: Bulletin of the New York Academy of Medicine*, 82(3), iv113-124. doi:10.1093/jurban/jti113
- Silva, T. (1996). Poverty and Uneven Development: Reflections from a street children project in the Philippines. *Childhood*, 3, 279-282.
- Silva, T. (1999). *Empowering Street Children*. Paper presented at the World Forum, Helsinki, Finland.
- Silva, T. (2002). Preventing child exploitation on the streets in the Philippines. *The Lancet*, 360.
- Singh, A., & Purohit, B. (2010). Street Children as a Public Health Fiasco. *Peace Review: A Journal of Social Justice*, 23, 102-109.
- Skidmore, M., & Toya, H. (2002). Do natural disasters promote long-run growth? *Economic Inquiry*, 40(4), 664-687.
- Smit, B., Burton, I., Klein, R. & Wandel, J. (2000). An anatomy of adaptation to climate change and variability. *Climate Change*, 45, 223-251.
- Smit, B., & Pilifosova, O. (2003). Adaptation to climate change in the context of sustainable development and equity. Sustainable Development, Chapter 18 in *IPCC Working Group*

II: Impacts, Adaptation and Vulnerability. Retrieved from:

<http://www.ipcc.ch/ipccreports/tar/wg2/index.php?idp=641>

Smit, B., & Wandel, J. (2006). Adaptation, adaptive capacity and vulnerability. *Global Environmental Change*, 16, 282-292.

Smith, S., & McCarty, C. (1996). Demographic Effects of Natural Disasters: A Case Study of Hurricane Andrew. *Demography*, 33(2), 265-275.

Sta. Maria, M., Martinez, C., & Diestro Jr., J. (2014). Typologies of Risk and Protection in the Lives of Street Children in Manila. *Youth Society*, 46(1), 112-131.

Stanley, J. (2011) Social Exclusion, in G. Currie (ed.) *New Perspectives and Methods in Transport and Social Exclusion Research*. Bingley, U.K.: Emerald Group.

Steckley, M., & Doberstein, B. (2011). Tsunami survivors' perspectives on vulnerability and vulnerability reduction: evidence from Koh Phi Phi Don and Khao Lak, Thailand. *Disasters*, 35(3), 465-487.

Stephenson, J., Newman, K., & Mayhew, S. (2010). Population dynamics and climate change: what are the links? *Journal of Public Health*, 32(2), 150-156.

Stephenson, S. (2001). Street children in Moscow: using and creating social capital. *The Sociological Review*, 49(4), 530-547.

Stevenson, T. (2007). Courage and resilience: Creating Filipino futures. *Futures*, 39(4), 463-474.

Sugden, C. (2008, Autumn). Rescue or ruin in Manila? *ANU Reporter*. Retrieved from http://info.anu.edu.au/mac/Newsletters_and_Journals/ANU_Reporter/095PP_2008/02PP_Autumn/manila.asp

Symaco, L. (2013) Geographies of social exclusion: Education access in the Philippines. *Comparative Education*, 49(3), 361-373. DOI: 10.1080/03050068.2013.803784

- Tajfel, H. (1982). *Social Identity and Intergroup Relations*. Cambridge, UK: Cambridge University Press.
- Tanner, T., Lazcano, J., Lussier, K., Polack, E., Oswald, K., Sengupta, A., & Rajabali, F. (2009). *Children, climate change and disasters: An annotated bibliography*. Brighton, UK: Institute of Development Studies.
- Tanner, T. (2010). Shifting the Narrative: Child-led Responses to Climate Change and Disasters in El Salvador and the Philippines. *Children & Society*, 24(4), 339-351.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Applied Social Research Methods Series, (Vol. 46). Thousand Oaks, CA: Sage.
- Tashakkori, A. & Teddlie, C. (2003). *Handbook of Mixed Methods in Social & Behavioral Research*. Thousand Oaks, CA: Sage.
- Tayag, J., & Punongbayan, R. (1994). Volcanic disaster mitigation in the Philippines: experience from Mt. Pinatubo. *Disasters*, 18(1), 1-15.
- Thomalla, F., Downing, T., Spanger-Siegfried, E., Han, G., & Rockström, J. (2006). Reducing hazard vulnerability: Towards a common approach between disaster risk reduction and climate adaptation. *Disasters*, 30(1), 39-48.
- Thomas de Benitez, S. (2011). *State of the World's Street Children: Research*. London, UK: Consortium for Street Children.
- Thomas, M., & Burnett, N. (2015). *The economic cost of out-of-school children in Southeast Asia*. Paris: UNESCO. Retrieved from <http://unesdoc.unesco.org/images/0023/002339/233993e.pdf>
- Thomas, S., & Thomas, S. (2004). Displacement and Health. *British Medical Bulletin*, 69(1), 115-127.

