What Factors Contribute to Positive Mental Health for Women Who Have Experienced Intimate Partner Violence?

A Population-Based Aotearoa New Zealand Study

Setayesh Pir

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Health Sciences, The University of Auckland, 2021.

Abstract

Aims: The possibility of better outcomes for women in the intimate partner violence (IPV) context is an emerging and relatively unexplored area of interest. In this thesis, I explored the factors associated with positive mental health outcomes, using a holistic and multidimensional measure of positive mental health.

Methods: I took data from He Koiora Matapopore (the 2019 Family Violence Study), a population-based study collecting data on 2,887 men and women aged 16 and over in New Zealand. I applied a population health perspective and a feminist empirical lens. Firstly, we (with co-authors) conducted confirmatory factor analysis to explore the psychometric properties of the Mental Health Continuum-Short Form, a measure of positive mental health used in the study. Second, we created a multivariable logistic model to explore the factors contributing to positive mental health in a sample of women with exposure to IPV. Third, we carried out structural equation modelling to explore which aspects of social support contributed to positive mental in this sample. Finally, I synthesised the key findings using a socio-ecological framework.

Results: Results demonstrate confidence that the Mental Health Continuum-Short Form can be used to measure positive mental health for a general sample of the New Zealand population. Safety from abuse emerged as key factor enabling positive mental health outcomes in the IPV context, as well as ongoing social support. Negative reactions to disclosures was negatively associated with positive mental health. Individual factors (e.g., general health, socio-economic factors) and receiving formal support did not have significant associations with positive mental health. The structural equation modelling identified the key role that friends, families and neighbours had in contributing to positive mental health. Importantly, the benefits of social support were consistent regardless of socio-demographic factors and severity. The results reinforced the findings of the multivariable regression by demonstrating that in the absence of safety from violence, social support is not enough to contribute to positive mental health.

Conclusions: This study has demonstrated that social factors matter the most in contributing to positive mental health following experience of IPV. Whilst the detrimental effects of IPV should never be minimised, findings suggest communities should better support women who have exposure to IPV. This could be through enhanced resourcing of community supports, education, and coordinated community responses.

Acknowledgements

First and foremost, I would like to acknowledge the participants of the He Koiora Matapopore study. Particularly, the women who have shared their experiences of intimate partner violence. The stories you have shared and the contributions you have made are invaluable, and will contribute to enabling supportive pathways for women who experience intimate partner violence. I would like to gratefully acknowledge the interviewers, and the study project team, led by Patricia Meagher-Lundberg. I would also like to give my thanks to the New Zealand Ministry of Business, Innovation and Employment for funding the He Koiora Matapopore study.

I would like to express my special thanks to the University of Auckland for awarding me a Doctoral Scholarship to support my PhD journey. I am incredibly grateful for the support and opportunity to conduct this important research. I am especially grateful to the department of Social and Community Health and the School of Population Health. I feel so blessed to have been surrounded by so many inspiring, passionate, and world-leading researchers. I have learnt so much from all of you, and I will be forever grateful for the support and guidance you have given me. I would particularly like to thank my PhD buddies on level 3 for being such supportive peers. Your positive energy is infectious.

To my supervisors Associate Professor Janet Fanslow, Dr. Ladan Hashemi, and Associate Professor Janine Wiles. Thank you for inspiring me every day and pushing me to achieve the highest standard of work. I am so grateful to have been led by such a strong, inspirational, and highly esteemed team of experts. Thank you for the endless time and effort you have given me, and for the opportunity to be part of this study. I would particularly like to express my sincere gratitude to Dr. Pauline Gulliver and Professor Tracey McIntosh. Your expertise and contributions to my work are greatly appreciated. Thank you for your guidance and for your valuable feedback.

To my incredible friends, thank you for the endless support you have always shown me. You have put up with me over these past few years and I'll be eternally grateful! To my 'BB' girls and boys, sister squad, SMC girls, Persian squads, and my lifelong best friends. I love each and every one of you and I am so grateful for all you have done for me. A special thanks to my honours girls and PhD family, you have kept me strong and always believed in me.

Most importantly, I would like to express my endless thanks to my family. To Mina, Behzad, Parsa, Parham, Ash, Kate and Maxie – I love you all, and I can't thank you enough for the constant support and guidance you have provided me. To my extended family and my grandparents, I love you and I miss you. I hope I have made you proud. Of course, I cannot forget my beautiful in-laws Jimmy and Kashmira. I am so lucky and grateful to call you my parents. Thank you for looking after me, supporting me, and inspiring me always.

Above all, I wouldn't be here today without the unconditional love from my number one supporters – Bahram, Sima and Niayesh. You have given up everything to bless me with this beautiful life I have today. I am beyond blessed to be given these incredible opportunities, and I owe it all to you. You have taught me to be strong, fearless, and true to my heart. Thank you for everything. To Nini – I am the luckiest girl in the world, because you are my sister.

Lastly, to my Perzaan. My best friend, my partner, my love. I don't think I'll ever have the right words to express how thankful I am for you. You have been my shining light through this entire journey. My shoulder to cry on, my rock, and my beacon of hope. You have inspired me and pushed me, and continuously encouraged me to never give up. You have always had my back. None of this would be possible without you by my side. You are magic, and I love you so much.

"And still, after all this time, the sun never says to the earth, "You owe Me." Look what happens with a love like that… It lights the Whole Sky."
— Hafiz

Abbreviations

IPV	Intimate Partner Violence
NZ	New Zealand
MHC-SF	Mental Health Continuum-Short Form
WHO	World Health Organization
PTG	Post-traumatic Growth
WHO-MCS	WHO Multi-Country Study on Violence Women
HKM	He Koiora Matapopore (2019 New Zealand Violence Study).
ACE	Adverse Childhood Experiences
CFA	Confirmatory Factor Analysis
SEM	Structural Equation Modelling

Preface

Scholarship
This Thesis was supported by a University of Auckland Doctoral Scholarship, awarded in 2017.

Publications
The main findings of this thesis are presented in publication format across three manuscripts in the results chapters. I was first author for each of the manuscripts and contributed to the analyses and write up. My supervisors and co-authors, Associate Professor Janet Fanslow, Dr. Ladan Hashemi, Associate Professor Janine Wiles, Dr. Pauline Gulliver, and Professor Tracey McIntosh, contributed by assisting me with analyses, supervision and critically reviewed the draft manuscripts. All co-authors approved the final manuscripts. As data came from one single study, there may be some duplication of information across the thesis, particularly related to the methods. Additionally, minor modifications have been made to the formatting of each paper to be consistent with the style of this thesis. The manuscripts included are:

Chapter 5: Psychometric Evaluation of the Mental Health Continuum-Short Form (MHC-SF) in a New Zealand Context – A Confirmatory Factor Analysis. [**published in *Current Psychology***]

Chapter 6: Social-Level Factors Related to Positive Mental Health Outcomes following Intimate Partner Violence: Results from a Population-Based Aotearoa New Zealand Sample. **[published in *Violence Against Women]***

Chapter 7: Which Aspects of Social Support Enhance Positive Mental Health in the Context of Intimate Partner Violence? [**accepted for publication in *Violence Against Women***]

Note: These results chapters may have minor differences from the published versions, which have been revised in response to reviewer comments.

Conference Presentations
Some of the findings of this thesis have been presented at conferences:

- Women's Studies Association Conference (Wellington, 2018)
- University of Auckland (UoA) HealtheX Conference (Auckland, 2020)
- UoA School of Medicine & Population Health Virtual Conference (Auckland, 2020)
- ICP2020 (Prague, 2021 – virtual presentation)

Proofreading
Mr. Richard Gyde (Editwrite) has proofread this thesis for spelling and grammatical errors, as approved by the University of Auckland School of Graduate Studies and funded through my doctoral PReSS account.

Table of Contents

List of Figures

List of Tables

Chapter 1 INTRODUCTION

Intimate Partner Violence (IPV) continues to be a significant global issue, and the consequences of experiencing IPV are widespread and well known. However, less discussed are the pathways towards better outcomes following such experiences. Previous research shows that, although the pathways following IPV can be rocky, there are possibilities for growth and better outcomes.

The overall aim of this thesis was to explore contributing factors towards more positive mental health outcomes for women who have experienced IPV. I aimed to explore this from a strengths-based perspective and identify modifiable factors associated with positive mental health. Previous research in the IPV context has considered the absence of symptoms as an indicator of recovery and better mental health, in contrast, I aimed to assess positive mental health in a multidimensional way and measure mental health beyond the absence of individual symptoms. It is important to acknowledge that IPV impacts all genders and can also be perpetuated across genders, within same-sex relationships, and be bidirectional. However, given the feminist lens of this thesis and the high prevalence of IPV perpetuated by men and experienced by women, this will be the scope and focus of this thesis.

Most IPV research has encompassed several disciplines. Research on women's resistance to IPV, for example, has been shown to be considerably eclectic and grounded in different theoretical assumptions across various disciplines (Rajah & Osborn, 2020). Rajah and Osborn's review of IPV resistance literature highlighted several fields exploring such research, including women's and family studies, public health, criminology, psychology, and sociology.

This thesis sits within a population health framework, which I will outline. In contrast to traditional models of health that focus on the treatment of disease at the individual level (Rose, 2001), population health focuses more on the distribution of health outcomes at the population level. The emphasis is on the social determinants of health that interact to influence health outcomes (Kindig & Stoddart, 2003; Siegal, Brooks, & Curriero, 2020). The social determinants of health consist of structural determinants and daily living conditions that affect health outcomes and health inequity between and within countries (Marmot, Friel, Bell, Houweling, & Taylor, 2008). The determinants broadly encompass non-medical factors that influence health outcomes for individuals and populations, including health knowledge, attitudes, or behaviours. The determinants also indirectly influence health outcomes by

structuring lifestyle choices and behaviours that interact to influence health or disease outcomes (Bharmal, Derose, Felician, & Wedan, 2015).

Upstream social determinants of health are considered the 'macro-level' social and structural factors that influence health outcomes, such as health systems, policies, and social, physical, economic and environmental factors (Bharmal et al., 2015). Distal determinants can include political, legal, institutional, and cultural context. Proximal determinants can consist of socioeconomic status, physical environment, living and working conditions, family and social networks, lifestyle, behaviours, and demographics. These determinants of health have a biological impact on individuals at a population level (Kindig & Stoddart, 2003).

Such determinants, including the social context and the built environment, are not necessarily addressed by medical interventions in isolation (McGinnis, Williams-Russo, & Knickman, 2002; Siegal et al., 2020). Social determinants of health are shaped by public policy, and therefore, are potentially modifiable (Bharmal et al., 2015). Therefore, as outlined by the Federal, Provincial, Territorial Advisory Committee on Population Health, population health as an approach focuses on these upstream interrelated factors and the daily living conditions that influence the health of populations. The aim is to identify systematic patterns and develop policies and interventions to improve health outcomes for populations (Health Canada, 1997; Dunn & Hayes, 1999). Public health refers to societies' efforts to improve population health by addressing the determinants of health through government, private sector, and the public. Public health has a direct and indirect (through social determinants) impact on population health (Shi, Tsai, & Kao, 2009).

In the context of mental health work, public health approaches to improving population health and creating conditions that enable health should therefore focus beyond only reducing mental illness to improve mental health. Public health strategies should continue to prevent and treat mental illness and understand how to promote more positive mental health outcomes (Keyes, 2007a). Based on a population health perspective, a summary of the key terms used in this thesis are as follows:

Individual Factors: Individual-level factors, such as personal characteristics, emotions, and socio-demographic factors.

Social Factors: Social networks and informal supports across the relationship and community levels. Factors include the influence of friends, families, networks, and community groups.

Structural Factors: Formal supports and services, factors influencing access to resources such as inequities, disparities and access barriers.

Societal Factors: Contextual factors that may influence outcomes, help-seeking or responses to help-seeking, such as policies, societal norms, and attitudes towards violence.

Within a population health framework, the focus on 'social factors' on mental health outcomes for women will be particularly emphasised in this thesis. The rationale for this focus is that it could enable more accessible action points for researchers and clinicians, such as modifiable social factors in communities that they could address directly (Wright & Johnson, 2009). This is not to minimise the negative impacts of IPV that women might experience but to identify enabling factors that communities can provide to promote mental health and improve women's situations.

In the context of this thesis, 'social factors' will refer to factors such as the influence of informal supports, relationships (e.g., with friends, family, networks), and communities. This distinguishes them from individual-level psychological traits or personal behaviours and decisions and focuses on population or community-level social influences when exploring mental health outcomes.

The introduction chapter will begin with a discussion of the rationale and focus of the thesis. A background of the study follows this. The research aims, questions and thesis are outlined next.

1.1 Positive Mental Health in the Context of IPV - Why does it matter?

It is well established that IPV is a serious problem and has a considerable burden (World Health Organization, 2013). There is a breadth of good research surrounding the 'pre-violence' stage, exploring the causes, risks, and protective factors associated with IPV. The detrimental impacts of exposure to IPV on physical and mental health are also well understood. However, focusing solely on the detrimental impacts is a very negative place to leave people who experience IPV. Similarly, exploring help-seeking and what enables women to leave violent relationships in the 'violence/crisis response' phase also reveals extensive literature on barriers and enablers of help-seeking.

While discussions around risk and protective factors, impacts, and help-seeking are essential, I found less information on the various pathways *after violence exposure* and on what factors are helpful in leading to better outcomes in the IPV context. From a population health

framework, this means asking: what are the impacts of factors beyond individual characteristics on improved outcomes for women with experience of IPV? For instance, the impact of networks, familial relationships, and community services. The little knowledge about factors contributing to positive outcomes in the IPV context highlighted the need for me to explore possibilities of women living in a positive state of mind after the IPV experience. Such an exploration would be a valuable contribution towards understanding how to support women who have experienced IPV.

An example of such exploration is Post-traumatic Growth (PTG), developed by Calhoun and Tedeschi (2006). This concept focuses on growth following trauma and suggests that positive psychological change could be possible after experiencing adverse events. The aim of PTG is not to ignore adverse outcomes but to focus on possible growth outcomes. Another example is the concept of Resilience which considers adapting to, maintaining, or regaining mental health in the context of adversity (Wald, Taylor, Asmundson, Jang & Stapleton, 2006; Herrman, Stewart, Diaz-Granados, Berger, Jackson & Yuen, 2011).

In this thesis, I explore different factors that lead to positive mental health outcomes in the IPV context (see Figure 1.1.1). This is an important focus as it potentially develops a more hopeful message for people who experience IPV and could identify ways communities and societies collectively can support and help mitigate the negative consequences of IPV and improve mental health outcomes. The IPV context may also include the experience of long-term negative consequences, and individuals may not necessarily experience either positive or negative outcomes. Individuals could potentially experience both at different points on their journey. However, the focus of this thesis will be exploring positive mental health outcomes specifically, and ways to increase the likelihood of these outcomes for women.

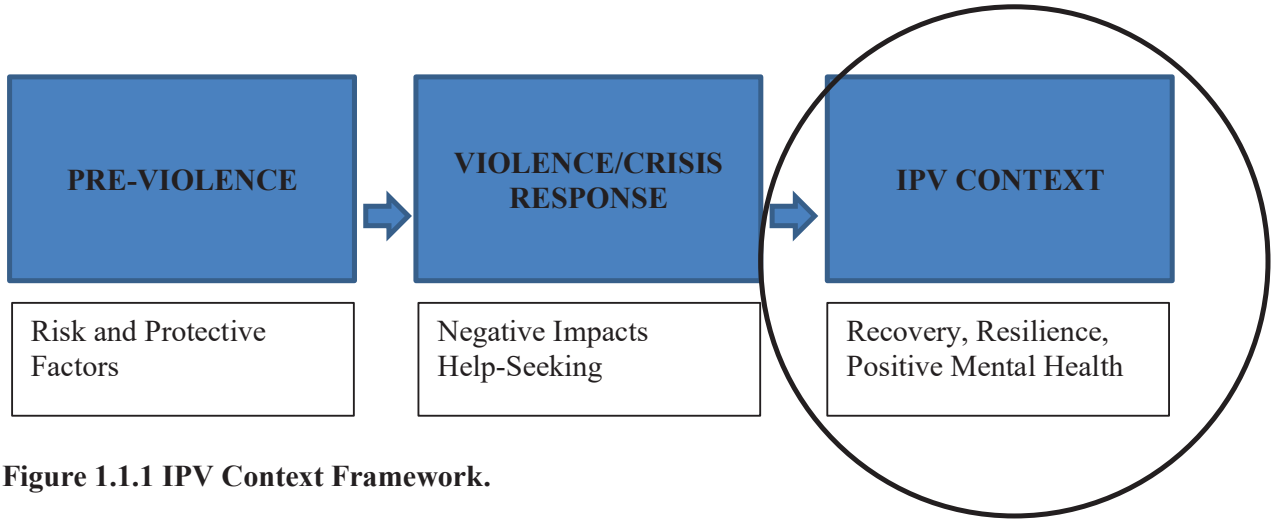

Figure 1.1.1 IPV Context Framework.

This work is situated in a population health framework in which health problems are understood as more often social and collective responsibilities rather than individual problems (National Health Committee, 1998). The aim was not to 'blame the victim' but instead to highlight underlying community and public policy actions that need to be taken to address these problems (Ashton & Seymour, 1988). Crucially, while it is important to identify what women who experience IPV can do to improve their situations, we need to recognise that safety is a collective effort and will require responses and changes by those who perpetrate violence and structural and community changes.

1.2 Current study

1.2.1 Data Source and Measures

For this thesis, I used data from the Ministry for Business, Innovation and Employment (MBIE), funded He Koiora Matapopore (HKM) - the 2019 New Zealand Family Violence Study. This was a population-based study carried out by the University of Auckland and led by Associate Professor Janet Fanslow, which explored the health and life experiences of people aged 16 and over. The aim of HKM was to estimate the prevalence of family violence in NZ. Objectives included measuring modifiable risk and protective factors to inform interventions and policy, outlining the services used by people who experienced IPV, exploring the social, economic, and health consequences associated with IPV, and tracking changes in violence against women and children between 2003 and 2019 (Fanslow, Gulliver, Hashemi, Malihi, & McIntosh, 2021).

A quantitative questionnaire based on the World Health Organisation Multi-Country Study on Violence Against Women (WHO-MCS) (García-Moreno, Jansen, Ellsberg, Heise & Watts, 2005) was used in the study. More details are provided in the methods chapter of the thesis (see Chapter 4).

The HKM study also included Keyes MHC-SF in the questionnaire as a measure of positive mental health. This tool conceptualises mental health across emotional, psychological, and social wellbeing. In this thesis, I will assess the psychometric properties of the MHC-SF tool

and analyse the use of this tool in the IPV context. The MHC-SF measure was chosen as the use of this tool in IPV research would make a novel contribution to knowledge in this area. More details about the tool are provided in Chapter 4.

1.2.2 Research Questions and Aims

Aims

The overall aim of this thesis was to investigate, for women who have had exposure to IPV, what contributes to positive mental health. The objective was to identify what factors in society or communities are enabling of better mental health outcomes for women to enhance these factors and improve outcomes. I aimed to use a measure of positive mental health that would consider factors beyond the absence of mental illness symptoms and capture a more comprehensive analysis of positive mental health, including emotional, mental, and social dimensions.

To do this, I first needed to test the psychometric properties of an existing tool that conceptualised positive mental health in this holistic manner. In this thesis, the tool assessed is the MHC-SF, described and discussed in more detail in Chapter 4. The MHC-SF assessment will help evaluate whether this tool is a valid and reliable way to measure positive mental health in NZ. This has not previously been done for a population-based NZ sample. The use of the MHC-SF will also provide a unique contribution to the field of IPV research, as it has not previously been used to measure positive mental health for women who have experienced IPV.