- Thomas, V., Albert, J. R., & Perez, R. (2012). *Examination of Intense Climate-Related Disasters in Asia-Pacific*. Discussion Paper Series. Philippine Institute for Development Studies. Makati City.
- Tilling, K. (2001). Capture-recapture methods—useful or misleading? *International Journal of Epidemiology*, 30, 12-14.
- Trazo, A. (n.d.). Geocoding and Census Mapping with GIS in the Philippines, PowerPoint Presentation. Databank and Information Services Division, NSO. Retrieved from http://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0CDgQFjAG&url=http%3A%2F%2Funstats.un.org%2Funsd%2Fdemographic%2Fmeetings%2Fegm%2FCensusMappingEGM07%2Fdocs%2FPPT%2FPhilippines.ppt&ei=gp2QVf_8M9bn8AXT4oW4DQ&usg=AFQjCNEhY14l8tVOO40_vmSm1S9kkxpKYg&sig2=fStp4UCYGBqRfZOMioEXug&bvm=bv.96783405,d.dGc
- Trochim, W., & Donnelly, J.P. (2006). *The research methods knowledge base*, 3rd ed. Cincinnati, OH: Atomic Dog.
- Ungar, M. (2012). Researching and theorizing resilience across cultures and contexts. *Preventive Medicine*, 55, 387-389.
- United Nations Children's Emergency Fund (UNICEF). (1984). *The State of the World's Children 1984*. UN Publications: Geneva.
- United Nations Children's Emergency Fund (UNICEF). (2006). *Ethiopia: Steady increase in street children orphaned by AIDS*. Retrieved from the UNICEF webpage: http://www.unicef.org/infobycountry/ethiopia_30783.html
- United Nations Children's Emergency Fund (UNICEF). (2010). *Proliferation of street children: A threat to MDGs. Global study on child poverty and disparities: Philippines* (Policy Brief no.5). Makati City, Philippines: J. Cuenca. Retrieved from

http://www.unicef.org/philippines/brief05_fnl.pdf

United Nations Children's Emergency Fund (UNICEF). (2011). *Children's vulnerability to climate change and disaster impacts in East Asia and the Pacific*. Retrieved from http://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKewjZrKn88I_MAhXENpQKHYZDCfUQFgghMAA&url=http%3A%2F%2Fwww.unicef.org%2Fenvironment%2Ffiles%2FClimate_Change_Regional_Report_14_Nov_final.pdf&usg=AFQjCNErNZUEhdaxH3K9X8n-6t3HMUmOQ&sig2=PgY6gP_DfGC7jeokZ54VUg

United Nations Children's Emergency Fund (UNICEF). (2012). *The State of the World's Children 2012: Children in an Urban World*. Retrieved from http://www.unicef.org/sowc2012/pdfs/SOWC%202012-Main%20Report_EN_13Mar2012.pdf

United Nations Children's Emergency Fund (UNICEF). (2014a). Convention on the Rights of the Child: FAQ's and Resources. Retrieved from http://www.unicef.org/crc/index_30225.html

United Nations Children's Emergency Fund (UNICEF). (2014b). Convention on the Rights of the Child: Protecting children's rights. Retrieved from http://www.unicef.org/crc/index_protecting.html

United Nations Convention on the Rights of the Child (UNCRC). (1989). Retrieved from <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx>

United Nations Department of Economic and Social Affairs (UNDESA). (2009). *Rethinking Poverty: Report on the World Social Situation 2010*. New York, NY: United Nations Press.

United Nations Development Programme. (2009). *Human Development Report 2008/2009. Overcoming Barriers: Human mobility and development*. New York, NY: Palgrave

Macmillan.

United Nations Development Programme. (2007). *Human Development Report 2007/2008*.

Fighting Climate Change: Human Solidarity in a Divided World. New York: Palgrave

Macmillan.

United Nations Development Programme, & Ministry of Housing and Urban Poverty Alleviation

of the Government of India. (2009). *India-Urban Poverty Report 2009*. Retrieved from

http://www.undp.org/content/dam/india/docs/india_urban_poverty_report_2009_related.pdf

United Nations Economic and Social Commission, the Consortium for Street Children, &

Childhope Asia. (n.d.). *Resource Pack: Improving Learning Opportunities for Street*

Children. Retrieved from

http://www2.unescobkk.org/elib/publications/2006Resource/Street_children.pdf

United Nations Economic and Social Commission for Asia and the Pacific, & United Nations

Office for Disaster Risk Reduction. (2012). *Reducing Vulnerability and Exposure to*

Disasters: The Asia-Pacific Disaster Report. Retrieved from

http://reliefweb.int/sites/reliefweb.int/files/resources/29288_apdrexecsummary.pdf

United Nations-HABITAT. (2008). *Country Programme Document 2008-2009*. Nairobi.

United Nations-HABITAT. (2011). *Innovative Urban Tenure in the Philippines: Challenges,*

Approaches and Institutionalization (Vol. Global Land Tool Network). Nairobi.

United Nations-HABITAT. (2014). *Land Tenure Security in Selected Countries*. Report 2/2014.

Nairobi. Retrieved from <http://unhabitat.org/books/land-tenure-security-in-selected-countries/>

United Nations-HABITAT (UN-HABITAT). (2015). *The State of Asian and Pacific cities 2015*.

Retrieved from <http://unhabitat.org/books/the-state-of-asian-and-pacific-cities-2015/>

United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction

(UNISDR). (2004). *Living with risk: A global review of disaster reduction initiatives (Vol. 1)*. New York and Geneva: United Nations Publications.

United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction

(UNISDR). (2005, January). *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disaster*. Paper presented at the World Conference on Disaster Reduction, Kobe, Japan.

United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction

(UNISDR). (2008). Linking Disaster Risk Reduction and Poverty Reduction: Good Practices and Lessons Learned. Retrieved from http://www.preventionweb.net/files/3293_LinkingDisasterRiskReductionPovertyReduction.pdf

United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction

(UNISDR). (2011, November 28). UNISDR supports Philippines to build national disaster loss database. *UNISDR News Archive*. Retrieved from <http://www.unisdr.org/archive/23834>

United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction

(UNISDR). (2012a). *Children's Action for Disaster Risk Reduction: Views from Children in Asia*. Retrieved from http://www.unisdr.org/files/29304_bookunisdrfinishweb.pdf

United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction

(UNISDR). (2012b). *Making Cities Resilient Report 2012. My city is ready! A global snapshot of how local governments reduce disaster risk*. New York, NY and Geneva, Switzerland: United Nations Publications.

United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction

(UNISDR). (2015). Sendai Framework for Disaster Risk Reduction 2015-2030.

United Nations Office for the Coordination of Humanitarian Affairs. (UNOCHA). (n.d.).

Yale/Tulane ESF-8 Planning and Response Program Special Report: Typhoon Haiyan.

Retrieved from http://vosocc.unocha.org/Documents/30211_Yale-

[Tulane%20Special%20Report%20-%20Typhoon%20Haiyan%20\(Yolanda\)%20-%20The%20Philippines%20-2%20DEC%202013.pdf](http://vosocc.unocha.org/Documents/30211_Yale-Tulane%20Special%20Report%20-%20Typhoon%20Haiyan%20(Yolanda)%20-%20The%20Philippines%20-2%20DEC%202013.pdf)

United Nations Secretary General's Independent Expert Advisory Group on the Data

Revolution for Sustainable Development (UN-IEAG) (2014). A world that counts: mobilising the data revolution for sustainable development.