Objectives

To answer these questions and meet the overall aims of the thesis, these were the research objectives:

- Explore the psychometric properties of Keyes' MHC-SF, an existing conceptual tool that measures positive mental health:
  (a) In the NZ context
  (b) For an IPV sample
- Identify the factors contributing to positive mental health in a sample of women who have experienced IPV and compare factors between women with positive mental health and those with lower mental health scores.

- Explore factors related to social support and informal supports that enable positive mental health for women who have experienced IPV.
  (a) Identify potential differences across socio-demographic factors and violence exposure factors.
- Develop a comprehensive framework of factors contributing to positive mental health in the IPV context, based on a socio-ecological and population health perspective to better understand the experience of mental health following IPV.
- Develop practice and policy recommendations based on the above analyses.

1.2.3 Terminology

The use of language can be very powerful in research. For example, within IPV or sexual violence research specifically, there have been numerous discussions on using the terms 'survivor' versus 'victim'. Some have argued that the term 'survivor' is more strengths-based compared to 'victim' (Papendick and Bohner, 2017). Others have argued that the term 'survivor' takes focus and responsibility away from perpetrators and broader social factors and places responsibility back on the individuals themselves (Dunn, 2005). A critical perspective is that women who have experienced violence have complex and multiple realities. At one point, they may view themselves as victims or as survivors, as both or as neither (Lugones, 2003). In this thesis, I have chosen to use the term 'women who have experienced violence'. This is because this term does not label women's experiences of IPV for them but allows women to define their situations on their terms.

1.2.4 Thesis Structure

Chapter 1 Introduction: In this chapter, I present an outline and rationale for understanding what contributes to positive mental health following IPV and the research questions and aims.

Chapter 2 IPV Background: In this chapter, I outline the scope and understandings of IPV. I outline a socio-ecological perspective of the causes, describe the impacts on mental and physical health, and discuss IPV help-seeking.

Chapter 3 Background Literature Review: In this chapter, I review the concepts of post-traumatic growth, resilience and positive mental health. Definitions, measurements, challenges,

and gaps are discussed. I then explore these conceptualisations more specifically in the context of IPV. In particular, I outline factors that might contribute or be associated with these outcomes in the IPV context.

Chapter 4 Methodology: In this chapter, I outline the overall methodology employed in the thesis. I explain the quantitative methods undertaken to answer the research questions and aims and the rationale for using these methods.

Chapter 5 Results - Psychometric Evaluation of the MHC-SF Study: In this chapter, I present a manuscript exploring the psychometric properties of the Mental Health Continuum-Short Form in the New Zealand context. This tool was employed to measure positive mental health in this study. This manuscript is published in the journal *Current Psychology.*

Chapter 6 Results – Contributing Factors to Positive Mental Health in the IPV Context Study: In this chapter, I explore a wide range of factors that have the potential to contribute to positive mental health in a sample of women with exposure to IPV. I present the results of a multivariable regression model exploring these factors. A manuscript published in *Violence Against Women* is included.

Chapter 7 Results – Social Support in the IPV Context Study: In this chapter, I explore the structural pathways between social support (from friends, family, and neighbours) and positive mental health (as measured by the Mental Health Continuum-Short Form) in the context of IPV. I present the results of structural equation modelling. A manuscript accepted for publication in *Violence Against Women* is included.

Chapter 8 Discussion and Conclusion: I discuss and synthesise the research findings and results in this chapter. I present the strengths and limitations of these studies and outline recommendations for future work.

1.3 Chapter Summary

This introductory chapter set out the context for this study. I have outlined the purpose, background, and aims of the research. I have argued for the need to explore factors contributing to the positive outcomes in the context of IPV. In the next chapter, I provide a background to current understandings of IPV.

Chapter 2 IPV BACKGROUND

2.1 Intimate Partner Violence

2.1.1 Definitions and Scope

The World Health Organization (WHO) defines IPV as:

… behaviour by an intimate partner or ex-partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, psychological abuse, and controlling behaviours.

(WHO, 2013)

Researchers from the Centers for Disease Control and Prevention (CDC) define Intimate Partners as:

…a person with whom one has a close personal relationship that may be characterised by the partners' emotional connectedness, regular contact, ongoing physical contact and sexual behaviour, identity as a couple, and familiarity and knowledge about each other's lives. The relationship need not involve all of these dimensions.

(Breiding, Basile, Smith, Black & Mahendra, 2015, pp.11).

This definition of intimate partners was chosen as it is from a report published by the National Center for Injury Prevention and CDC in the United States, with the aim to promote consistency in the use of terminology and data collection for IPV. The report was formulated through an extensive consultation process, and thus this definition is a robust and uniform definition. This definition also highlights that 'intimate partners' do not necessarily have to be spouses, and hence IPV can take place outside of a marital context.

As a significant issue impacting many people's lives globally, IPV warrants serious attention across research, policy, and action. Globally, WHO (2013) reports that 30% of women have experienced either physical or sexual (or both) IPV or non-partner sexual violence. The percentage of IPV experiences varies across contexts. For example, 23.2% in high-income countries, 29.8% in the WHO Region of the Americas, 25.4% in the WHO European region, 24.6% in the Western Pacific region, 37.0% in the WHO Eastern Mediterranean region, 36.6% in the WHO African region, and 37.7% in the South-East Asian region. The World Health Organization also reports that intimate partners commit about 38% of all murders of women. These statistics highlight the significant global burden of IPV.

The prevalence of IPV among men varies across countries, with the review by Kolbe and Büttner (2020) highlighting that prevalence rates for domestic physical violence against men perpetuated by women ranged from 3.4% to 20.3% and between 0.2% to 7% for sexual violence. Importantly, many of these men had indicated being previously violent toward their partners themselves, highlighting the bidirectional nature of IPV. Additionally, the burden of IPV is also significant across sexual minority individuals, with 61.1% of bisexual women, 43.8% of lesbian women, 37.3% of bisexual men, and 26.0% of homosexual men in the United States reporting experience of lifetime IPV (Walters, Chen, & Breiding, 2013).

In New Zealand (NZ), Fanslow and Robinson (2004) found in their study of women aged 18-64 years that one in three women indicated that they had experienced at least one act of physical or sexual violence (or both) from their intimate partners in their lifetime. Within NZ, Māori face a disproportionate burden of IPV exposure. Data from this study showed that Māori women had a significantly higher lifetime prevalence of physical and/or sexual IPV (57.6%) compared to Pacific women (32.4%) and European/Other women (34.3%). Asian women reported significantly lower lifetime prevalence (11.5%) than European or Other ethnic origin women (Fanslow, Robinson, Crengle & Perese, 2010). Additionally, in another NZ study of a birth cohort of individuals in Christchurch, Māori had rates of IPV experience that were 2.31 times that of non-Māori, and the odds of injury (from IPV exposure) were 2.98 times that of non-Māori (Marie, Fergusson & Boden, 2008). Overall, this highlights that, not only is IPV a significant health issue globally, but that it is also a significant issue in NZ, warranting urgent attention and action, particularly for those who identified as Māori.

Whilst acknowledging the burden of IPV is experienced and perpetuated across all genders and across same-sex relationships, given the significant burden of IPV among women highlighted across literature, as well as the feminist empiricism lens underlying this thesis (outlined in further detail in the next chapter) the focus of this thesis will specifically be on the context of violence against women as perpetrated by men.

2.1.2 Causes, Impacts, and Help-Seeking

Risk and Protective Factors. This section discusses a conceptual framework outlining the risk and protective factors for IPV framed according to a socio-ecological model. As a world-leading researcher in the field of gender, violence, and health, Professor Lori Heise highlights the multifaceted phenomenon of IPV. Heise (2011) explains that violence is likely caused by

the interaction between factors across different levels of the social ecology rather than 'one' casual factor (Crowell & Burgess, 1996). Heise expanded her previous application of the ecological framework for interpersonal violence (1998) and developed a revised framework based on a synthesis of more updated evidence and research of interpersonal violence. This framework, developed by Heise (2011), is a helpful way to condense the breadth of research exploring the causes and risks of IPV. Heise used the socio-ecological model to synthesise the literature in this field and frame the interaction between risk and protection to demonstrate the complexity of IPV. See Figure 2.1.1 The factors on the framework have been shown through empirical evidence to be linked to the risk of partner violence, particularly in low- and middle-income countries.

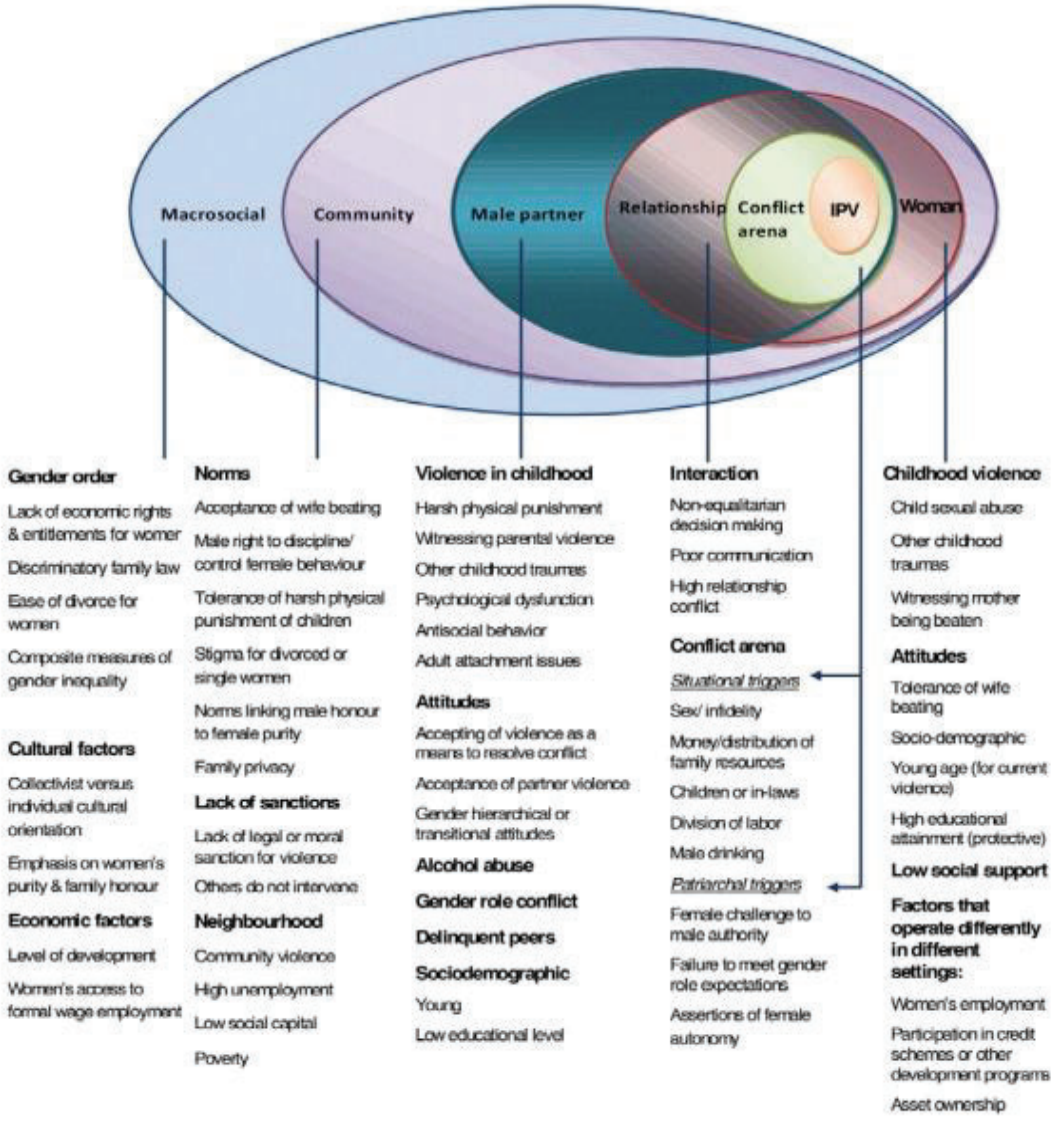

Figure 2.1.1 Revised Conceptual Framework for Partner Violence.

Reprinted from "What Works to Prevent Violence? An Evidence Overview." By Heise, L. (2011). London: London School of Hygiene and Tropical Medicine.

As summarised by Heise, women bring their own traits and earlier experiences (e.g., childhood or adolescent experiences) at the individual level of the 'woman'. Heise points out that factors in this column have consistently been identified across studies to increase the risk of victimisation for women. When women partner with men, the men also bring their own personal histories and experiences to the relationship. At the 'relationship' level, the couple has their own dynamics, which may increase or decrease the risk of violence, and this is embedded in the household and neighbourhood context within the 'community' level. Heise then points out that in some contexts, such as low-income settings, this level may include the influence of extended family members that may either increase or decrease the chances of abuse based on their interactions with the couple. Both partners may also interact with different communities and groups at the community level, such as friends, faith communities, and workplaces. Heise then highlights that the entire system is embedded in a 'macrosystem', encompassing cultural, economic, and political structures that influence behaviour at the lower levels of the framework.

Heise points out that these factors may have different pathways and interactions that lead to abuse, depending on the circumstances or context. For example, how a man responds to a situation (e.g., violently or not) may be influenced by his personal expectations of male/female relations and how this interacts with whether his friends, neighbours or local authorities normalise the behaviour or find it shameful. These factors also interact with the ability of his partner to leave depending on her economic capability or 'social permission' (Heise, 2011).

This model is valuable to IPV research as it demonstrates that the nature of violence is complex, and these factors should not be considered in isolation. Since the framework is based on a comprehensive synthesis of relevant research in the field, it accentuates that much research on IPV has focused on the pre-violence phase.

Impacts. The impacts of IPV are multiple and wide-ranging. The World Health Organization (2013) reported that women who had been physically or sexually abused by their partners had higher rates of health problems. For instance, they were 16% more likely to have a low-birth-weight baby, more than two times likely to have an abortion, and in some areas one and a half

times more likely to have HIV than women who have not experienced IPV. Direct consequences can include death, injury and disability (Krug, Dahlberg, Mercy, Zwi & Lozano, 2002; Fanslow, 2005). Other indirect consequences can consist of problematic and unhealthy behaviours, including smoking and higher use of health care services (Fanslow & Robinson, 2004; Plichta, 2004; Fanslow, 2005). There may also be negative impacts on family and friends and indirect costs in terms of loss of work (Tjaden & Thoennes, 2000).

IPV experience has also been associated with adverse mental health outcomes. As exposure to IPV increases, associated rates of mental disorders do too (Fergusson, Horwood & Ridder, 2005). Fergusson and colleagues found that individuals who had the highest exposure to IPV had 1.5 to 11.9 times higher rates of disorders (i.e., depression, anxiety, and suicidality) than individuals who had no exposure. The authors suggest that exposure to IPV could lead to the onset of depression and suicidality, which is a common finding among other studies of violence against women (Anderson, Saunders, Yoshihama, Bybee, & Sulivan, 2003; Straus & Smith, 1990; Karakurt, Smith & Whiting, 2014).

Post-Traumatic Stress Disorder (PTSD) is another negative mental health impact associated with exposure to IPV (Mertin & Mohr, 2001). PTSD is a disorder that arises from exposure to trauma, which is followed by feelings of fear for safety and helplessness. Common symptoms can include re-experiencing of the events, nightmares, avoidance, and sleeping difficulty (American Psychiatric Association, 1994; Karakurt et al., 2014). The prevalence of PTSD has been reported to be much higher among women who have experienced IPV compared to women who have not (Golding, 1999).

Women who experience IPV are also more likely to be at greater risk for substance abuse (Fowler, 2007). Additionally, women may experience negative impacts on their self-esteem, such as feelings of guilt, shame and self-blame (Lindgren & Renck, 2008; Weaver & Clum, 1995). Karakurt et al. suggest that these negative social reactions could be linked to the mental health problems associated with IPV, such as depression or anxiety. While there are likely to be many more detrimental effects of IPV, the negative effects documented here highlight the urgency of addressing and improving the mental health of individuals who have experienced IPV.

Help-Seeking. Research on help-seeking in the context of IPV has also been conducted to a great extent. Many studies have identified key factors which influence help-seeking, and several conceptual frameworks synthesising these factors have been developed (e.g., Mitchell & Hodson, 1983; Mills, 1985; Gondolf & Fisher, 1988; Landenburger, 1989; Pescosolido, 1992; Brown, 1997; Wright and Johnson, 2009; Overstreet & Quinn, 2013; Sulak et al., 2014; Shearson, 2017). These studies will be referred to below.

One particular example of a help-seeking framework, which has been well used and referenced across the literature (e.g., Mookerjee, Cerulli, Fernandez, & Chin, 2015; Kennedy, Adams, Bybee, Campbell, Pimlott Kubaik, & Sullivan, 2012; Day, Gerace, Oster, O'Kane, & Cary, 2018) is Liang et al.'s (2005) *A Model of Help-Seeking and Change.* This model focuses on internal cognitive processes that take place in IPV help-seeking. These researchers highlight that for a woman who has experienced violence, the decision to seek help, and from whom, will be largely influenced by how she defines the situation. For example, in reference to Prochaska et al.'s *Transtheorical Model* (1992), a woman in the 'pre-contemplation' stage of abuse may accept the abuser's definition of the violence and minimise or deny the abuse or severity of it. This will affect whether she will seek help.

Additionally, if one were to seek help, the person they go to for help will influence how the situation is defined, and their response is likely to affect whether they will seek help again (Liang et al., 2005). Liang et al. suggest that contextual factors influence these processes. These include individual, interpersonal and sociocultural factors, such as individual and relational history, and economic, political and cultural contexts. Liang et al. also suggest further exploration of women's sources of support and how helpful these sources are. This might also include consideration of the effect of negative support, such as from family and friends, which may hinder a women's ability to leave a violent relationship or access support.

What is consistently evident across many studies of help-seeking is the importance of social networks and social support in the context of IPV help-seeking. Pescosolido (1992) highlights the importance of social networks and social interactions and how these may influence decision-making related to help-seeking. Cho and Huang (2017) found that informal sources of help were more sought out than formal sources of help. In the context of women seeking legal help specifically, Wright and Johnson (2009) found that social support was a significant contributor to help-seeking. Mitchell and Hodson (1983) explored the impact of social support

and its interactions with factors such as stress, level of violence, personal resources, and institutional responses. They found that increased levels of violence, minimal personal resources, lack of institutional and informal social support, and avoidant coping styles were associated with lowered self-esteem and more severe symptoms of depression.

Importantly, many studies exploring help-seeking frameworks in the context of IPV have pointed out that the pathways or 'stages' women go through following IPV are not necessarily linear processes (e.g., Shearson, 2017; Landenburger, 1989; Brown, 1997; Liang et al., 2005). Studies have identified other factors that are influential in help-seeking, such as the effect of broader attitudes and social norms (Sulak et al., 2014; Overstreet & Quinn, 2013). For example, Sulak and associates' study (2014), which applies the *Theory of Reasoned Action* to an IPV context, highlights the relationship between attitudes and social norms and how this influences intentions to act. Their study found that attitudes were influential in intentions to act with regard to IPV. For example, the more that study participants disagreed with the statement "DV (domestic violence) is a private matter and should be handled in the home", the more likely the individual was to report such situations. Similarly, Overstreet and Quinn highlight how negative beliefs about those who experience IPV at the societal level have detrimental effects for those experiencing IPV by perpetuating IPV stigmatisation at individual and interpersonal levels. This includes anticipated, cultural, and internalised stigma (internalisation of stereotypes perpetuated at societal levels) (Overstreet & Quinn, 2013).

Other barriers to help-seeking may include personal constraints in accessing information and subsequent opportunities (Dunne, 2002). Feelings of guilt and shame that result following decisions to seek help may also stop women from acting on their decision (Liang et al., 2005). A lack of information or community resources and the inability of formal and informal services to provide the support needed have also been identified as barriers to help-seeking (Hodges & Cabanilla, 2011).