United Nations Statistical Division (UNSD). (2001). *The Philippines Census 2000*. Paper

presented at the "Symposium on Global Review of 2000 Round of Population and Housing Censuses: Mid-Decade Assessment and Future Prospects". United Nations Secretariat, New York, 7-10 August, 2001. Retrieved from

http://unstats.un.org/unsd/censusb20/Attachments/2001PHL_Census2000-GUIDc168ba667f204341b57a177871b70f85.pdf

United Nations Statistical Division [UNSD]. (n.d.). Millennium development goals indicators.

Retrieved from <http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=589> on 22 October 2014.

United States of America Department of State (U.S. State Department). (2013). *Human Rights*

Country Report 2013: Philippines. Retrieved from

<http://www.state.gov/documents/organization/220436.pdf>

Unwin, T., Tan, M., & Pauso, K. (2007). The Potential of E-learning to Address the Needs of

Out-of-School Youth in the Philippines. *Children's Geographies*, 5(4), 443-462.

Uphoff, E., Pickett, K., Cabieses, B., Small, N., & Wright, J. (2013). A systematic review of the

relationships between social capital and socioeconomic inequalities in health: a contribution to understanding the psychosocial pathway of health inequalities.

- Usuzawa, M., Telan, E., Kawano, R., Dizon, C., Alisjahbana, B., Ashino, Y., Egawa, S., . . . Hattori, T. (2014). Awareness of Disaster Reduction Frameworks and perception of natural disaster: A questionnaire survey among Philippine and Indonesian health care personnel and public health students. *Tohoku Journal of Experimental Medicine*, 233, 43-48.
- Valdes, G. (2010). Between support and marginalisation: the development of academic language in linguistic minority children. *International Journal of Bilingual Education and Bilingualism*, 7(2-3), 102-132. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/13670050408667804>
- van Aalst, M. (2006). The impacts of climate change on the risk of natural disasters. *Disasters*, 30(1), 5-18.
- van Aalst, M. K., Cannon, T., & Burton, I. (2008). Community level adaptation to climate change: The potential role of participatory community risk assessment. *Global Environmental Change*, 18(1), 165-179.
- van Hest, R., Grant, A., & Abubakar, I. (2011). Quality assessment of capture–recapture studies in resource-limited countries. *Tropical Medicine & International Health*, 16(8), 1019-1041.
- Veale, A., & Donà, G. (2003). Street children and political violence: a socio-demographic analysis of street children in Rwanda. *Child Abuse & Neglect*, 27(3), 253-269.
- Victoria, L. (2002). *Community Based Disaster Management in the Philippines: Making a Difference in People's Lives*. Retrieved from <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN025912.pdf>
- Victoriano, A.F., Smythe, L.D., Gloriani-Barzaga, N., Cavinta, L.L., Kasai, T., Limpakarnjanarat,

K., ... Adler, B. (2009). *BMC Infectious Diseases*, 9(147), 1-9.

Villanueva, M. (2004, March 23). Erap: Dolphy, Maynilad mess due to EDSA 2. *PhilStar*.

Retrieved from <http://www.philstar.com/headlines/243633/erap-dolphy-maynilad-mess-due-edsa-2>

Villarin, J., Loyzaga, A., & La Vina, A. (2008). In the Eye of the Perfect Storm: What the Philippines Should Do About Climate Change. Retrieved from http://ohm.ecce.admu.edu.ph/wiki/pub/Main/Science10/SCJ_doc.pdf

Vincent, K. (2007). Uncertainty in adaptive capacity and the importance of scale. *Global Environmental Change*, 17(1), 12-24. doi: 10.1016/j.gloenvcha.2006.11.009

West, A. (2003). *At the margins: Street children in Asia and the Pacific*. Poverty and Social Development Papers, 8(2003). Manila: Asian Development Bank.

Williams, L., Sobieszcyk, T., & Perez, A. (2000). Couples' Views about Planning Fertility in the Philippines. *Rural Sociology*, 65(3), 484-514.

Wisner, B. (1998). Marginality and vulnerability: Why the homeless of Tokyo don't 'count' in disaster preparations. *Applied Geography*, 18(1), 25-33

Wisner, B. (2003). Disaster risk reduction in megacities: Making the most of human and social capital. In Building safer cities: the future of disaster risk. In A. Kreimer, M. Arnold, & A. Carlin (Eds.), *Building safer cities: The future of disaster risk*, pp. 181-196. World Bank: Washington, D.C.

Wisner, B., Blaikie, P., Cannon, T., & Davis, I. (2004). *At Risk: Natural Hazards, People's Vulnerability, and Disasters*, 2nd edition. London, UK: Routledge.

Woolcock, M., & Narayan, D. (2000). Social capital: Implications for Development, Theory, Research and Policy. *World Bank Research Observer*, 15(2): 225-249.

- World Bank. (2011). *Executive summary*. Vol. 1 of *Philippines - Typhoons Ondoy and Pepeng : post-disaster needs assessment*. Retrieved from <http://documents.worldbank.org/curated/en/2011/01/15115760/philippines-typhoons-ondoy-pepeng-post-disaster-needs-assessment-vol-1-3-executive-summary>
- World Bank. (2013). *World Development Indicators 2013*. Washington, D.C.: World Bank. Retrieved from <http://data.worldbank.org>
- World Health Organisation (WHO). (2013). Global School-Based Health Survey (GSHS): 2013 Core Questionnaire Modules. Retrieved from http://www.who.int/chp/gshs/GSHS_Core_Modules_2013_English.pdf
- World Health Organization (WHO). (2014a). Cholera: Fact Sheet No. 107. Retrieved from <http://www.who.int/mediacentre/factsheets/fs107/en/>
- World Health Organisation (WHO). (2014b). *Civil registration and vital statistics investment planning: Report of a technical consultation*. Retrieved from http://www.who.int/healthinfo/civil_registration/crvs_meetingreport_april2014.pdf
- World Health Organisation (WHO). (2014c). *Civil registration: why counting births and deaths is important*. Fact sheet 324. Retrieved from <http://www.who.int/mediacentre/factsheets/fs324/en/>
- World Values Survey Association [WVSA]. (2014). World Values Survey Wave 6 2010-2014 Official Aggregate v.20140429. Madrid: Asep/JDS. Retrieved from www.worldvaluessurvey.org
- Worthman, C., & Panter-Brick, C. (2008). Homeless street children in Nepal: Use of allostatic load to assess childhood adversity. *Development and Psychopathology*, 20(1), 233-255. doi: <http://dx.doi.org/10.1017/S0954579408000114>
- Yamin, F., Rahman, A., & Huq, S. (2009). Vulnerability, adaptation and climate disasters: a

conceptual overview. *IDS Bulletin*, 36(4), 1-14.

Young, L. (2004). Journeys to the street: the complex migration geographies of Ugandan street children. *Geoforum*, 35(4), 471-488.

Young, L., & Barrett, H. (2001). Ethics and participation: reflections on research with street children. *Ethics, Place & Environment*, 4(2), 130-134.

Yumul, G., Cruz, N., Servando, N., & Dimalanta, C. (2011). Extreme weather events and related disasters in the Philippines, 2004–08: a sign of what climate change will mean? *Disasters*, 35(2), 362-382.

Zhao, Z. & Reimondos, A. (2012). The Demography of China's 1958-61 Famine: A Closer Examination. *Population-E*, 67(1), 1-29.

Zhuang, J., Kanbur, R., & Rhee, C. (2014). Rising Inequality in Asia and Policy Implications. *ADB Working Paper 463*. Tokyo: Asian Development Bank Institute. Retrieved from <http://www.adbi.org/workingpaper/2014/02/21/6172.rising.inequality.asia.policy.implications/>

Zoleta-Nantes, D. (2002). Differential impacts of flood hazards among the street children, the urban poor and residents of wealthy neighborhoods in Metro Manila, Philippines. *Mitigation and Adaptation Strategies for Global Change*, 7(3), 239-2

Zolkoski, S., & Bullock, L. (2012). Resilience in children and youth: A review. *Children and Youth Services Review*, 34(12), 2295-2303. doi:10.1016/j.childyouth.2012.08.009

Zwane, E. & van der Heijden, P. (2008). Capture-recapture studies with incomplete mixed categorical and continuous covariates. *Journal of Data Science*, 6(4), 573-589.