Additionally, literature has also pointed out that as the level of violence increases, women's help-seeking and behaviour changes (Mitchell & Hodson, 1983; Gondolf & Fisher, 1988; Mills, 1985; Dunne, 2002). For example, as the violence increases, the information needed changes (Dunne, 2002), and help-seeking levels may also increase (Gondolf & Fisher, 1988).

The plethora of research exploring help-seeking pathways and processes, although not covered in its entirety in this thesis, demonstrates that this area of IPV research has been well discussed. What lacks comprehensive investigation is the exploration of what leads to positive mental health outcomes in the IPV context.

2.2 Chapter Summary

In this chapter, I have provided an outline of the issue and scope of IPV. I have discussed understandings of the causes, impacts, and help-seeking pathways. It is established that the issue of IPV has a widespread burden for many women globally and within NZ.

I have highlighted that there is a breadth of research exploring pre-violence factors and violence responses/crisis factors, such as the negative impacts of IPV and help-seeking. However, there needs to be more focus on factors that contribute to better mental health outcomes for women in the IPV context. In the next chapter, I discuss the current literature on posttraumatic growth, resilience, and positive mental health. I outline what is already known in the IPV field and uncover gaps for further exploration.

Chapter 3 REVIEW OF LITERATURE

3.1 Importance of Positive Mental Health

In this section, I will discuss the importance of exploring positive mental health and outline key concepts of interest for this study.

The World Health Organization defines mental health as:

> …a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.
>
> (WHO, 2001b, p.1;WHO, 2004)

This definition suggests that mental health is a crucial component of overall health. It is more than the absence of illness or disease, and it is interconnected with physical health and behaviours (World Health Organization, 2004). The World Health Organization (2004) points out that mental health is central to individuals' and communities' wellbeing and functioning. Neither physical nor mental health can exist alone, and mental, physical and social functioning are interdependent factors.

The promotion of mental health has become a central part of health promotion practice (Herrman, Saxena, & Moodie, 2005; Jané-Llopis, Barry, Hosman, & Patel, 2005; Barry & Jenkins, 2007). The World Health Organization (2004) also highlight how the promotion of mental health is central to public health work. They suggest that mental health outcomes are influenced by various factors such as individual experiences, social interactions, societal structures, resources, and cultural values. They highlight that when aiming to improve individuals and populations' health outcomes, the focus needs to be on addressing the wider societal and structural factors.

Another key aspect of mental health promotion is the focus on positive mental health (Herrman et al., 2005; Barry & Jenkins, 2007). Keyes (2002) defines positive mental health as an outcome, which encompasses both positive feelings and positive functioning. Focusing on promoting positive mental health has demonstrated numerous benefits for individuals and communities. Interventions that have been designed to promote positive mental health can also help to prevent mental illness (Jané-Llopis et al., 2005).

In the context of women who have experienced IPV specifically, most research has tended to focus on the negative outcomes following such experiences (Grych, Hamby, & Banyard, 2015). This work has been important for understanding the adverse impacts of trauma for individuals and for collectively enabling policy changes and action (prevention and intervention).

However, many people who have been exposed to violence show positive, healthy functioning in the long run (Grych et al., 2015; Bonanno,2004; Masten, 2001). To develop a comprehensive understanding, we need to explore the processes and factors which enable positive outcomes as well as the negative (Grych et al., 2015). Since the negative outcomes are well researched, this builds a case for exploring what is currently known about *positive* mental health concepts and processes. This includes exploring how positive *outcomes* could be measured in order to identify how these outcomes could be enhanced.

Previous IPV research has explored concepts such as resilience and PTG, which can be helpful in explaining how positive outcomes such as positive mental health are possible in the context of IPV (e.g., Anderson, Renner, & Danis, 2012; Valdez & Lilly, 2015; Machisa et al., 2018; McLeod, Havig, Natale, & Pharris, 2020). More recently research in this field has taken a more strength-based approach to exploring the mental health of women who have been exposed to trauma and violence. For example, the Resilience Portfolio (Grych et al., 2015), which is a framework of resilience that outlines a holistic understanding of the protective factors and processes that enable resilience among adults and children who have been exposed to violence. This strengths-based framework proposes that it is the resilience portfolio of individuals (the density and diversity of resources and assets that are available to them) that determines their responses to violence. Grych et al. (2015) also highlight a number of regulatory, interpersonal, and meaning-making strengths that are critical for resilience. In addition, other studies have also taken strengths-based and multi-dimensional approaches to highlight resilience in the context of adversity (e.g., Masten, 2015; Miller-Graff, 2022; Howell & Miller-Graff, 2014).

Research on PTG explores the possibility of growth and coping among people who experience negative or severe life trauma (Calhoun & Tedeschi, 2006). Similarly, resilience is seen as a dynamic process (Grych et al., 2015; Masten, 2011; Rutter, 2012) that relates to overcoming adversity (Rutter, 2006). While providing useful insights as measures of processes and outcomes in the IPV context, research on PTG and resilience in the context of adversity has been criticised as to whether these concepts genuinely reflect positive changes. In addition to

this, research on another concept - positive mental health in the IPV context is lacking. In the following, I will explain how my thesis can help to address these critiques by using a measure to assess positive mental health outcomes specifically. First, PTG and resilience will be discussed in more detail in this review chapter. Then, I will explain how my thesis contributes to this field by building on previous knowledge. As part of this literature review, I will seek to identify factors beyond personal traits or characteristics that may be associated with positive mental health.

3.2 Review Outline

In this review, the two main aims were to review the key concepts of PTG, resilience and positive mental health in the literature in general and explore the literature on these concepts in the IPV context specifically. Figure 3.1 highlights the overall outline of the review.

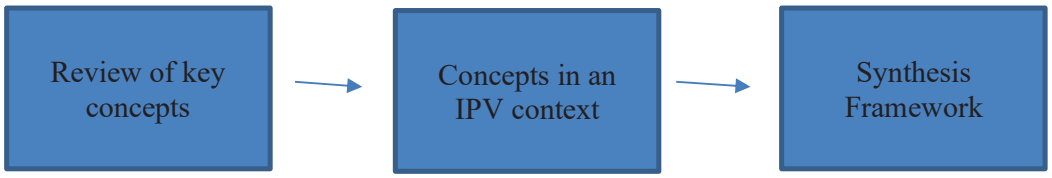

Figure 3.1 Review Outline.

I will begin by exploring the literature on the key concepts of PTG, resilience, and positive mental health as an outcome. I will define the concepts, outline how they are measured, and highlight any challenges/critiques of the measures. I will also identify gaps in concepts that have been identified. I will then explore these concepts in the context of IPV specifically to identify what factors current research outlines contribute to better outcomes.

Lastly, I will synthesise the key findings of the contributing factors to better outcomes in the general population and in the context of IPV. I summarised the concepts across *individual* level factors (e.g., personal resources, attitudes, beliefs), *relationship/social* level factors (e.g., relationships, networks, social connections), and *structural/societal factors* (e.g., formal services, societal norms). See Table 3.1 below for an outline of the synthesis framework, which will be filled out at the end of the review.

Table 3.1 Synthesis Framework Outline.

DOMAIN	INDIVIDUAL FACTORS	RELATIONSHIP/SOCIAL FACTORS	STRUCTURAL/ SOCIETAL FACTORS
General Population			
IPV Context			

I conducted a generic literature review of PTG, resilience, and positive mental health. I began with an initial review of the literature about the conceptualisations of PTG and resilience. I then conducted a closer review of measures to assess positive mental health. I did not employ a limit on the timeframe of the literature reviewed, as I wanted to have a comprehensive look at how the concept was developed over time.

In the second part of the review, I explored positive mental health and growth outcomes in the IPV context specifically. I reviewed the current literature on what is already known about the contributing factors to better mental health outcomes in the context of IPV.

3.3 Post-traumatic Growth (PTG)

3.3.1 Definitions and Understandings of Post-traumatic Growth

The concept of PTG was first coined by Tedeschi and Calhoun (1995). It is defined as perceptions of 'positive psychological change experienced as a result of the struggle with highly challenging life circumstances.

Calhoun and Tedeschi (2006) acknowledge the importance of recognising that many people who experience negative and severe life stresses report a range of negative psychological and physical challenges. The focus on growth in coping with trauma does not aim to ignore the negative outcomes. Instead, it focuses on the positive psychological change that may be produced after experiencing negative events, as an example, in the IPV context (e.g., McLeod, Havig, Natale, & Pharris, 2020). This will be discussed in more detail later in this chapter.

3.3.2 Measurements of Post-traumatic Growth

Tedeschi and Calhoun discuss the broad categories of PTG as three domains: changes in the perception of self, changes in the experience of relationships with others, and changes in

one's general philosophy of life. This led to the development of their scale – the Posttraumatic Growth Inventory (PTGI) (1996). A factor analysis undertaken by Tedeschi and Calhoun resulted in a five-factor approach to PTG. These domains have been described as personal strength, new possibilities, relating to others, appreciation of life, and spiritual change.

In terms of strength and new possibilities, a changed perception of self refers to being vulnerable yet stronger. Tedeschi and Calhoun point out that a common response after facing a significant life challenge is to view the world as dangerous and unpredictable, and one's vulnerability becomes clear. However, they also point out that coming through such an event may also enable a sense of 'surviving the worst' and coming out of the situation quite strong. They suggest that some people develop new interests and opportunities in life and highlight new possibilities.

As Tedeschi and Calhoun describe, relating to others refers to significant positive changes that can occur in human relationships following times of trial and coping with trauma. One change that may occur is how an individual views other people. Some people may feel a greater sense of connection to others and a greater sense of compassion for people who go through suffering. Individuals who have experienced traumatic events have also reported an increased sense of intimacy, closeness and freedom to be themselves.

Tedeschi and Calhoun also highlight how these experiences can lead to a changed philosophy of life in relation to priorities, appreciation and spirituality, and a changed sense of what is of most importance. For instance, relationships with one's family may be more important than specific career-driven goals. Events previously viewed as small things, such as the giggling of a toddler, may become seen as more significant than before after facing life-changing challenges or events. They suggest that a greater appreciation for life and for what one has are common experiences among those who are dealing or have dealt with crises.

In terms of existential, spiritual or religious matters, Tedeschi and Calhoun describe this as where the most significant PTG can be experienced. This domain may potentially involve more clarity surrounding fundamental existential questions. For some individuals, this may involve meaningful spiritual elements. Tedeschi and Calhoun point out that the relevance of this domain's religious dimension is not yet clear across other contexts or countries, which may be more secular than the United States (the context of their book). They also point out that, while the religious dimension may not be relevant across some contexts, the general

exploration of existential questions and the meaning of life still appear to be significant for people coping with major crises. This is an area they highlight where many people report positive change.

3.3.3 Critiques and Challenges of Post-traumatic Growth

Several challenges associated with the measurement of PTG have been noted. Looking at the quantitative measurement of PTG, some have argued that these measurements do not allow reporting negative aspects of trauma (Frazier, Oishi, & Steger, 2003; Park & Lechner, 2006; Calhoun & Tedeschi, 2006). Calhoun and Tedeschi suggest that this may lead to validity problems ('positivity response bias') where respondents may report positive changes when they have not occurred, or the scale does not allow respondents to report changes which they have not been asked about. Calhoun and Tedeschi have also pointed out the potential of self-enhancing bias in some people (Calhoun & Tedeschi, 2004; Tedeschi & Calhoun, 1995). They state that there could be variability across samples where some individuals tend to deny or minimise negative aspects of traumatic events. However, they point out that this may be a small number of people (Dohrenwend et al., 2004).

Frazier and associates (2009) also highlight similar criticisms by pointing out whether PTG actually reflects positive changes and whether the form of measurement is valid. Referring to McFarland and Alvaro (2000), Frazier and associates describe the 'motivated illusion perspective', where individuals who report growth after facing trauma do this to turn away from their present selves and not because they experienced positive changes. It is suggested that reporting growth after adversity is more of a reflection of a self-protective strategy.

Similar limitations of PTG research are echoed by Grych and associates (2015). They point out that there are inconsistent views on whether growth is cognitive, emotional or behavioural (Hobfoll, 2002; Janoff-Bulman, 2004; Wortman, 2004). For instance, in her critique of PTG work, Camille Wortman (2004) argues that cognitive processing does not seem to be involved in the process of growth, as Tedeschi and Calhoun suggest it is. Wortman points out that individuals who do best after adversity show little evidence of cognitive processing. For example, Wortman refers to her work on the Davis et al. (2000) study about parents losing an infant and adults losing their spouse or a child. This study found that individuals who reported never 'searching for meaning' reported fewer symptoms of distress, higher well-being and rated themselves as more recovered from loss, compared to individuals in the study who reported searching for meaning.

Similarly, Janoff-Bulman (2004) argues that, even though successful coping is mostly necessary for PTG, whether it is sufficient for a complete understanding of growth is questionable. In her critical analysis of coping processes, she suggests that the growth after trauma is complex. She points out that despite the implication that PTG would be associated with positive well-being and decreased psychological distress, the reality of such outcomes shows mixed results. Instead, Janoff-Bulman suggests that in the long-term aftermath of trauma, individuals may "experience disillusionment and appreciation, unpredictability and preparedness, and vulnerability and strength" (p.34). The above criticisms of PTG suggest that further work is required to strengthen understandings of positive mental health outcomes in investigations of traumatic experiences.

3.4 Resilience

Another closely related concept in well-being research is the concept of resilience. Definitions and measurements of resilience vary across the literature. One understanding of resilience is adapting to and maintaining or regaining mental health despite or in the context of adversity (Wald, Taylor, Asmundson, Jang & Stapleton, 2006; Herrman, Stewart, Diaz-Granados, Berger, Jackson & Yuen, 2011). Resilience has also been suggested to be distinguished from positive mental health, as it is an interactive concept that directly relates to resistance to environmental risk experiences or the overcoming of adversity (Rutter, 2006). Herrman and associates (2011) point out the multi-disciplinary nature of the concept of resilience, as it has been studied across the disciplines of psychology, psychiatry, sociology, and even biology.

Lepore and Revenson (2006) have pointed out that there is no single way to capture the concept of resilience but have highlighted three dimensions – recovery, resistance and reconfiguration. Recovery has been considered as the process of someone returning to their normal state after experiencing a stressor. It is similar to the analogy of a tree being blown in the wind and returning to its original state after the wind has stopped. On the other hand, resistance would be seen as the tree standing still even in the face of strong winds. Then reconfiguration is seen as the tree transforming its shape after the wind passes. People in this phase are said to be able to reconfigure their beliefs and behaviours in a way that enables them to adapt to traumatic experiences and potentially withstand future ones.

Lepore and Revenson (2006) see resilience as evident when people are recovering or resisting stressors in their lives and changing their thoughts, beliefs, or actions according to different demands. Thus, they view the PTG process as a possibility for people who have gone through

the reconfiguration process of resilience. Referring to the work of Masten (2011) and Rutter (2012), Grych et al. (2015) point out that the concept of resilience is best seen as a dynamic process as opposed to a stable quality possessed by a person. This is because it depends on the pattern of stresses and risk and protective factors that influence an individual at a point in time.

Another prominent approach to resilience is Michael Ungar's (2012) Socio-Ecological Perspective of Resilience. This framework considers interacting factors beyond the individual level in the conceptualisation of well-being. Ungar's theory suggests that the combination of individual and environmental factors is what enables (or constrains/prevents) growth. This perspective draws parallels with Heise's (2011) Conceptual Framework for Partner Violence mentioned in Chapter 2 (Figure 2.1.1; section 2.1.2), which outlined the interaction of factors across socio-ecological levels in the context of IPV risks and impacts.

Based on this socio-ecological framework, Ungar suggests that, following experiences of adversity, the support and resources available in the environment are important contributors to creating individual resilience. Ungar highlights that resilience has often been defined in psychological discourse as an interpersonal concept, with earlier studies of resilience focusing on the individual as the locus of change. Even if environmental factors such as families, schools, institutions, and communities were taken into consideration, it was still the qualities of individuals that were the main concern of researchers. Ungar suggests that this led to an 'individually focused' perception of resilience, and this puts the onus on individuals to be responsible for accessing opportunities in their environments in order to enable functioning and growth. Therefore, there was less focus on the influence of social processes that are enabling conditions of risk and growth.

Ungar argues that in order to understand resilience, the context in which individuals experience adversity must also be taken into consideration, with the ecologies (environmental factors) that shape the opportunities individuals experience for positive development also being explored. For example, how individuals interact with the environment around them and what resources in the environment are accessible to people. According to Ungar, the processes associated with resilience depend on the opportunity structures and how individuals navigate resources associated with well-being.

A socio-ecological perspective of resilience, therefore, challenges the individualist discourse of traditional perspectives of resilience. The focus is shifted from the capacities of individuals to the capacities of social and physical ecologies. In particular, the social and physical ecologies

that increase the likelihood of protective processes that contribute to resilience in the context of adversity (Ungar, 2012). For instance, understanding person-environment interactions could include exploring the effect that schools have on individuals or the effect of healthy attachments on shaping neuron networks in the brain, as discussed by Ungar. This framework for understanding resilience, therefore, embodies an interactional, environmental, and diverse approach (Ungar, 2012).

This has recently been reframed to a model of multisystemic resilience (Ungar, 2021). The reframing of this model builds on previous understandings of resilience that focus on recovery, adaptation, and transformation to demonstrate a more comprehensive multisystemic perspective of resilience. This perspective suggests that all systems across a complex Biopsychosocial-ecological system (Biological systems, Psychological systems, Social Environment, Built Environment, Natural Environment) have the potential to demonstrate resilience and this resilience is the reflection of the capacity of these co-occurring systems to interact well together under adversity or stress. According to Ungar, as these systems undergo stress (above the threshold of stress optimal for system functioning) and cope with adversity they influence the other mutually dependent systems.

Resilience has also been explored in the context of IPV (e.g., Moeller-Saxone, Davis, Stewart, Diaz-Granados, & Herrman, 2015; Howell, Thurston, Schwartz, Jamison, & Hasselle, 2018; Choi, Lo, Lo, To, & Wong, 2019). For example, in Howell and associates study (2018), the factors that were associated with higher resilience for women exposed to IPV were greater social support, more spirituality, and fewer violent relationships. Resilience in the IPV context is explored in more detail in section 3.7 of this chapter. It is worth noting that, similar to PTG, resilience cannot be considered as an example of a positive outcome but rather as a process through which positive outcomes such as positive mental health can be enabled.

Reflecting on the conceptualisations discussed in this review more critically, many aspects of measures of growth after trauma seem to be focused on personal characteristics, strengths and perceived personal changes. Additionally, some concepts have focused more on the absence of disorders post-trauma. For example, in the context of IPV, resilience has sometimes been measured in relation to scoring below thresholds for depression or PTSD (e.g., Machisa et al., 2018). The aim of this thesis was to conceptualise mental health by looking beyond the absence of disorders or symptoms and focus on a more holistic measurement, accounting for the influence of social factors.

In summary, limitations with the concepts of resilience and PTG have highlighted the importance and relevance of the inclusion of further measures that would build on these understandings and enable the exploration of positive mental health outcomes to identify what additional findings we can glean. This has led to the exploration of positive mental health further to fill this gap in understanding the possibility of experiencing a positive state of mental health despite previous exposure to IPV. It is also clear that further exploration is warranted to strengthen understandings of factors that contribute to enhanced mental health outcomes for people and for those who have experienced IPV.

3.5 Positive Mental Health

3.5.1 Mental Health Versus Mental Illness

First, an important discussion in mental health research is how mental health is conceptualised and measured distinct from mental illness. Poorman (2002) highlights that viewing problems at one end of a continuum and the absence of problems at the other end lends itself to more of a pathological view of health where the absence of problems is considered the same as the presence of health. Huppert and So (2013) also highlight that most mental health research and practice have been focused on the treatment and prevention of pathologies, including depression and anxiety. This perspective assumes that in the absence of pathology, high levels of wellbeing would be present.

However, this does not allow for acknowledging active and positive health. This traditional perspective does not leave room for active mental health or flourishing. Keyes and Simoes (2012) argue that mental health (or high levels of wellbeing) goes beyond merely the absence of mental illness. Therefore, the focus of this thesis is on a more comprehensive understanding of positive mental health outcomes distinct from just the absence of mental illness symptoms. This is explained further in this chapter.

3.5.2 Definitions and Understandings of Positive Mental Health

Understandings on the concept of positive mental health can be traced back to the work of Aristotle on Virtues and Human Flourishing. Aristotle referred to flourishing and living well as “Eudaimonia” in the *Nicomachean Ethics*. According to Lemos (2007), Aristotle argued that living well is the aim of all human action. However, there are diversities in what people think

'living well' constitutes (Lemos, 2007). Aristotle points out that this may mean living a life of honour for some, but for others, this is a life of pleasure. He argued that neither perspective represents the whole truth but that living well entails a life of rational activity alongside living with virtue (Lemos, 2007). Lemos also highlights Philippa Foot's work on flourishing in *Natural Goodness* (2003). Foot likens the goodness of humans to the goodness of plants and animals. She suggests that human flourishing is dependent on whether humans have the particular 'traits' that enable flourishing.

Also worth mentioning is the concept of flourishing from a capabilities framework as conceptualised by Sen (e.g., 1992;1993;1999) and further developed by Nussbaum (e.g., 1993; 2000;2006). 'Capability' is viewed as the opportunity of individuals to achieve a set of 'functionings'. It reflects an individual's freedom to choose and lead their lives in particular ways. 'Functionings' are the various things that an individual may value as doing or achieving, for example, from being well-nourished and avoiding early mortality to sophisticated achievements, such as self-respect and participation in the community (Sen, 1992). Sen (1993) highlights that the capacity set of a person is dependent on various factors, including personal characteristics and social arrangements. From a capabilities perspective, flourishing or well-being is then seen as the extent to which an individual has the freedom to do and be what they have reason to value doing or being (Sen, 1999; Wilson-Strydom & Walker, 2015).

Nussbaum sets out ten 'central human capabilities': life, bodily health, bodily integrity, senses, imagination and thought, emotions, practical reason, affiliation, other species, play, and control over one's environment (Nussbaum, 2006). Nussbaum (2000) argues that each of these capabilities are needed for a dignified human life. Nussbaum (1993) also points out that the choices of a person can be seen as a response to features of their local context. Therefore, there is some consideration of the influence of social conditions on individual capabilities based on this perspective.

One prominent conceptualisation of positive mental health in literature is the one developed by Professor Corey Keyes. Prior to Keyes, most researchers focused on individual characteristics of traits (e.g., Lemos, 2007; Foot, 2003; Sen, 1993;1999; Nussbaum, 1993; 2000; 2006) or either Hedonic or Eudaimonic wellbeing. Hedonic wellbeing focus on how one feels about their life, and eudaimonic wellbeing focus on living life to the full according to one's potential (Ryan & Deci, 2001). However, it has been argued that well-being includes *both* hedonic and eudaimonic components (McMahan & Estes, 2011). Still, less research has focused on the

impact of both hedonic and eudaimonic approaches on wellbeing (McMahan & Estes, 2011; Ryff, Boylan, & Kirsch, 2021).

Keyes (2002) views mental health as not just a state but more of a set of factors of positive feelings and functioning. Keyes considers both hedonic and eudaimonic components of well-being. In their study of Midlife in the United States, Keyes et al. (2002) found that eudaimonic and hedonic wellbeing were related but distinct aspects of psychological wellbeing. Keyes (2002) outlines that, both conceptually and empirically, measures of subjective well-being fall into two clusters: emotional and functional well-being. *Emotional* well-being consists of a cluster that is a reflection of emotional vitality. *Psychological* and *Social* well-being make up a cluster that reflects positive functioning. See Table 3.2 for an outline of the measures for each of the dimensions.

Table 3.2 Components of the Three Dimensions of Keyes' Conceptualisation of Mental Health.

Emotional well-being	Psychological well-being	Social well-being
• Happiness • Interested in life • Satisfaction with life	• Self-acceptance • Positive relations with others • Personal growth • Purpose in life • Environmental mastery • Autonomy	• Seeing society as meaningful and understandable • Seeing society possess the potential for growth • A sense of belonging and acceptance by communities • Accepting most parts of society • Seeing oneself as contributing to society

Based on the above table, 'flourishing' is described by Keyes as the presence of mental health and 'languishing' is described as the absence of mental health. According to Keyes, adults with 'complete' mental health are flourishing in life and have high levels of well-being, and adults with 'incomplete' mental health are languishing in life and have low levels of well-being. Flourishing is defined as "…to be filled with positive emotion and to be functioning well

psychologically and socially." (p.210). Languishing "may be conceived of as emptiness and stagnation, constituting a life of quiet despair that parallels accounts of individuals who describe themselves and life as 'hollow', 'empty', 'a shell', and a 'void'" (Keyes, 2002, p.201; Cushman, 1990; Levy, 1984; Singer, 1977). Individuals who fall between flourishing and languishing are labelled as 'moderately mentally healthy'.

A vital consideration is that languishing and flourishing are not distinct or binary categories. Similar to mental illness, Keyes argues that mental health can be viewed as being based on a state of health when there are a specific set of identifying factors present at a particular level for a certain amount of time (Keyes, 2001; Mechanic, 1999). Keyes suggests a dual continuum perspective on the concept of mental health and wellbeing, where mental health and mental illness are not viewed as binary categories (See Figure 3.2). From this perspective, the absence of mental illness does not necessarily mean the presence of mental health, and the presence of mental illness does not mean the absence of some level of mental health (Keyes, 2014).

Based on this perspective, individuals can still be considered as 'flourishing' and living well even in the face of mental illness. Additionally, moderate mental health and languishing can still be experienced without the presence of mental illness (Keyes, 2014). For example, Keyes (2014) points out that [in the past year of his study] over 75% of American adults between 25-74 were free from three of the common mental disorders (major depressive episode, panic attacks, and generalised anxiety disorder). Yet, of those who were free from mental illness, only 20% were categorised as 'flourishing'. Additionally, about 70% of adults with mental illness had moderate or flourishing mental health (Keyes, 2002;2005a;2007a).

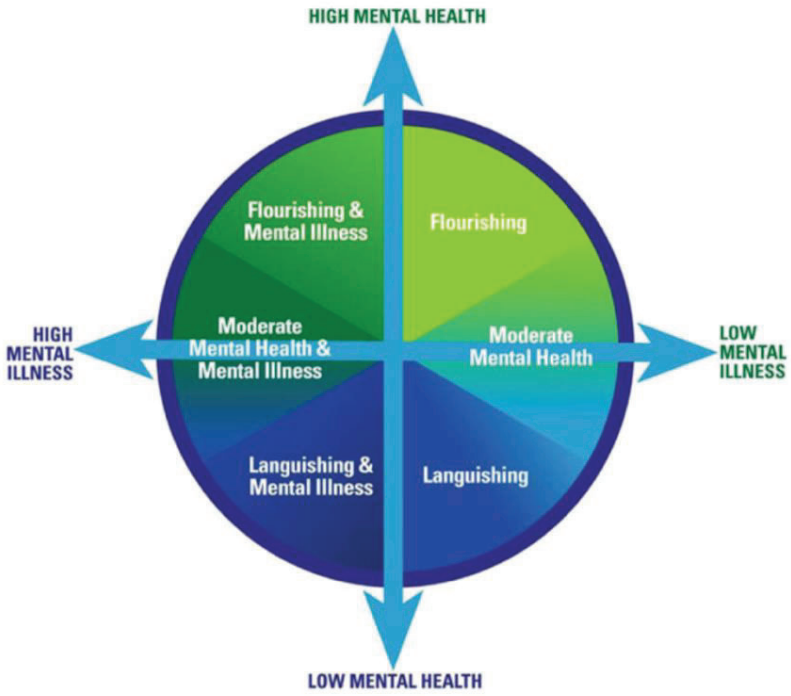

Figure 3.2 The Dual Continua Model of Mental Health and Mental Illness.

Reprinted from "Mental health as a complete state: How the salutogenic perspective completes the picture." By Keyes (2014) in G.F. Bauer & O. Hämmig (Eds.), *Bridging occupational, organizational and public health* (pp. 179-192). Springer.

3.5.3 Benefits of Flourishing as an Outcome for Society

There is a growing body of evidence showing that high levels of well-being are beneficial for individuals and society (Huppert & So, 2013). This can include positive outcomes such as effective learning, productivity and creativity, good relationships and improved life expectancy (Chida & Steptoe 2008; Diener, Kahneman & Helliwell, 2010; Dolan, Peasgood, & White, 2008; Huppert, 2009; Lyubomirsky, Sheldon & Schkade, 2005). According to Ryff and Singer (2000), understanding positive health outcomes requires understanding how positive psychological or relational experiences (as factors of flourishing) manifest in vitality and longevity through their effect on key physiological processes (e.g., neural circuitry, immune system).

Having a meaningful and purposeful life and creating positive and quality connections with other people have been identified as key aspects of flourishing, and these features have also been shown to affect biology and health (Ryff & Singer, 2000). For example, Keyes and Simoes (2012) highlight the link between mental health and reduced mortality in their study of

positive mental health and all-cause mortality in the United States. Study results showed that the adjusted odds ratio of mortality was significantly higher for adults who were not flourishing (AOR = 1.62; 95% CI=1.00,2.62; p = .05) relative to adults who had flourishing mental health. Keyes (2007a) also demonstrates the importance of flourishing for society by pointing out that adults who were considered as 'completely mentally healthy' (free of mental illness and flourishing) had reported fewer missed workdays, fewer half-days or time off work, the lowest levels of health limitations of daily activities, lower chronic physical conditions, lower health care usage and higher levels of psychological functioning than those who did not have complete mental health.

Keyes also points out that completely mentally healthy adults also reported the lowest level of perceived helplessness, the highest level of knowing what they want in life, the highest level of self-reported resilience and the highest level of intimacy. Looking at all these measures, Keyes reports that completely mentally healthy adults appeared to function better than adults with 'moderate mental health', who in turn functioned better than adults who were 'languishing'.

Ryff and Singer (2000) also point out that interpersonal flourishing is a key feature of what constitutes a 'quality life' across time, contexts, and culture. Beyond a focus on 'symptoms' and/or outcomes, a flourishing perspective suggests an exploration of *relationships* and social interactions when exploring concepts such as flourishing and positive mental health. In their research, Ryff and Singer identify that a major contributing factor to overcoming life challenges from childhood to old age is the protective factor of social relational ties.

For example, in histories of women who regain high well-being after depression (e.g., Singer, Ryff, Carr, & Magee, 1998), significant others have been identified as contributors to depression (e.g., growing up with an alcoholic parent; alcoholic partner; death of a parent or spouse) as well as sources of strength in the recovery (e.g., supportive spouse; community ties; community involvement). However, Ryff and Singer identify that further investigation is needed into the stress-buffering effects of social relationships and the emotional pathways through which these effects take place. In another study of social inequalities, Singer and Ryff (1999) identified that good social ties appeared to be a protective factor at the biological level. For instance, individuals with low socioeconomic status who were on a positive social relationship pathway had a lower incidence of high allostatic load (impact of chronic stress on

the body). Ryff and Singer suggest that the above ideas are in line with the growing interest in doing well despite facing adversity (e.g., Carver, 1998; Ickovics & Park, 1998; Park, 1998).

3.5.4 Measurements of Positive Mental Health (Flourishing)

In terms of measures of positive mental health (flourishing), there are currently a number of different approaches. However, the main instruments available to measure flourishing are the Mental Health Continuum-Short form (Keyes, 2002), Huppert and So's Conceptual Framework of Flourishing (Huppert & So, 2013), the Flourishing Scale (Diener et al., 2010), and the PERMA-Profiler (Seligman, 2011). Each of these measures understands flourishing differently. However, two key commonalities among the measures are that flourishing refers to high levels of subjective wellbeing and that wellbeing is a multidimensional construct that cannot be accurately captured by a single-item measure (Hone, Jarden, Schofield, & Duncan, 2014). Additionally, all four combine feeling and functioning as theoretically conceptualised by Keyes (2002). They are all brief (assessing flourishing with fewer than 20 questions) and do not require expert delivery (Hone et al., 2014). The data produced by the aforementioned flourishing measures can also be easily interpreted across various contexts and users, including clinical, policy and population health promotion contexts (Hone et al., 2014).

Whilst each of these measures have their own strengths and limitations, Keyes' Mental Health Continuum-Short form (MHC-SF) provides a measure of flourishing which covers more domains compared to the other measures. Figure 3.3 below, summarised by Hone et al. (2014), highlights the different concepts of flourishing and the different domains covered by each measure. In particular, Keyes measure of flourishing covers more of the *social* dimensions of wellbeing, such as social contribution, integration, growth, acceptance, and coherence. The addition of the five social wellbeing items in Keyes' measure is a key strength of this approach. This enables the evaluation of an individual's views of their functioning in public life and extends the measure of flourishing beyond personal feeling and functioning (Hone et al., 2014). Keyes' measure of flourishing is also the only one of the four that includes a measure of life satisfaction.

KEYES	HUPPERT & SO	DIENER et al.	SELIGMAN et al.
Positive relationships	Positive relationships	Positive relationships	Positive relationships
Positive affect (interested)	Engagement	Engagement	Engagement
Purpose in life	Meaning	Purpose and meaning	Meaning and purpose
Self-acceptance	Self-esteem	Self-acceptance and Self-esteem	–
Positive affect (happy)	Positive emotion	–	Positive emotion
–	Competence	Competence	Accomplishment/ Competence
–	Optimism	Optimism	–
Social contribution	–	Social contribution	–
Social integration	–	–	–
Social growth	–	–	–
Social acceptance	–	–	–
Social coherence	–	–	–
Environmental mastery	–	–	–
Personal growth	–	–	–
Autonomy	–	–	–
Life satisfaction	–	–	–
–	Emotional stability	–	–
–	Vitality	–	–
–	Resilience	–	–

Figure 3.3 Four Different Conceptualisations of Flourishing.

Reprinted from "Measuring flourishing: The Impact of operational definitions on the prevalence of high levels of wellbeing." by Hone, L.C., Jarden, A., Schofield, G.M., & Duncan, S. (2014), *International Journal of Wellbeing, 4*(1), 62-90.

Another additional benefit of Keyes' measure of flourishing is that it has been widely used, and the psychometric properties have been extensively validated internationally (e.g., Keyes, 2006; Keyes et al., 2008; Perugini et al., 2017; Petrillo, Capone, Caso & Keyes, 2015; Schutte & Wissing, 2017).

Using this scale, mental health is conceptualised across the three dimensions of Emotional Well-Being, Psychological Well-Being, and Social Well-Being. Keyes has developed 14 items measuring each of the three dimensions of mental health. The 14 items are outlined in more detail in the methods chapter, Chapter 4.

Given that the MHC-SF has been widely used across countries and contexts, many studies have also explored differences in positive mental health outcomes across groups. For example, there

have been differences in latent means of the MHC-SF noted across gender (e.g., higher well-being reported by men; Rogoza, Truong Thi, Różycka-Tran, Piotrowski, & Żemojtel-Piotrowska, 2018), different countries (e.g., lower wellbeing scores in Iran compared to the Netherlands and South Africa; Joshanloo et al., 2013), and across age groups (e.g. higher levels of emotional wellbeing in younger ages; Petrillo et al., 2015; Rogoza et al., 2018). It would therefore be worth exploring what the MHC-SF shows across different groups in the New Zealand context. Particularly with the colonial history of New Zealand and the ongoing psychological and physical consequences experienced by Māori (Reid, Taylor-Moore, & Varona, 2014), ethnic group differences are salient to explore.

The previous study evaluating the MHC-SF in NZ was conducted in a small university sample, which was mostly female (Joshanloo, Jose, & Kielpikowski, 2017). This makes it difficult to extend the findings to assess the utility of the scale to measure flourishing for a broader, more general population in NZ. Additionally, the MHC-SF has also not previously been validated specifically for an IPV sample of women. Therefore, this identifies two key gaps of the MHC-SF that should be addressed in the NZ context.

3.5.5 Factors that contribute to flourishing mental health in the general population.

Identifying some of the factors that contribute to positive mental health for the general population can be helpful for understanding ways in which these outcomes can be enhanced across populations. These contributing factors can be outlined across different levels in relation to a population health framework. For example, *individual factors* that have been found to be associated with flourishing include personality traits (i.e., higher levels of conscientiousness and extraversion and lower levels of neuroticism, including emotional instability, worrying, and nervousness) (Schotanus-Dijkstra, Pieterse, Drossaert, Westerhof, de Graaf, Have, Walburg, & Bohlmeijer, 2016) and demographics (e.g., more flourishers in younger age groups; female gender significantly related to flourishing) (Schotanus-Dijkstra et al., 2016). However, these findings differ from Keyes and Simoes' (2012) study, which found the highest percentage of flourishers in the 45-54 age group and the lowest percentage in the younger age group.

Peter and associates' study (2011) of Canadian university students also found that females were more likely to have higher scores of positive mental health. This contrasted with other studies

which have found the male gender significantly associated with flourishing (Keyes & Simoes, 2012; Momtaz, Hamid, Haron, & Bagat, 2016). Ethnicity could also be a contributing factor to flourishing worth exploring across contexts (Catalino & Fredrickson, 2011). In their study of flourishing, Catalino and Fredrickson found that 83.3% of the white people in their sample were flourishing. However, they point out that most of the sample were white, middle-aged and middle-class. This suggests further exploration of flourishing based on demographics is warranted across different samples and contexts. In addition, physical health status has also been shown to be associated with flourishing, as older adults with three and more chronic medical conditions showed significantly decreased flourishing compared to older adults without chronic medical conditions (Momtaz et al., 2016). Peter et al. (2011) also found individual health (physical health, level of exercise and nutrition) as a positive significant predictor of positive mental health.

Individuals with a history of childhood trauma were found to be less likely to have higher rates of positive mental health (Peter et al., 2011). This makes sense, as many studies have highlighted the relationship between the experience of childhood trauma and mental health problems both in childhood and later in adulthood (e.g., Mullen et al., 1993; Spataro et al., 2004; Wright et al., 2001). For example, Spataro et al.'s (2004) prospective cohort study identified that increased rates of affective, personality and childhood mental disorders, as well as greater use of public mental health services, was observed among individuals with a history of child sexual abuse.

Contributing factors to flourishing also include education (i.e. more flourishers with higher education, fewer flourishers with lower education) (Schotanus-Dijkstra et al., 2016). Momtaz et al. (2016) also reported that, compared with no formal education, having primary education and secondary/tertiary education had higher odds of flourishing. Higher socioeconomic background (Peter et al., 2011) and employment status (being employed) has also been shown to be significantly associated with greater odds of flourishing (Momtaz et al., 2016).

In terms of *social factors*, social support and positive life events were significant contributors to flourishing in the study by Schotanus-Dijkstra et al. (2016) after controlling for socio-demographic and personality traits. Social support has been highlighted across numerous studies as an important contributor to well-being (e.g., Diener & Seligman, 2002;2004; Huppert, 2009; Keyes, 1998). Having living children has also been found to be significantly associated with flourishing (Momtaz et al., 2106).

At the *structural* and *societal level,* a focus on promoting positive mental health and flourishing is dependent on the socio-cultural context of the country or community. According to Keyes (2007b), prevention and treatment of mental illness do not necessarily result in more mentally healthy individuals or populations. An individualist perspective of mental illness takes resources and focus away from a complementary approach: mental health promotion (World Health Organization, 2004; Keyes, 2007b). Keyes suggests that the promotion of mental health as flourishing will result in more mentally healthy individuals and populations as it could prevent and reduce mental illness also.

It is also worth exploring the contributing factors to positive mental health, not just for the general population but also for individuals who might benefit from further support, for example, those who have experienced IPV. These factors are discussed in section 3.7 of this chapter.

3.6 PTG, Resilience, and Positive Mental Health in the Context of IPV

In this section, I will be summarising the literature that focuses on what contributes to growth and positive mental health in the context of IPV specifically.

Exploring the possibilities of positive mental health outcomes in the IPV context is not to minimise or diminish the negative and long-term effects of experiencing trauma or violence, but to highlight factors that may mitigate or help address these negative consequences in order to improve outcomes for people who experience trauma. From a population health and socioecological theory of resilience perspective, these factors may be across individual (e.g., access to resources), relationships (e.g., relationship history), community (e.g., resources available; informal support) or societal levels (e.g., social norms).

In terms of specific contributing factors to positive mental health in the context of IPV, Psychologist Paula Poorman (2002) explores ‘thriving’ in women who have experienced abuse in interpersonal relationships or status-related oppression using a grounded theory approach. Poorman argues that previous researchers have used a psychological health lens and focused on defining psychological problems and their risk factors. Poorman suggests a change in focus from looking at just the absence of problems to explore a richer understanding of health. This involves looking at differences in environmental characteristics, individual differences, and the properties of the stressors to better understand the differences between people who do well and

those who do not. In her study, Poorman conducted focus groups with women to conceptualise a model of 'thriving' based on their understandings and perspectives.

Based on an analysis of these discussions, thriving was conceptualised as a *process*: dynamic, variable, and characterised by interconnections between cycles of activity, rest, and stasis. Individual perceptions, motives and resources, as well as the nature of the relationship with adversity and properties of the environment in relation to interpersonal relationships, were identified as factors of the structure and process of thriving. In the context of thriving and adversity specifically, Poorman's study results showed that women (who all self-identified as thriving) did not identify the timing, duration or cumulative effect of adversity as important factors to be aware of. Rather, an in-depth understanding of the adversity, as well as drawing confidence from overcoming adversity, were identified as crucial components of thriving. However, Poorman points out that the notion of adversity as a prerequisite for thriving needs further investigation to have a clearer understanding of the nature of this relationship.

Elderton and associates (2017) conducted a critical review of the literature on PTG in people who had experienced interpersonal violence. The results showed that, of the quantitative studies included in the review, the mean occurrence of growth was 70.6%, ranging from 58% to 99%. The studies included men and women aged 19 to 44 years from a range of ethnicities who had reported experience of physical and sexual violence by strangers, acquaintances, and partners. Some of the factors that Elderton and associates specify as associated with PTG include 'pre-trauma variables' *individual level* factors, such as sociodemographic and personality. For example, older age was positively correlated with reported growth among women, whereas education level was negatively associated (more education associated with lower growth) (Grubaugh & Resick, 2007). In another study, African-American ethnicity was positively associated with growth (Kennedy, Davis, & Taylor, 1998). Elderton and associates (2017) also identified 'peri-trauma variables' associated with growth, and this includes factors such as trauma severity, the nature of the trauma, peri-trauma affect, and the characteristics of the perpetrators. For example, Cobb and associates' (2006) study on PTG for women who had experienced IPV specifically found that women who experienced more abuse reported more growth.

Lastly, the 'post-trauma variables' identified in Elderton and associates' review, and also a pertinent focus for the aims of my thesis, include *social factors* such as coping strategies, cognitive appraisals, and social support in the aftermath of trauma. Cobb and associates (2006)

study showed that women who had left abusive relationships had higher overall growth compared to those who were still in abusive relationships. In addition, the presence of a role model (someone who had experience growth after abuse) was also shown to be positively associated with growth. This demonstrates the powerful impact of social support in promoting positive growth outcomes post-IPV.

McLeod and associates (2020) refer to the work of Anderson (2011), who looks at PTG in the context of childhood exposure to IPV specifically. Anderson suggests that adults who were exposed to IPV as children can gain wisdom and resilience, as well as a commitment to ending violence. Anderson points out that this is through the process of cognitive restructuring, meaning-making and rebuilding of distorted schemas.

The concept of resilience has also been explored across IPV literature. For example, Howell and associates (2018) examined protective factors associated with resilience in a sample of women who had been exposed to physical, psychological, and/or sexual violence. Resilience was measured based on the Connor-Davidson Resilience Scale (Connor & Davidson, 2003). This is a self-reported measure that assesses the ability to respond to stress and adversity. Items include measures of personal competence, trust in one's instinct, positive acceptance of change, secure relationships, control and influences from a higher power. The results of Howell and associates' hierarchical linear regression modelling indicated that greater social support, more spirituality and fewer violent relationships were predictors of higher resilience in this sample of women.

Ahmad et al.'s (2013) study on resilience among South Asian immigrant women who had experienced IPV found that women draw on a range of resources and factors across micro, meso, and macro levels. This included *individual-level* factors such as cognitive abilities (e.g., confidence, self-esteem, optimism, critical appraisal), *social support* (e.g., from family, friends, and acquaintances), and professional (*structural*) support (e.g., social workers, school counsellors, language teachers, nurses, lawyers, and police). This supports the notion that resilience can be considered a dynamic process influenced by the socio-environmental context.

Similarly, Machisa and associates (2018) studied psychological resilience (measured by scoring below the threshold for post-traumatic stress) among women who had experienced IPV in South America. At the bivariate level, results showed that women who binge drank, had unsupportive reactions from family members, used medical or psychosocial services, or who experienced repeat IPV exposure in the past year were less likely to be classified as resilient.

After adjusting for IPV severity and traumatic exposures (e.g., child sexual abuse, non-partner rape, other trauma), results of a multivariable logistic regression showed that indicators of *social support* were the main factors associated with increased resilience (Machisa et al., 2018). Social connectedness, stronger network ties and perceived supportive communities were identified as fostering resilience among these women. This highlights the pivotal contribution of social support factors in promoting resilience in the context of IPV. The severity of IPV was also associate with resilience, with women who experienced more severe IPV (in the past 12 months) less likely to be resilient (Machisa et al., 2018).

Machisa et al. also explored the impact of *socioeconomic factors* on predicting resilience (i.e., food security, employment status, income). However, they found that women in the sample who were employed and earned more were less likely to be resilient. They point out that this contrasts findings of other studies, which have identified higher socio-economic status as associated with higher resilience (e.g., Friedli & World Health Organization, 2009). The authors suggest this contrast with previous findings may be because of the differential access to informal social support that may be more important than the ownership of material resources in contributing to resilience. Machisa et al. did, however, find that increased resilience was associated with being able to find money in an emergency.

Similarly, Ford-Gilboe et al. (2009) point out the need for an intersectional understanding of women's health (Anderson, 2006; Nazim, 2005) and of violence against women (Crenshaw, 1991; Hankivsky & Varcoe, 2019). This involves exploring how interactions between structural and social conditions construct one another to affect health outcomes (Denton, Prus & Walters, 2004). Further investigation of intersectional factors influencing mental health and IPV experience could include, for example, exploring intersections of gender, ethnicity/race, and class (Sokoloff & Dupont, 2005).

In addition, past abuse and current resources need to be explored within a broader context of structural conditions (Ford-Gilboe et al., 2009). Ford-Gilboe and associates also suggest that women's resilience affects their health after leaving a violent relationship. However, the authors refer to Agaibi and Wilson's (2005) review of the literature on trauma, PTSD, and resilience to point out that underlying mechanisms of resilience post-trauma are complex and multifaceted.

However, despite numerous investigations of PTG and resilience post-IPV, an understanding of what helps flourishing (e.g., as measured by the MHC-SF) in the IPV context is lacking in

the literature. This highlighted a crucial gap in the knowledge of positive mental health in the IPV context that will be addressed in this thesis.

The above literature has also highlighted a number of key contributors to better mental health outcomes in the context of IPV exposure that warrant further exploration. These factors include the consideration of the effect of recency and severity of IPV, age, ethnicity, education levels, socio-economic characteristics, childhood exposure to violence, and access to social support and informal supports. These factors are relevant to explore to determine whether they are also important contributors to positive mental health for women who have experienced IPV.

3.6.1 Importance of Social Support

Explorations of the pathways towards more positive mental health outcomes in the context of IPV have suggested social or informal support as an important contributor to mental health that would be worth exploring in more detail (e.g., West & Wandrei, 2002; Coker, Watkins, Smith & Brandt, 2003; Wright & Johnson, 2009; Blasco-Ros, Sánchez-Lorente & Martinez, 2010; Ford-Gilboe, Wuest, Varcoe, Davies, Merritt-Gray, Campbell & Wilk, 2009; Howell, Thurston, Schwartz, Jamison & Hasselle, 2018).

Previous research has identified social support as helpful in coping with and mitigating a sense of alienation resulting from IPV exposure (Coker et al., 2003). Importantly, friends and family are often the first points of help following IPV, and such support can be complementary to the support provided by other formal sources (West & Wandrei, 2002). The importance of social support is also evident in the help-seeking context, for example, in relation to legal help-seeking (Wright & Johnson, 2009). Women who had experienced IPV and who were involved in criminal prosecution reported receiving more social support from family and friends in the previous month. The type of support reported included tangible (e.g., material aid) and intangible support (e.g., guidance and feedback) (Wright & Johnson, 2009). However, Wright and Johnson do point out that the directional nature of the relationship (between social support and legal help-seeking) is difficult to determine, given the cross-sectional design of their study. They suggest future longitudinal studies to determine causality.

In addition to the positive benefits of social support, some researchers have identified the need to explore the effect of potentially negative social support or social reactions to IPV. For example, exploring the effect of negative disclosure events in the IPV context and how this

influences help-seeking pathways, such as the experience of stigma internalisation (Overstreet & Quinn, 2013).

IPV interventions that incorporate social support can help improve mental health for people who experience IPV and improve factors such as help-seeking. For example, in their study of social reactions to IPV, Yndo and associates (2019) suggest that more social support and less stigmatization can create an approachable environment for individuals in violent relationships to seek help if they want to. Similarly, interventions that aim to improve access to social supports, such as through advocates with strong ties with community sources and networks, can improve mental health outcomes (Ogbe, Harmon, Van den Berg & Degomme, 2020). Therefore, investigating what specific aspects of social support are helpful in the context of IPV holds potential for improving or designing future interventions that can further enhance these beneficial outcomes for women.

Broughton and Ford-Gilboe (2017) suggest that responses to women who have experienced abuse should be from a strengths-based perspective. They suggest that interventions for these women and their families should address mental health outcomes such as depression as well as factors such as social support. For instance, interventions that enhance women's rights to make their own decisions and reinforce their capacity to make decisions for their own families' well-being would be helpful. It also should investigate women's access to social support and address any gaps and network building (Broughton & Ford-Gilboe, 2017). Therefore, we need to explore social factors such as social support more closely and how this can be enhanced to influence more positive impacts on women.

When considering factors such as improving social support, it is also crucial to be aware that as one of the detrimental impacts of experiencing IPV, abusive partners may display controlling behaviours and isolate women from their networks (World Health Organization, 2012). Therefore, even though the importance of exploring the effects of social support in the context of IPV has been emphasised, investigating ways to reach out to those who may be isolated from their social networks as a result of controlling behaviours from their abusive partners is extremely pertinent. Landenburger (1998) suggests that, for women to heal from IPV, we (as a society) need to make the resources women need available for them. This provides a strong case for my thesis and my focus on exploring what social factors are most helpful in the IPV context. Varcoe and associates (2011) support this focus by highlighting the need for support, health and social services to reorient their services more effectively towards those experiencing

IPV and their consequences. The authors argue that it is imperative to not just focus solely on assisting women in leaving abusive relationships but also to think about the pathways after leaving violent relationships.

Additionally, studies have also identified that the effect of social support in the IPV context may also be influenced by other factors. For example, this is demonstrated in Žukauskienė et al.'s (2019) study of the relationship between social support and PTG in the context of IPV. Their structural model found that women with experience of more severe violence, and for whom more time has passed since the last incident of IPV, experienced higher rates of PTG. Similarly, the severity of violence has also been explored in other studies investigating the relationship of social support in the IPV context. In particular, lower levels of severity have been shown to be associated with better mental health outcomes (e.g., Krauss, Wilson, Padrón, & Samuelson, 2016). However, Guruge et al.'s (2012) study found no relationship between IPV severity and social support on mental health.

Sociodemographic factors have also been shown to influence the effect of social support in the IPV context. For example, Wright (2015) reported that women in disadvantaged areas were found to be less protected from IPV victimisation compared to women in less disadvantaged areas, even when they received social support from family. Žukauskienė et al.'s (2019) study also found that women with higher income experienced higher rates of PTG, the level of education was negatively associated with PTG in this study. Literature has also identified the importance of social support for Māori and other indigenous populations in IPV contexts and also more generally (Hoeata, Nikora, Li, Young-Hauser & Robertson, 2011; Wilson, Jackson, & Herd, 2016; Waterworth, Rosenberg, Braham, Pescud & Dimmock, 2014; Richmond & Ross, 2008). Ethnic differences in social support coping among women who have experienced IPV have also been noted (Weiss et al., 2017). However, as pointed out by Weiss et al. (2017), more nuanced investigations are needed to explore ethnic differences in relation to specific aspects of social support and its outcomes for women who have experienced IPV.

These findings, therefore, suggest that socio-demographic factors (e.g., ethnicity, economic factors) and violence exposure factors (e.g., severity and recency) are worth exploring further in the context of social support and IPV.

3.7 Synthesis Framework

The above discussions on the literature in this field have led to the completion of the synthesis framework, as mentioned earlier in the outline of this chapter (3.2.) This table summarises the key points from the literature on the contributing factors to positive mental health in the general population and the context of IPV across three population health approach levels. See Table 3.3 below.

Table 3.3 Synthesis Framework of the Contributing Factors to Positive Mental Health in the General Population and in the IPV Context.

CONTEXT	INDIVIDUAL FACTORS	RELATIONSHIP/SOCIAL FACTORS	STRUCTURAL /SOCIETAL FACTORS
General Population	• Personality traits (e.g., higher levels of conscientiousness and extraversion and lower levels of neuroticism) • Socio-Demographics (e.g., gender, age, ethnicity, education; socioeconomic background; employment status). • Partnership status • Physical health status (e.g., chronic conditions; level of exercise; nutrition)	• Social support; Social ties • Positive life events • Having children • History of childhood trauma	• Societal/community focus and priority on promoting flourishing.
IPV Context	• Individual factors: personality • Socio-demographic factors (e.g., ethnicity, age, education, employment, income, money in emergencies) • Awareness of adversity; drawing confidence from overcoming adversity • Individual perceptions, motives, and resources • Coping strategies • Cognitive appraisals/ cognitive abilities (e.g., confidence, self-esteem, optimism, critical appraisal). • Spirituality • Drinking behaviours.	• Coercive control (continuing impacts); leaving not end of abuse • IPV severity/nature of trauma • Social support (impacts of both positive and negative support; social reactions to disclosure) • Social connectedness, stronger network ties, supportive communities • Fewer violent relationships • IPV recency/ not currently in abusive relationship/left abusive relationship • Characteristics of the perpetrator. • Exposure to IPV as child/childhood experiences	• Properties of the environment in relation to interpersonal relationships. • Use of medical or psychosocial services. • Professional support (e.g., social workers, school counsellors, language teachers, nurses, lawyers, and police).

The purpose of this framework was to summarise the evidence about contributing factors to better mental health that have been identified in the literature, to identify which factors might be helpful to explore when investigating positive mental health in the IPV context for the New Zealand sample of my thesis. The population health lens helps to organise these key factors across different levels beyond a focus on individual characteristics, particularly in the context of IPV. Findings from this synthesis framework will be used to guide and inform the analyses in my study of positive mental health outcomes in the context of IPV.

3.8 Gaps for Further Exploration

To conclude, gaps and challenges have been identified in defining and conceptualising mental health. The focus of this thesis will be specifically on positive mental health as a measure. While measures such as PTG and resilience can be conceptualised as processes and outcomes, the concept of positive mental health (as measured by the MHC-SF) is a distinct measure of mental health as an outcome. The scale is multi-dimensional and has shown to be a robust measure and widely used and validated internationally. The MHC-SF measures factors beyond the absence of mental illness symptoms, is one of the few measures that enables individuals to self-report on their own mental health, and has not been previously used in a population-wide NZ sample or an IPV sample. The purpose of this is to build on what other IPV studies have found using measures of resilience or PTG, to identify what additional findings can we glean because of the aforementioned features of positive mental health as a measure.

Specifically the research questions this theses explores are:

- Can the MHC-SF tool be validated for use with a general NZ population?
- Can this tool be validated for an IPV specific population?
- Are positive mental health outcomes possible in the context of IPV?
- What are the contributing factors to positive mental health in the context of IPV?

Once this valid measure of positive mental health has been established in the NZ context, exploration is needed to investigate the influences of factors that contribute to positive mental health for women who have experienced IPV.

3.9 Chapter Summary

This chapter has summarised the research that has already been conducted in this field. The key conceptualisations of PTG, resilience and positive mental health have been discussed. Keyes' MHC-SF has been outlined as a comprehensive and appropriate measure of positive mental health for this thesis. It has been identified that further work is needed to explore what aspects of individual, social, and structural factors enable women to have better mental health after IPV. The literature about PTG, resilience, and positive mental health has highlighted a need to continue exploring what *factors in society* enable strengths-based outcomes, particularly for women who have experienced IPV.

The next chapter will discuss the methodology employed in this study.

Chapter 4 METHODOLOGY

The purpose of this chapter is to outline the overall methodology employed and provide details on how each phase of data analysis was conducted. I used a quantitative approach to explore what factors enable positive mental health after an IPV experience. Data were drawn from a large population-based study in NZ: He Koiora Matapopore (HKM) - the 2019 New Zealand Family Violence Study. The HKM study used a quantitative questionnaire based on the World Health Organisation Multi-Country Study on Violence Against Women (WHO-MCS) (García-Moreno et al., 2005).

The WHO-MCS questionnaire explores factors such as women's experiences of and responses to IPV, their life experiences growing up, and their interactions with friends, families and communities following the violence. It was developed based on a long consultation process and was pre-tested and re-tested across participating countries (García-Moreno et al., 2015). The study objectives of the WHO-MCS were to estimate the prevalence of violence against women, assess the effect on health outcomes, identify risk and protective factors as well as strategies and services used by women to cope with violence (García-Moreno et al., 2005).

In this thesis, three major analytic procedures were used: testing the psychometric properties of Keyes Mental Health Continuum-Short Form (MHC-SF) (Keyes, 2002); a multivariable regression model to assess factors contributing to positive mental health in an IPV sample; and structural equation modelling to explore aspects of social support associated with positive mental health.

This is a thesis with publication, and each analytical technique is discussed in more detail in each respective results chapter. For this reason, there is some duplication of information between the methods chapter and the results chapters. According to the criteria of a thesis with publication, minor modifications have been made to the formatting of each paper to be consistent with the style of this thesis.

4.1 Methodology and Methods

4.1.1 Research Paradigm

Foundational Theory. A foundational theory grounds the assumptions for a body of research and shapes the ideas and theories influencing the enquiry process (Adams & Buetow, 2014). The meta-narrative underlying the foundational theory of this research is 'Progress'. This meta-narrative suggests that the advancement of humans is achieved through reason, observation and measurement. These processes then enable progressive movement towards 'enlightenment". Therefore, this theory underlines many fundamental understandings of empirical science, including the belief in an objective reality and the separation between mind and the world (Adams & Buetow, 2014).

The foundational theory of progress underpins the assumptions and processes followed in the conducting of this current thesis. It has shaped the research process in developing research questions, the collection of data, and the analysis and synthesis of results. The aim was to provide a comprehensive research analysis while considering the complexity of the nature of IPV research. This foundation enabled an in-depth exploration of positive mental health following IPV, and subsequent policy and community action recommendations were set out.

Ontology. Ontology refers to theories that explain reality and how it is structured (Hjørland & Hartel, 2003). In this thesis, the ontological perspective was one of realism or objectivism. The perspective of realism views the existence of the real world as external to and independent of human experience. From this lens, reliable knowledge about the world exists for us to gain (Jonassen, 1991). This suggests that IPV experiences can be objectively measured and understood to understand processes and pathways, which contribute to positive mental health.

This study sought to comprehensively (as closely as possible) measure women's realities in the context of IPV and their pathways following these experiences towards more positive mental health outcomes. The aim was to employ the appropriate research methods to conduct analyses to answer the research questions and draw conclusions about what social factors available within the data enabled more positive outcomes for women who experience IPV.

Epistemology. Epistemology refers to the study of knowledge and how to obtain it (Hjørland & Hartel, 2003). The epistemology employed in this thesis is based on a positivist paradigm. This perspective stresses that realities can be observed and explained through logical analysis. To inform the validity of scientific theory from this perspective involves evaluating whether theory-based predictions align with the information obtained through the research process (Kaboub, 2008). This perspective has been employed in designing, conducting, and analysing methods of this research project. This theory suggests that the realities of women who have experienced IPV and their mental health outcomes can be objectively measured and understood in this research context.

Methodology. Methodology refers to how one goes about discovering knowledge driven by ontological and epistemological perspectives (Killam, 2013). The most appropriate methodology for this thesis was feminist empiricism, based on the underpinning ontological and epistemological theories employed. This methodology was in line with the overall positivist framework and established the foundation for the aim of the overall study.

First, empiricism posits that the only knowledge available to us is that which can be measured by our senses (Leckenby, 2007). Empirical research involves systematically and thoughtfully planned observations (Patten & Galvan, 2019). In line with such beliefs and positivist frameworks, feminist empiricists believe that knowledge of the world is understandable. The aim is to develop such knowledge that is objective and truthful (Leckenby, 2007). The aim of science depends on the research context, and hence the aims, methods, and theories chosen for research may vary across contexts. According to this perspective, there is no one set criteria of aims for all science (Intemann, 2010). Contemporary feminist empiricism is also viewed as 'social' because the objectivity and justification associated with empiricist science are focused more on scientific communities than individual scientists. The aim is to structure scientific communities to promote objectivity by minimising the negative influences of individual biases (Intemann, 2010). Feminist empiricists believe that the social and political context of the research is measurable (Leckenby, 2007). This suggests an interaction between traditional empirical values such as evidence and objectivity with feminist moral and political values and considerations (Hundleby, 2011).

Leckenby (2007) notes that in the early 20th century, traditional research and science would systematically exclude women and their experiences from research questions and samples. The

rise of feminist empiricism saw a fight against these exclusions using feminist perspectives and positivist tools to enable a more objective and inclusive science. This involved a commitment to developing knowledge that includes women, represents their experiences accurately, and benefits their lives (Leckenby, 2007). From this perspective, feminist empiricists argued that ignoring women's experiences took away from the 'objective' goals of science. The aim should be towards a more objective science, with a more complex research process that accounts for the political, social and cultural implications of the research. Thus, feminist empiricism is seen as addressing the androcentric bias that has previously guided philosophies, theories and methodologies across scientific inquiry (Harding, 1989).

Hundleby (2011) also acknowledges another important facet of feminist empiricism - the development of new accounts of agency in knowledge generation. In other words, the 'knower' is not an isolated person as traditional empirical knowledge would suggest but instead takes into consideration the politics of communities. The aims, values and assumptions of the research context can be influenced by the social, ethical and political values (Intemann, 2010).

Leckenby (2007) highlighted that until the 1970s, research on sexual harassment was under-explored and missing from academic and public spaces. Therefore, the contribution of feminist empiricist researchers to research on violence against women has proven to be valuable in shaping the knowledge about sexual harassment within its social and political context since then. By incorporating a feminist empiricism methodology, this thesis aimed to further contribute to the body of research on violence against women, specifically in the area of IPV. This was to highlight that violence against women continues to be a huge problem and to show how communities can bring about change, supported by robust statistical evidence. This thesis examined the social context of IPV and positive mental health through a feminist empirical lens. This allowed a more comprehensive analysis of the social influences on positive mental health in the IPV context.

Methods. Whilst methodology refers to philosophical approaches to discovering knowledge, methods refer to how data is collected (Killam, 2013). In line with the research paradigms outlined above, an appropriate method for conducting this research project was a quantitative approach: secondary data analysis of quantitative interviews. As previous feminist empiricists have highlighted, quantitative research methods can enable social change for women in meaningful ways (DeVault, 1996), as statistics can appeal to those in positions of power

(Leckenby, 2007). Empirical feminism can be a synthesis of positivist social science goals and feminist research goals (research 'for' women) (Spalter-Roth & Hartmann, 1999). This was in line with the goals of this thesis and enabled the production of statistical knowledge analysed from a feminist lens that highlighted how societies could use their social resources to enable positive mental health for women who have experienced IPV.

Conducting survey methods from an empirical feminist perspective requires acknowledging gender differences and ensuring that women's stories are made visible through the statistical truths explored (Leckenby, 2007). A feminist lens must be applied to the survey questions, the data analyses and the resulting text. The statistical methods include confirmatory factor analysis, structural equation modelling, and multivariable logistic regression. These are outlined in more detail later in this chapter.

4.1.2 Reflexivity and Researcher Positionality

Reflexivity is the process of researchers exploring how research procedures influence outcomes (Hardy, Phillips & Clegg, 2001). It involves self-reflection on the part of the researcher on how the research was conducted and how one goes through the research process to reach particular findings or conclusions (Corlett & Mavin, 2018). The practice of reflexivity involves questioning the basis of one's interpretations (Hibbert, Coupland & MacIntosh, 2010).

Feminist positivism is a 'social' epistemology, where the locus of objectivity and justification is on scientific communities (Intemann, 2010). As a whole, scientific communities can act to minimise negative biases on research and work towards objectivity, even if individual scientists cannot identify or prevent their own biases and assumptions from framing the research process (e.g., research questions and hypotheses) (Intemann, 2010), for example, by establishing scientific communities consisting of diverse researchers with diverse values and interests (Longino, 1990; 2002). This has been suggested to enable scientific communities to see existing limitations in framing research questions and background assumptions. This could also enable the production of new research questions and the consideration of a range of different hypotheses and justified assumptions (Intemann, 2010).

Practices of reflexivity involve acknowledging and accounting for the researcher's positionality (Corlett & Marvin, 2018; McDowell, 1992). Reflexivity and positionality are

often explored more closely in qualitative research, particularly in the design stage of the research process. Bearing in my mind that my thesis is rooted in feminist analysis, it is still worth considering potential influences in the research process. However, this thesis is a secondary data analysis and potential 'biases' which may have influenced the questionnaire design phase were not under my control.

With that in mind, it could still be important to consider my positionality in the context of the findings and my interpretation of the findings, for example, considering the influence of my ethnic minority background, my experience working in consent education and rape prevention, and my background in sexual violence research also involving a feminist methodology. However, in this thesis, I was guided by theory and literature to identify variables that would be important to consider in the statistical analyses. Based on this, I then used all the relevant variables available to me in the data set. Therefore, consideration of my personal biases may not be as relevant in the context of my positivist framed thesis.

4.2 He Koiora Matapopore - 2019 New Zealand Family Violence Study

This study draws on data from He Koiora Matapopore (HKM) - the 2019 New Zealand Family Violence study. This was a population-based cross-sectional survey conducted to explore the life experiences of 2,887 men and women in NZ. The quantitative questionnaire employed also measured violence exposure and health outcomes. The HKM study questionnaire also included Keyes Modified Mental Health Continuum Short Form (Keyes, 2002).

4.2.1 Full Study Sample

The study was conducted in Auckland, Northland and Waikato, as these regions cover the largest urban area of NZ and include urban and rural areas. These regions account for about 40% of NZ's population. Notably, a diverse range of Māori (Indigenous population of NZ), Pasifika, Asian and European New Zealanders are included in these areas.

4.2.2 Sampling Strategies

Primary sampling units (PSU) based on mesh-block boundaries (the smallest geographical units used by Statistics New Zealand) were used to conduct random sampling. The starting

point was a randomly selected household, and then from there, every second and sixth house in a street was selected consecutively until the end of the list was reached.

Exclusion criteria included: non-residential and short-term residential properties, rest homes and retirement villages, people without a home, those in boarding houses, residential institutions and prisons.

Inclusion criteria included: individuals aged 16 and over, ability to speak conversational English, lived in the household for one month or more, and slept in the house for four or more nights a week on average. If there was more than one eligible respondent in a household, the chosen participant was randomly selected. The interviewers visited each selected household to recruit participants. See Figure 4.1 for a flowchart outlining the process by Fanslow et al. (2021).

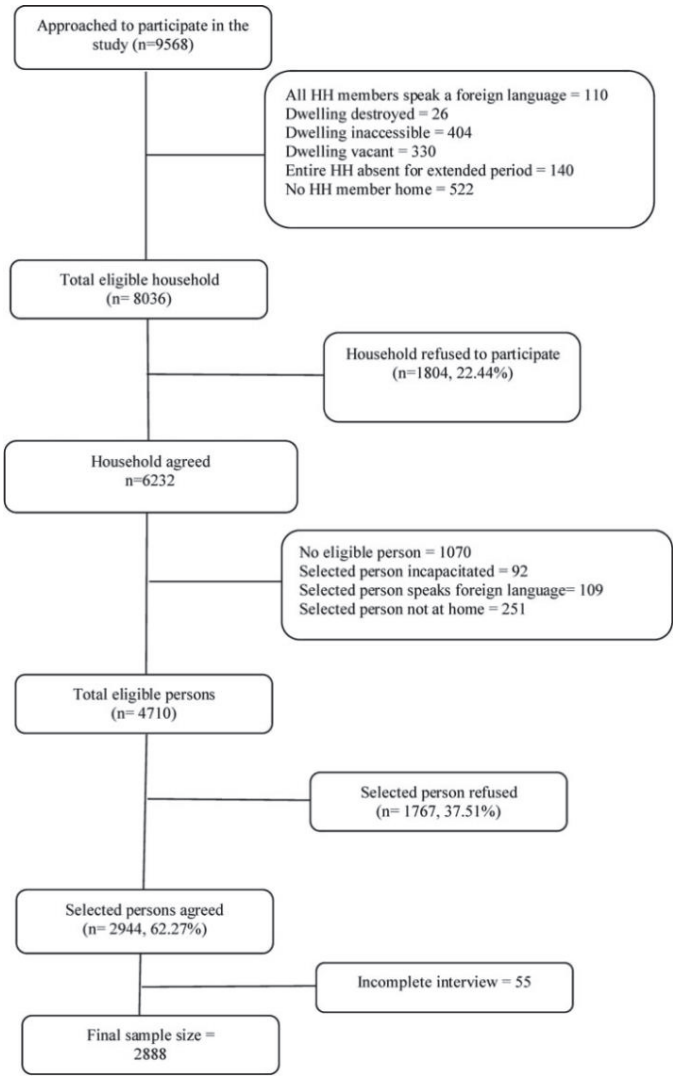

Figure 4.1 2019 New Zealand Family Violence Survey: Flowchart of Household and Individual Recruitment.

Reprinted from "Methods for the 2019 New Zealand family violence study- a study on the association between violence exposure, health, and wellbeing". By J. Fanslow, P. Gulliver, L. Hashemi, Z. Malihi, & T. McIntosh (2021), *Kōtuitui: New Zealand Journal of Social Sciences Online, 16(1), 196-209.*

4.2.3 Data collection

Data collection involved face to face interviews using the WHO Multi-Country Study on Violence Against Women (VAW) questionnaire. The instrument was adapted to include men and was pre-tested with a convenience sample before the actual data collection started. Interviews were conducted privately with no one aged two years or over present. All

respondents provided written consent prior to the interview. All answers were recorded on a tablet.

I assisted during this investigation phase by contributing to a small part of the data collection process. I helped with the random sampling statistical methods to assign mesh blocks. I was assigned to two mesh blocks for data collection, received interview training and support, and conducted door-knocking interviews. I attended fortnightly team meetings and was involved in data curation by assisting with following up with missing information from participants through telephone conversations.

4.2.4 Questionnaire Domains

As mentioned, the questionnaire used for HKM was based on the WHO-MCS, and minor modifications were made to the questionnaire to adapt for the NZ context (Fanslow et al., 2021). Exposure to adverse childhood experiences was also assessed (Fanslow et al., 2021; Centers for Disease Control and Prevention, 2015). Questions about participants' identification with cultural and other groups were also added (Fanslow et al., 2021).

To extend the assessment of the health impacts of exposure to violence beyond immediate and short-term consequences, self-reported health status and questions about the experience of chronic disease and mental health concerns were also included. These items were from the New Zealand Health Survey (Fanslow et al., 2021; Ministry of Health, 2016).

Keyes MHC-SF was also included in the questionnaire to assess mental wellbeing (Fanslow et al., 2021; Keyes, 2002). See Figure 4.2 for an outline of the items measured in the scale.

During the past month, how often did you feel:

Emotional wellbeing (Hedonic):

1. Happy
2. Interested in life
3. Satisfied with life

Social wellbeing (Eudaimonic):

4. That you had something important to contribute to society
5. That you belonged to a community (like a social group, or your neighbourhood)
6. That our society is a good place, or is becoming a better place, for all people
7. That people are basically good
8. That the way our society works makes sense to you

Psychological wellbeing (Eudaimonic):

9. That you liked most parts of your personality
10. Good at managing the responsibilities of your daily life
11. That you had warm and trusting relationships with others
12. That you had experiences that challenge you to grow and become a better person
13. Confident to think or express your own ideas and opinions
14. That your life has a sense of direction and meaning to it

Figure 4.2 The 14 Items of Keyes MHC-SF.

A question about positive thoughts towards the future was also included in the HKM questionnaire. This variable was based on a question included in the Warwick-Edinburgh Mental Well-being Scale (Tennant et al., 2007).

4.2.5 Safety and consent

Ethics approval was granted by the University of Auckland Human Participants' Ethics Committee (reference number 2015/0182444).

The research was conducted in accordance with the safety guidelines outlined for conducting research on violence against women (World Health Organization, 2001a). Comprehensive training of all interviewers was conducted to ensure valid data collection and the safety of interviewers and respondents. For quality assurance purposes, regular meetings, audits and

reviews of completed interviews were conducted. Only one randomly selected individual per household was interviewed, the interviews were conducted in private, and no one over the age of two was present. The participants provided written informed consent, and all participants were provided with a list of support agencies after the interview, regardless of disclosure status.

Funding was provided by the Ministry of Business, Innovation and Employment for this project (CONT-42799-HASTR-UOA). The results chapters include more details about the statistical methods employed.

4.2.6 Full study response rate and representativeness

The sample size for the full study was 2,887 (women n=1464 and men n= 1423). The mean age was 50.87 (*SD* = 17.58). The study participants represented more than 60% of the eligible population (63.7% eligible women and 61.3% eligible men). The response rates were comparable across deprivation levels. Ethnic and deprivation level distribution of the sample was comparable to the general population. However, the sample was under-represented for those aged 16 -19 (3.4% compared to 7.1% in the general population) and those aged 20-29 years (10.2% compared to 17% in the general population). The sample was over-represented for those 60-79 years old (29.4% compared to 20.6% in the general population). See Table 4.1 for full study sample characteristics and Table 4.2 for comparison with the general population (Fanslow et al., 2021).

Table 4.1 Socio-Demographic Characteristics of the Full Study Sample.

Demographic	Frequency (n)	Percentage (%)
Age		
16-19	97	3.4
20-29	293	10.2
30-39	441	15.3
40-49	520	18.0
50-59	559	19.4
60-69	504	17.5
70-79	343	11.9
80+	127	4.4
Ethnicity		
Māori	318	11.0
European	1984	68.8
Asian	378	13.1
Pasifika	159	5.5
MELAA	45	1.6
Deprivation level		
Least deprived	789	27.3
Moderately deprived	1244	43.1
Most deprived	852	29.5
Food Security		
Never worried	2352	81.9
Worried at some point	520	18.1
Personal income		
Less than $50,000 per year	1504	55.0
More than $50,000 per year	1230	45.0
Employment status		
Employed	1783	61.8
Retired	610	21.1
Student	161	5.6
Housework	160	5.5
Not working	171	5.9
Education attainment		
Primary/Secondary	1230	42.7
Higher education	1649	57.3

Table 4.2 2019 New Zealand Family Violence Survey: Sample Demographic Characteristics Compared With The General Population.

	NZ POPULATION[1]			SURVEY SAMPLE		
	Male%	Female%	Total%	Male *n* (%)	Female *n* (%)	Total *n* (%)
Gender	1,591,221 (48.0)	1,725,039 (52.0)	3,316,257	1423 (49.3)	1464 (50.7)	2887
Age groups						
16-19	7.6	6.7	7.10	55 (3.9)	41 (2.8)	97 (3.4)
20-29	17.0	16.1	17.0	153 (10.8)	140 (9.6)	293 (10.2)
30-39	15.6	16.0	15.8	217 (15.3)	224 (15.3)	441 (15.3)
40-49	18.1	18.5	18.3	266 (18.7)	254 (17.4)	520 (18.03)
50-59	17.0	16.8	16.9	277 (19.5)	282 (19.3)	559 (19.4)
60-69	13.2	12.7	12.9	236 (16.6)	268 (18.3)	504 (17.5)
70-79	7.6	7.8	7.7	155 (10.9)	188 (12.9)	343 (11.9)
≥ 80	3.9	5.4	4.7	62 (4.4)	65 (4.4)	127 (4.4)
Ethnicity [a]						
Māori	11.4	11.7	12.0	129 (9.0)	188 (12.8)	318 (11.0)
Pasifika	5.6	5.6	5.6	88 (6.2)	71 (4.8)	159 (5.5)
Asian	10.9	11.2	11.1	218 (15.3)	160 (10.9)	378 (13.1)
MELAA	1.0	1.0	1.0	23 (1.6)	22 (1.5)	45 (1.5)
European	70	70.7	71.3	963 (67.8)	1021 (69.8)	1984 (68.8)
Area level deprivation tertiles[b]				Only %		
Least deprived	31.6	31.1	30.0	25.6	29.0	27.3
Moderately deprived	39.8	39.7	40.0	45.5	40.7	43.1
Most deprived	28.5	29.0	30.0	28.8	30.2	29.5

[1] Census 2013.
[a] Prioritised ethnicity.
[b] Index of multiple deprivation (Exeter et al., 2017)

Reproduced from "Methods for the 2019 New Zealand family violence study- a study on the association between violence exposure, health, and wellbeing". By J. Fanslow, P. Gulliver, L. Hashemi, Z. Malihi, & T. McIntosh (2021), *Kōtuitui: New Zealand Journal of Social Sciences Online*, *16*(1), 196-209.

4.3 IPV Sample Selection Criteria:

The full sample data was used for exploring the psychometric characteristics of the MHC-SF scale for the whole sample. Analyses were conducted on a subset of the full study dataset for the multivariable regression analysis and the structural equation modelling. The subset sample was 454 women aged 16 and over (average age 47.5 years, *SD* = 15.8) who had reported lifetime or current (within the past 12 months) experience of physical and/or sexual IPV.

Participants were included if they said 'yes' to any of the following measures of physical or sexual IPV:

Physical IPV: participants were asked, 'has any partner ever slapped you or thrown something at you that could hurt you?' 'pushed or shoved you or pulled your hair?' ' hit you with their fist or something else that could hurt you?' 'kicked, dragged or beaten you up?' 'choked or burnt you on purpose?' 'threatened or actually used a gun, knife or other weapon against you?'.

Sexual IPV: participants were asked 'has any partner ever forced you to have sexual intercourse when you did not want to? For example, by threatening you or holding you down' 'Did you ever have sexual intercourse when you did not want to because you were afraid of what your current or any other partner might do if you refused?' 'Did your current partner or any other partner ever force you to do anything else sexual that you did not want or that you found degrading or humiliating?'.

The sample was restricted to physical and/or sexual violence to keep the scope of the thesis focused. These two types of IPV were chosen due to substantial overlap between sexual and physical IPV. The investigation of physical and sexual IPV together is common practice in IPV research (e.g., García -Moreno et al., 2005; Argento, Muldoon, Duff, Simo, Deering & Shannon, 2014; Bott, Guedes, Ruiz-Celis, & Mendoza, 2019). Some of the women in the sample may have experienced IPV in the past 12 months (sexual and/or physical IPV in the past 12 months n=36). However, it is important to acknowledge that this is a dichotomous measure of IPV and that the nature of IPV is complex and experiences of violence or leaving a violent relationship/help-seeking are often ongoing and non-linear (e.g., Shearson, 2017; Landenburger, 1989; Brown, 1997; Liang et al., 2005). Other factors such as assessment of frequency, exact timing, whether the IPV is ongoing and exposure to other types of IPV are also limited through this conceptualisation. This is a limitation of secondary data analysis. Future research would benefit from a broader conceptualisation of IPV to strengthen the findings of this thesis.

Table 4.3 presents the socio-demographic characteristics of the IPV sample.

Table 4.3 Socio-Demographic Characteristics of the IPV Sample.

Demographic	Frequency (n)	Percentage (%)
Age		
16-29	43	9.5
30-49	159	35.3
50-69	190	42.1
70+	59	13.1
Ethnicity		
European	351	77.5
Asian	33	7.3
Pasifika	25	5.5
MELAA	9	2
Māori	91	20.1
Deprivation level		
Least deprived	110	24.3
Moderately deprived	169	37.3
Most deprived	174	38.4
Food Security		
Never worried	299	66.3
Worried at some point	152	33.7
Personal income		
Less than $50,000 per year	288	67.4
More than $50,000 per year	139	32.6
Employment status		
Employed	278	61.4
Retired	79	17.4
Student	17	3.8
Housework	45	9.9
Not working	34	7.5
Education attainment		
Primary/Secondary	190	42.2
Higher education	260	57.8

Note. The above table is taken from the social support manuscript. See results Chapter 7.

4.4 Thesis Measures

The variables included across the three main statistical models in the thesis are highlighted in Table 4.4 below.

Table 4.4 The Outcome and Exposure Variables Used Across All the Statistical Analyses in This Thesis.

Variable	Measure
OUTCOME VARIABLES	
Positive Mental Health	Keyes MHC-SF was used to measure positive mental health. This 14-item scale has three subscales: Emotional wellbeing (three items), Psychological wellbeing (six items), and social wellbeing (five items) (Keyes, 2002). Participants self-reported the frequency with which they experienced these items in the past month, using a 6-point Likert Scale from "Never" =1 to "Every Day" =6. Higher scores indicated better positive mental health outcomes. A total score for the scale and for each dimension was calculated. See Figure 4.2 above for a list of the items. *Flourishing* is measured by having a high score (5 or 6) on one of the emotional well-being measures and high scores (5 or 6) on six of the eleven items of psychological and social well-being. *Languishing* is measured by having a low score (1 or 2) on one of the emotional well-being measures and low scores (1 or 2) on six of the eleven psychological and social well-being items. Participants who are neither flourishing nor languishing are categorised as '*moderately mentally healthy'* (Keyes, 2002).
Diagnosed Depression, Anxiety or Substance Abuse Disorder	Participants were asked: '*Have you ever been told by your doctor that you have Anxiety, Depression,* or *Substance Abuse Disorder (including alcohol abuse)?* This question was taken from the NZ Health Survey Questionnaire (Ministry of Health, 2020).
Medicated Depression or Sadness	Participants were asked: *'In the past four weeks, have you taken medication to help you not feel sad or depressed?* (Standard MCS question).
Medicated Sleep Problem	Participants were asked: *'In the past four weeks, have you taken medication to help you calm down or sleep?* (Standard MCS question).
Suicidal Ideation	Participants were asked: *'Have you ever thought about ending your life?* (Adapted MCS question). For all the questions measuring mental illness, response options were binary (Yes or No).
Alcohol-related Problems	Participants were asked: *'In the past 12 months, have you experienced any of the following problems related to your drinking?'* (From the NZ Health Survey

	Questionnaire). Response options included: Money problems, health problems, conflict with family or friends, problems with authorities, other, and no problems. Responses were categorised into the binary variable: Yes (at least one problem) or No problem.
EXPOSURE VARIABLES	
Socio-demographic and individual characteristics:	
Age	Participants' ages were categorised into the following groups: 16-24, 25-34, 35-44, 45-54 and 65+.
Ethnicity	Ethnicity was categorised using prioritised output: Māori, Pasifika, Asian, MELAA, and European
Education	Participants were asked, '*What is the highest level of education that you achieved?'.* The response options were Primary, Secondary qualifications and Higher. The responses were made into a binary variable: Primary-Secondary and Tertiary.
Current Partnership Status	Participants were asked, *'Are you currently married, or do you have a partner?'* Responses were made into a categorical variable: married, cohabiting, divorced/separated and widowed.
Employment Status	Participants were asked, '*What is your main daily occupation?'* Responses included Employed, Retired, Student, Housework and Not Working.
Independent Source of Income	Participants were categorised into two categories: having an independent source of income from wages, investments or retirement income (Yes) or not (No).
Food Security	Participants were asked, '*Do you ever worry about not having enough money to buy food?'* Responses were categorised into a binary variable: Food secure (never) and Food insecure (occasionally, sometimes, often and all the time).
Personal Income	Participants were asked *'Do you personally earn more or less than $50,000 per year?'* and response options included less than $25,000, $25,000-$49,999, $50,000-$74,999, $75,000-$100,000 and greater than $100,000.

	Responses were categorised into the binary variable of less than $50,000 and greater than $50,000.
Household Income	Similarly, participants were asked *'Does your household earn more or less than $50,000* per year' with the same response options for personal income.
Deprivation	Area level deprivation was measured following criteria set out in the New Zealand Indices of Multiple Deprivation (IMD) (Exeter, Zhao, Crengle, Lee & Browne, 2017). Seven domains of deprivation are covered by this measure, including employment, income, crime, housing, health, education and geographical access (Exeter et al., 2017). We categorised individuals as living in areas that were least deprived, moderately deprived or most deprived.
General Health	Participants were asked, *'In general, would you describe your overall health as excellent, good, fair, poor, or very poor?'* Responses were made into the binary measure 'Bad' (Poor, Very Poor, Fair) and 'Good' (Excellent, Good). While general health is not a socio-demographic factor, this variable has been included in this section as an individual level factor.
Social Factors:	
IPV Recency (Chapter 7 model)	If participants answered yes to any of the physical or sexual IPV questions and indicated that the IPV occurred within the past 12 months, this was categorised as 'recent IPV' versus' lifetime IPV'. (Chapter 7 results)
Current Physical IPV (Chapter 6 model)	If participants answered yes to any of the physical IPV questions and indicated that IPV had occurred within the past 12 months, they were categorised as a 'yes' to current physical IPV. (Chapter 6 results)
IPV Severity (Physical IPV)	To measure IPV severity for the following questions: *'Has any partner ever…. slapped you or thrown something at you that could hurt you?', '...pushed or shoved you or pulled your hair?' '...hit you with their first or with something else that could hurt you?' '...kicked, dragged, or beaten you up?' '... choked or burnt you on purpose? '... threatened to use or actually used a gun, knife, or other weapon against you?'* The first two questions were categorised as 'moderate

	severity', and the last four questions were categorised as 'severe'.
History of Child Sexual Abuse	To increase the likelihood of disclosing sexual abuse experienced during childhood, a dual report method was undertaken. During the interview, respondents were asked, '*Before the age of 15, do you remember if anyone ever touched you sexually, or made you do something sexual that you didn't want to do?*'. Immediately before the completion of the interview, respondents were also asked to make an anonymous report about their experience of child sexual abuse by putting a mark on a card with two faces on it (a happy face for no child sexual abuse and a sad face for experiencing child sexual abuse). Respondents were classified as sexually abused during childhood if they responded affirmatively to the interview question or marked the sad face in the anonymous report.
Adverse Childhood Experiences (ACE)	ACEs were measured according to the ACE criteria by Felitti and associates (1998). Eight items were used to measure this: *'Did you live with anyone who was depressed, mentally ill or suicidal?', 'Did you live with anyone who was a problem drinker or alcoholic?', 'Did you live with anyone who used illegal street drugs or who abused prescriptions medications?', 'Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?', 'Was your mother or step mother ever slapped, hit, kicked, punched or beaten up?' 'Before age 18, did any parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? (not including smacking)', 'Did a parent or adult in your home ever swear at you, insult you, or put you down?' and 'Were your parents separated or divorced?'.* Responses were categorically grouped across 0-1 experiences, 2-5 experiences and 6+ experiences. The use of the ACE measure has been validated (Meinck, Cosma, Mikton & Baban, 2017)
Positive Childhood Experiences	Participants were asked: *'When you were growing up, in your first 18 years of life, did you live with anyone who ensured that your basic needs were met?' 'When you were growing up, in your first 18 years of life, did you live with anyone who recognised and encouraged your strengths?' 'When you were growing up, in your first 18 years of life, did you live with someone who loved you and who was on your side?'.* The responses were categorised into 0 experiences, 1 experience and 2+ experiences.

Help-Seeking	Participants were asked: *'Who have you told/did you tell about your partner's behaviour?'* Speaking to the police, a lawyer, the court, service providers, health workers or mental health workers was categorised as 'Formal Help Seeking'. Speaking to a family member, friends, neighbours or workmates was categorised as 'Informal Help Seeking'. All participants were also asked, *'Did anyone try to help you?'* regardless of whether they had indicated they had sought help or not. Participants chose from the same options as help-seeking above (*Who did you tell about your partner's behaviour?*), and their responses were categorised as 'Received Formal Help' and 'Received Informal Help'. We measured receipt of informal help independently of simply telling someone about the partner's behaviour (disclosure) because we acknowledge that some people may receive help without disclosing. Formal support was considered a structural level factor.
Reaction to disclosure	A sub-sample was created of women who had indicated 'yes' to telling someone about their partner's behaviour (n=324). They were asked if they had told someone about their most recent experience of forced sex from a partner or non-partner and asked what response was received to this disclosure - *'How did they respond?'*. *Negative Reaction to Disclosure.* If these participants reported receiving any of the following responses: 'Blamed me for it', 'Told me to keep it quiet' or 'Were indifferent', it was categorised as a negative reaction. *Positive Reaction to Disclosure*. If participants reported experiencing any of the following responses: 'Supported Me' or 'Advised to report to police', it was categorised as a positive reaction. Participants could choose multiple responses.
Family Support (Chapter 6 model)	Participants were asked, *'When you need help or have a problem, can you usually count on members of your family for support?'* Possible responses were 'Yes' or 'No'.
Support (Chapter 6 model)	Received informal help and family support were combined to make a categorical 'support' variable. The responses were grouped into four categories: receiving both family support and informal help, receiving neither family support nor informal support, receiving either family support or informal help.

Social Support (Chapter 7 model)	The variables used to assess social support were: 'support from family/friends' and 'support from neighbours': *Family and Friends Support.* To measure family and friends support, participants were asked: "When you need help or have a problem, can you usually count on members of your family for support? Possible response options were "Yes, No, and Do not Know." The latter was treated as a missing value. To measure IPV specific support, participants were asked, "*Did anyone try to help you?"* after telling them about their partner's behaviour (IPV): Responses categorised as 'Family' included: parents, brother or sister, uncle or aunt or partner's family. A count variable was created, indicating the number of family members who tried to help, ranging from 0 to 5. Responses categorised as 'Friends' included: friends, friends who live nearby, or friends from the workplace. A count variable was created, indicating the number of friends who tried to help, ranging from 0 to 3. *Neighbour Support.* Neighbour support was measured based on the participant's responses to the following questions: *"Do neighbours in your community generally tend to know each other well"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. *"If there was a street fight in your neighbourhood, would people generally do something to stop it?"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. *"If someone in your family suddenly fell ill or had an accident, would your neighbours offer to help?"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. Thus, the responses to neighbour and family/friends support variables were treated as binary variables.
Positive Thoughts Towards the Future	Participants were asked: *"How do you feel about the future?"* which was categorised into the binary variable: Positive or Other (Neutral, Uncertain, or Negative). This variable was based on a question included in the Warwick-Edinburgh Mental Well-being Scale (Tennant et al., 2007).
Comfortable in Social Identity	Participants were asked: 'Comfortable in social identity' was also used to explore convergent validity. Participants were asked, *'How comfortable do you feel in your identity, as part of the group(s) that you belong to?'* Response options included: Not at all comfortable, slightly comfortable, moderately comfortable, very comfortable, and I don't feel I am part of a group.

Group Valued by Society	Participants who felt like they belonged to a group were asked, *'If you think about the group that you belong to, do you think that that group is valued by society?'* Response options included Yes or No. The two items 'comfortable in society' and 'group valued by society' were explored to investigate a sense of collective or social wellbeing (Roy, Riley, Sears & Rula, 2018).

4.5 Software used

The confirmatory factor analysis of the MHC-SF and the Social Support Structural Equation Modelling (including the confirmatory factor analysis of the social support variables and the MHC-SF) were conducted using Statistical Package for the Social Sciences (SPSS) Version 26 (IBM Corp, 2019) and AMOS 26 (Arbuckle, 2019). See Chapter 5 and Chapter 7 results, respectively. The multivariable regression model was conducted using STATA 16 (StataCorp, 2019). See Chapter 6 results.

4.6 Overall Analytical Procedure

The statistical analyses for this thesis are presented across three main statistical models.
There was collaboration with co-authors on this project to publish the results of each of these models (Chapters 5, 6, and 7). These co-authors provided support to design and guide data analysis, review manuscript drafts and provide comments and suggestions. More details can be found on the co-author contribution information sheets provided.

Part One: psychometric properties of the MHC-SF in a population-based NZ sample
One of the first aims of the study was to investigate positive mental health and whether it can be measured through a conceptually valid instrument. The psychometric properties (validity and reliability) of the MHC-SF were assessed through the statistical process of confirmatory factor analysis (CFA). CFA is commonly used for evaluating the psychometric properties of test instruments. The latent structure of instruments can be tested, as well as the item-factor relationships. CFA is also helpful for assessing construct validity, measurement invariance and determining how a test should be scored (Brown, 2015).

To assess construct validity, CFA was conducted to assess the factor structure of the MHC-SF. Based on previous literature (e.g., Lamers et al., 2011; Gallagher, Lopez & Preacher, 2009; Petrillo et al., 2015), three conceptual models were tested: (a) a model with a single factor representing one combined measure of overall wellbeing, (b) a model with two related factors representing hedonic wellbeing (emotional wellbeing) and eudaimonic wellbeing (combining psychological and social wellbeing), and (c) the hypothesised model of three related factors representing emotional, psychological, and social wellbeing.

To assess the construct validity of the MHC-SF, which is the assessment of how well a scale measures what it intends to (O'Leary-Kelly & Vokurka, 1998), convergent validity was explored. Convergent validity, which was examined relative to other measures of wellbeing and mental illness included in the HKM questionnaire, measures the extent to which the same outcome is reached by different measures (Carmines & Zeller, 1979). In the present study, this was assessed using SPSS. To investigate the reliability of the scale, the internal consistency of the scale was also assessed through SPSS.

Multi-group CFA was conducted to test the measurement invariance of the scale across gender, age (16-29 and 30+), and ethnicity (Māori, Pasifika, Asian, MELAA, and European). Configural (is the configuration the same across the groups?), metric (are the factor loadings the same across the groups?), scalar (are the intercepts the same across the groups?) and strict invariance (are the residual variances the same across the groups?) were assessed (Luijten et al., 2019). Latent mean differences across the above groups were also explored. Ages were grouped in this way to investigate the differences between younger and older individuals in the sample.

The estimation method used was maximum likelihood without missing values, and modification indices were used to improve model fit. The goodness of fit statistics used to assess model fit and structural validity were the commonly cited: Root Mean Square of Approximation (RMSEA), the Comparative Fit Index (CFI), the Goodness of Fit Index (GFI), the Akaike's Information Criteria (AIC) and Standardised Root Mean Square Residual (SRMR).

Study Sample. The population for this study was the full study sample from the HKM study (2,887 women and men [women n=1464 and men n= 1423]).

Part Two: Multivariable Regression Model of the factors contributing to Positive Mental Health for an IPV sample

Once it was confirmed that the MHC-SF is a valid measurement of positive mental health, the next aim was explored: What are the contributing factors to positive mental health for women who have experienced IPV? The variables included when exploring the contributing factors to positive mental health in the context of IPV, were chosen based on the factors identified in previous literature (see Table 3.3 in Chapter 3).

All analyses were conducted on STATA 16 (StataCorp, 2019). A multivariable regression model was chosen as the most suitable method to answer this research question. It enabled the assessment of multiple exposure variables and their association with the binary outcome (positive mental health).

Study Sample. The population for this study was the IPV sub-sample drawn from the HKM study (454 women who had ever experienced physical and/or sexual IPV).

Measures. The socio-demographic characteristics explored were age, education, and economic factors (independent source of income, food security, personal income, household income, and deprivation). Individual and relationship contributing factors explored included current partnership status, general health, current physical IPV, and childhood experiences (both adverse and positive childhood experiences). Support factors included informal help-seeking, formal help-seeking, received formal help, received informal help, reaction to disclosure (negative or positive), family support, and support (combination of received informal help and family support). More details on how these variables were measured are outlined in Table 4.4 of this chapter and the methods section of Chapter 6, which includes the relevant published manuscript.

The MHC-SF was used to measure positive mental health. This tool conceptualises mental health across the three categories: Flourishing (high levels of wellbeing with positive emotion and functioning well psychologically and socially), Moderate Mental Health, and Languishing (low levels of wellbeing, emptiness, stagnation and quiet despair) (Keyes, 2002). For this study, the labels of *Flourishing* and *Languishing* were changed to 'Positive Mental Health' and 'Low Mental Health' respectively. The criteria of the measurements for each of these outcomes did not change (see Table 4.4). The labels were changed to avoid minimising the detrimental

impacts of IPV by implying that this experience is associated with flourishing. Because of the low numbers of participants who reported 'Low mental health' in the IPV sample, those with 'Low mental health' and 'Moderate mental health' were grouped as 'Lower Mental Health'. This is a common method among other studies using the MHC-SF to assess PMH (e.g., Schotanus-Dijkstra et al., 2016; Sofija, Harris, Sebar & Phung, 2021; Redelinghuys & Rothman, 2020). Positive mental health was measured dichotomously for the regression model, as this is also a common method among other international studies using the MHC-SF in this way and dichotomisation is common in health research. Additionally, the outcome variable was not normally distributed and the sample size was not big enough to adapt for that, therefore a continuous variable would not have been appropriate for the regression approach. Limitations associated with dichotomising a continuous variable is that it may potentially limit statistical power and ability to assess variability (Altman & Royston, 2006). Additionally Keyes did not take a binary approach to conceptualise PMH. However, these limitations are mitigated by the use of a continuous measure of PMH in the structural equation modelling (part three), therefore both types of variables (binary and continuous) have been used to measure PMH in this thesis.

Statistical Analyses. Descriptive statistics were generated across the whole sample and for each group. Differences between the groups were assessed through chi-square statistics. Chi-square tests were also used to test the relationship between the variables and positive mental health. Variables with p values of less than 0.05 were then included in the multivariable regression model to explore the factors contributing to positive mental health.

Part Three: Structural Equation Modelling of Social Support in the context of IPV

In the previous section (multivariable regression), we found that informal support was a substantial contributor to positive mental health in an IPV sample of women. Structural Equation Modelling (SEM) was used to confirm the psychometric properties of the MHC-SF for an IPV sample and explore more closely which specific aspects of social support were associated with positive mental health outcomes. The variables used to assess social support and sub-group analyses were based on factors identified in the literature (see Table 3.3 in Chapter 3) and results from the multivariable regression.

Sample. The sample for this study was the same IPV sample of 454 women used for the multivariable regression model. See the previous section for more details.

Measures. The MHC-SF was used to measure mental health in this model. See the previous section for more details on the scale. Social support was measured based on support from family and friends and support from neighbours. See Table 4.4 for details.

Statistical Analyses. Structural Equation Modelling (SEM) was chosen as the most appropriate method to explore the aspects of social support that contribute to positive mental health in more detail. SEM is a statistical method combining regression, path analysis and factor analysis to model closely related predictors (Sánchez, Budtz-JØgensen, Ryan & Hu, 2005). SEM is useful because it takes measurement errors into account, enables simultaneous modelling of multiple outcomes, provides an understanding of complex relationships and uses latent variables to reflect concepts not directly observable (Sánchez et al., 2005; Kline, 2011; Schumacker & Lomax, 2004). Descriptive analyses were conducted with the Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp, 2019), and CFA and SEM were conducted with AMOS 26 (Arbuckle, 2019).

CFA was conducted to assess the construct validity of the latent constructs underlying social support and positive mental health (the MHC-SF) for the IPV sub-sample. Standardised beta coefficients were reported to explore the loading of each of the factors.

A structural model was created to explore the links between social support and positive mental health. Fit statistics were examined to determine how well the model was supported by the data. Individual parameters and path standardised beta coefficients were also evaluated. Food security was controlled for in the structural model. Subgroup analyses were carried out. The SEM model was run across socio-demographic factors: ethnicity (Māori compared to European) and deprivation levels (least, moderate, and most) and violence exposure factors: severity of violence (moderate compared to severe) and recency (current compared to lifetime).

Parameters were estimated using maximum likelihood with incomplete data. The fit statistics used were the most frequently cited: RMSEA, CFI, Gamma Hat index and CMIN/DF. Reliability of the MHC-SF scale was assessed through Cronbach's Alpha (value of .70 and above considered acceptable internal consistency) (Nunnally, 1978).

Refer to the method sections of Chapters 5,6 and 7 for more details about the methods and analytical processes employed for each of the statistical models.

4.7 Chapter Summary

In summary, three analytic procedures were undertaken to answer the overall research questions:

(1) Psychometric properties of the MHC-SF were assessed.
(2) A multivariable regression model exploring the factors that contributed to positive mental health in an IPV sample.
(3) Structural equation modelling exploring the aspects of social support that contributed to positive mental health in an IPV sample.

Each stage of the results builds on the previous findings to provide a better understanding of the factors associated with positive mental health following exposure to IPV. The assessment of the psychometric properties of the MHC-SF, multivariable regression model, and structural equation modelling results (including a more in-depth discussion of the methods) are explored in the upcoming chapters. This is a thesis 'with publication'. There may be some repetition of methods information across the published manuscripts. The first results chapter is the psychometric evaluation of the MHC-SF.

Chapter 5 RESULTS: Psychometric Evaluation of the Mental Health Continuum-Short Form (MHC-SF)

The aim of this paper was to assess the psychometric properties of the MHC-SF scale (validity and reliability) in a New Zealand context. This assessment will demonstrate whether the scale can reliably measure positive mental health for the whole sample. This is an important first step before progressing to use the MHC-SF in the context of measuring positive mental health for women who have experienced IPV.

The results of these analyses have been presented as a manuscript. As mentioned, this thesis is secondary data analysis; I used the data and overall aims of the HKM study to extend the knowledge in this field and expand understandings through the conceptualisation of my own specific research goals and aims. For this manuscript, determining the correct methodology and conceptualisation was guided by my supervisors. I was involved in the formal analysis and application of statistical techniques to analyse and synthesise the study data and results. I was responsible for writing the original draft of the published work. My co-authors were involved in the writing (reviewing & editing stage). They provided me with extensive feedback, revisions, and editing of my work. Please refer to the co-authorship forms attached to this thesis for further breakdown of contributions.

Evidence before this study:

- The MHC-SF has been widely used to measure positive mental health and the psychometric properties have been validated across many studies internationally.
- There is a gap in validating the MHC-SF for a large and more representative sample in NZ.
- Previous studies have demonstrated mixed results for differences in scores of positive mental health using this scale across groups (e.g., ethnicity, age, and gender).

What this paper adds:

- The results of this paper confirms the psychometric properties of the MHC-SF scale in a large, and gender balanced population-based New Zealand sample.
- Measurement invariance analyses confirm that the scale works well across gender, age, and ethnicity.

- Analysis of latent means differences of the MHC-SF revealed lower means for psychological wellbeing for females compared to males, lower means for all three dimensions of wellbeing for the younger age group compared to the older age group, and lower means for emotional wellbeing for the Asian and MELAA (Middle Eastern, Latin American, African) groups compared to the other ethnic groups.

This manuscript has been **published** in the: *Journal of Current Psychology* [pp. 1-14, 2021] by Springer Nature. Reproduced with permission from Springer Nature.

Pir, S., Hashemi, L., Gulliver, P., & Fanslow, J. (2021). Psychometric evaluation of the mental health continuum-short form (MHC-SF) in a New Zealand context–a confirmatory factor analysis. *Current Psychology*, 1-14. https://doi.org/10.1007/s12144-021-02401-3

Note: This chapter may have minor differences from the published version which was revised in response to reviewer comments.

Psychometric Evaluation of the Mental Health Continuum-Short Form (MHC-SF) in a New Zealand Context – A Confirmatory Factor Analysis.

5.1 Introduction

For many years, mental health research has conceptualised positive mental health as the absence of disease and, as a consequence, has focused on the treatment or prevention of mental illness. However, this focus has not been shown to reduce mental illness (Insel & Scholnick, 2006) or prevent the onset of disorders (Kessler et al., 2005).

More recently, a growing body of research has taken a more holistic view of positive mental health, focusing on promoting and protecting positive mental health beyond the 'absence of mental illness'. This concept is consistent with the World Health Organization's (2004) definition of mental health as a state of physical, mental, and social well-being that extends beyond the absence of disease.

Thinking of mental health as a positive construct has been shown to have several benefits for people and populations. Keyes and Simoes (2012) state that individuals who report higher levels of 'purpose' in life have a lower risk of all-cause mortality. Additionally, Keyes (2007a) points out that adults who were identified as 'completely mentally healthy' had fewer days off work, lower health care use, and higher levels of psychological functioning in comparison to those who did not have 'complete mental health.'

Keyes' dual-continuum model (Keyes, 2005a) has been developed to represent that mental illness and positive mental health are not opposite ends of a continuum but separate yet related continua. In this model, both hedonic (i.e., positive emotions) and eudaimonic (i.e., positive psychological and social functioning) perspectives of positive mental health are considered together (Keyes, 2007a; Keyes, Shmotkin & Ryff, 2002; Ryan & Deci, 2001).

While several instruments have been developed to measure positive mental health, these tend to be unidimensional and relatively long (Luijten et al., 2019). Keyes' Mental Health Continuum Short Form (MHC-SF) is a relatively brief 14 item multi-dimensional instrument that measures positive mental health across the domains of emotional, psychological, and social

well-being. Use of the MHC-SF has shown to distinguish between different levels of mental health, often classified as *flourishing* (high levels of positive mental health), *languishing* (low levels of positive mental health), and *moderate mental health* (neither flourishing nor languishing) (Keyes, 2002;2007a).

The MHC-SF has been widely used across cultural contexts, and various studies have provided evidence of the validity and reliability of the scale (e.g., Perugini et al., 2017; Schutte & Wissing, 2017). Studies carried out in the United States, South Africa, Italy, and Argentina are some of the countries in which the internal consistency and criterion validity of the MHC-SF has been supported (Keyes, 2006; Keyes et al., 2008; Petrillo, Capone, Caso & Keyes, 2015; Perugini et al., 2017). It is worth exploring the properties and utility of the MHC-SF in a New Zealand (NZ) sample, as previous studies have demonstrated that NZ ranks high in measures of subjective well-being. For example, according to the OECD Better Life Index Score, NZ ranks well above the OECD average for overall life satisfaction (OECD, 2013). Previous use of the scale in NZ has focused on a university population with a majority female sample (Joshanloo, Jose, & Kielpikowski, 2017). Testing the MHC-SF in a larger and more representative population sample would provide more confidence for the scale's utility for measuring positive mental health in the general population.

As part of cross-cultural validation, studies have also confirmed the three-factor structure of the positive mental health scale, encompassing emotional well-being, psychological well-being, and social well-being as distinct dimensions, through factor analysis. Analyses have confirmed the three-factor structure as demonstrating the best goodness of fit indices compared to one and two-factor models of the MHC-SF (Joshanloo et al., 2013).

When testing the utility of measurement scales, it is also important to ascertain if they function the same way across all groups within a population (e.g., across gender, age, and ethnic groups). Assessment of measurement invariance is an important first step, as, if robust, it provides confidence that subsequent measurement of positive mental health across groups will provide opportunity to identify true differences, and not differences due to different psychometric responses to the scale items (Cheung & Rensvold, 2002). For example, Joshanloo and colleagues (2013) established the invariance of the MHC-SF in the Netherlands, South Africa, and Iran.

If the scale functions the same way across groups, then it can identify important differences in how groups rate their positive mental health. Given the colonial history of NZ and the resulting intergenerational trauma, reflected in the on-going psychological and physical consequences experienced by Māori as the indigenous population (Reid, Taylor-Moore & Varona, 2014), these within-country differences mean that it is important to assess measurement invariance of the MHC-SF scale in a NZ context, to determine if the instrument functions well for different groups within the population.

There has been mixed evidence about the differences in scores of positive mental health across groups. For example, no significant gender differences in latent means of the MHC-SF have been found in some studies (Joshanloo & Jovanović, 2017; Van Zyl & Olckers, 2019). However, gender differences have been found in other contexts, such as higher general well-being reported by men compared to women in a Vietnamese sample (Rogoza, Truong Thi, Różycka-Tran, Piotrowski, & Żemojtel-Piotrowska, 2018). Some studies have also highlighted differences in dimensions of the scale across countries. For instance, Joshanloo and colleagues' (2013) analysis found that people in Iran scored significantly lower than the Netherlands and South Africa on the emotional, social, and psychological well-being dimensions of the MHC-SF. In terms of differences across age, Rogoza and associates (2018) found that emotional and psychological well-being decreased with age. In contrast, global well-being (one factor model combining all MHC-SF items into an overall single factor) and social-wellbeing were not found to be related to age. Similarly, Petrillo and associates' (2015) Italian-based study found that younger people reported higher levels of emotional well-being and lower levels of psychological and social well-being compared to individuals in midlife and older life.

This study aimed to explore the psychometric properties of MHC-SF in a large population-based survey of 2051 people in NZ. It was expected that the scale would demonstrate good reliability and construct validity (Karaś, Cieciuch & Keyes, 2014) and that it would correlate positively with other measures of well-being and be negatively associated with measures of mental illness.

As part of assessing construct validity, confirmatory Factor Analysis (CFA) was used. CFA is a form of structural equation modelling that assesses the relationships between indicators (e.g. test scores) and latent variables. An instrument's latent structure can be tested to verify the number of dimensions of the instrument and the item-factor relationships (factor loadings)

(Brown, 2015). Based on previous research (Lamers et al., 2011; Gallagher, Lopez & Preacher, 2009; Petrillo, Capone, Caso & Keyes, 2015) and theoretical considerations, three conceptual models were tested: (a) a model with a single factor, representing one combined measure of overall well-being; (b) a model with two related factors, one representing hedonic well-being (emotional well-being) and one representing eudaimonic well-being (combining both psychological and social well-being); and (c) our hypothesised model of three related factors representing emotional, psychological, and social well-being. Additionally, CFA is useful for assessing measurement invariance as well as determining how a test should be scored, particularly when the latent structure is multifactorial (Brown, 2015). Measurement invariance was tested to assess if the MHC-SF instrument measures the construct in the same way across groups before checking for latent mean differences across groups. This is necessary to ensure that real differences in latent means are identified between groups.

As seen in other international studies, it was expected that the three-factor structure of the scale would be confirmed and have the best fit (Lamers et al., 2011; Gallagher, et al., 2009; Petrillo et al., 2015). If findings support this expectation, it would confirm Keyes' concept of a comprehensive positive mental health model and suggest that the three dimensions can be reliably measured together (Joshanloo & Jovanović, 2017). It was also expected for analyses to support invariance across gender and age, as found in previous studies (Karaś et al., 2014; Petrillo et al., 2015; Perugini, de la Iglesia, Solano & Keyes, 2017) and demonstrate some cross-cultural differences (Joshanloo et al., 2013).

5.2 Methods

5.2.1 Participants and Procedure

This study draws on data from a population-based cross-sectional survey in New Zealand (He Koiora Matapopore - The 2019 New Zealand Family Violence Study) to explore the health and life experiences of 2,877 men and women. Data collection took place between 2017-2019. This study used a quantitative questionnaire, based on the World Health Organization Multi-Country Study on Violence Against Women (WHO-MCS) (García -Moreno, Jansen, Ellsberg, Heise & Watts, 2005) to measure violence exposure and its health consequences. Additional measures of positive mental health outcomes were included in the questionnaire.

Sampling Strategies

The study was conducted in Auckland, Northland, and Waikato, regions which include approximately 40% of NZ's population. These regions include a diverse range of Māori (indigenous population of New Zealand), Pasifika, Asian, and European New Zealanders. Primary sampling units (PSU) based on mesh block boundaries were used to conduct random sampling. These units are the smallest geographical units used by Statistics New Zealand.

Within each mesh block, starting from a randomly selected household, every second and sixth house was selected. Exclusions were: non-residential and short-term residential properties, rest homes and retirement villages, as well as people without a home and prisons. Interviewers visited each selected household to recruit participants, collected data through face-to-face interviews, and recorded answers on a tablet.

The eligibility criteria for participants included: aged 16 and over, the ability to speak conversational English, lived in the household for one month or more, and slept in the house for four or more nights a week. In households with more than one eligible participant, random selection was used to identify the chosen participant.

Written informed consent was collected from participants. Ethics approval was granted through the University of Auckland human participants' ethics committee (reference number 2015/ 018244). For more details on methods, see Fanslow et al. (2021).

Response Rate and Representativeness

Over 60% of eligible participants who were contacted agreed to participate (63.7% women and 61.3% men), and response rates were comparable across area deprivation level. The final sample size was 2,887 participants. In this sample, 50.7% were females (1464 women), and the mean age was 50.9 (*SD* = 17.58). The final sample under-represented those aged 16-19 (3.4% compared to 7.1% in the general population) and those aged 20-29 (10.2% compared to 17%), with a slight over-representation for the over 60 years age group. The ethnic and deprivation level distributions were comparable to the general population (edited out for blind review). See Table 5.1 for socio-demographic characteristics of the study sample.

Table 5.1 Socio-demographic Characteristics of the full study Sample.

Demographic	Frequency (n)	Percentage (%)
Age		
16-19	97	3.4
20-29	293	10.2
30-39	441	15.3
40-49	520	18.0
50-59	559	19.4
60-69	504	17.5
70-79	343	11.9
80+	127	4.4
Ethnicity		
Māori	318	11.0
European	1984	68.8
Asian	378	13.1
Pasifika	159	5.5
MELAA	45	1.6
Deprivation level		
Least deprived	789	27.3
Moderately deprived	1244	43.1
Most deprived	852	29.5
Food Security		
Never worried	1692	82.7
Occasionally worried	135	6.6
Sometimes worried	144	7.0
Often worried	55	2.7
All the time worried	20	1.0
Personal income		
Less than $25,000 per year	559	28.5
$25,000 - $49,999 per year	482	24.6
$50,000 - $74,999 per year	355	18.1
$75,000 - $100,000 per year	253	12.9
Greater than $100,000	313	16.0
Employment status		
Employed	1783	61.8
Retired	610	21.1
Student	161	5.6
Housework	160	5.5
Not working	171	5.9
Education attainment		
Primary	136	6.6
Secondary	691	33.8
Higher education	1220	59.6

5.2.2 Measures

The Mental Health Continuum Short Form (MHC-SF) (Keyes, 2002) was used to measure participants' positive mental health status. This 14-item scale has three subscales: Emotional well-being (three items), Psychological well-being (six items), and Social well-being (five items) (Keyes, 2002). The three items measuring emotional well-being include positive affect (two items) and life satisfaction (Keyes, 2005b; Keyes et al., 2008) (e.g., *'How often do you feel happy?')*. The six items measuring psychological well-being include autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance (Keyes, 2005b; Keyes et al., 2008) (*e.g., 'How often did you feel good at managing the responsibilities of your life?')*. The five items measuring social well-being include social acceptance, social actualisation, social contribution, social coherence, and social integration (Keyes, 2005b; Keyes et al., 2008) (*e.g., 'How often did you feel that you had something important to contribute to society?)*.

Participants self-reported the frequency with which they experienced these items in the past month, using a 6-point Likert Scale from "Never" =1 to "Every Day" =6. Higher scores indicated better positive mental health outcomes. A total score for the scale and for each dimension was calculated.

Socio-demographic Variables

Deprivation: Area level deprivation was measured according to the criteria in the New Zealand Indices of Multiple Deprivation (IMD) (Exeter, Zhao, Crengle, Lee & Browne, 2107). Seven domains of deprivation are measured by the IMD including, employment, income, crime, housing, health, education and geographical access. These were categorised into least deprived, moderately deprived, or most deprived.

Food security: Participants were asked, *'Do you ever worry about not having enough money to buy food?*' Responses were: never worry, occasionally, sometimes, often, or all the time worry.

Personal income: Participants were asked, *'Do you personally earn more or less than $50,000 (NZD) per year?'* Response options includes less than $25,000, $25,000-$49,999, $50,000 - $74,999, $75,000-$100,000 and greater than $100,000.

Employment Status: Participants were asked, '*What is your main daily occupation?'* Responses included Employed, Retired, Student, Housework and Not Working.

Education: Participants were asked, *'What is the highest level of education you received?"*. The responses were Primary, Secondary and Higher.

Well-being and Mental Illness Validation Measures

The items measuring the following variables to examine convergent validity have been taken from the questionnaire used in the 2019 New Zealand Family Violence study (He Koiora Matapopore). Exploration of discriminant validity was limited in this study as the questionnaire did not include any measures suitable to assess for uncorrelated relationships with positive mental health.

The following variables were used to examine the MHC-SF's convergent validity: Positive thoughts towards the future: *"How do you feel about the future?"* which was categorised into the binary variable: Positive or Other (Neutral, Uncertain, or Negative). This variable was based on a question included in the Warwick-Edinburgh Mental Well-being Scale (Tennant et al., 2007). 'Comfortable in social identity' was also used to explore convergent validity. Participants were asked, *'How comfortable do you feel in your identity, as part of the group(s) that you belong to?'* Response options included: Not at all comfortable, slightly comfortable, moderately comfortable, very comfortable, and I don't feel I am part of a group.
'Group valued by society' was also included. Participants who felt like they belonged to a group were asked, *'If you think about the group that you belong to, do you think that that group is valued by society?'* Response options included Yes or No. The two items 'comfortable in society' and 'group valued by society' were explored to investigate a sense of collective or social well-being (Roy, Riley, Sears & Rula, 2018).

The following variables measuring mental illness were also used to examine the MHC-SF's convergent validity: Diagnosed depression, anxiety, or substance abuse disorder: '*Have you ever been told by your doctor that you have Anxiety, Depression,* or *Substance Abuse Disorder (including alcohol abuse)?* This question was taken from the NZ Health Survey Questionnaire (Ministry of Health, 2020). Medicated depression or sadness: *'In the past four weeks, have you taken medication to help you not feel sad or depressed?* (Standard MCS question). Medicated sleep problem*: 'In the past four weeks, have you taken medication to help you calm down or*

sleep? (Standard MCS question). Suicidal Ideation*: 'Have you ever thought about ending your life?* (Adapted MCS question). For all the questions measuring mental illness, response options were binary (Yes or No). Alcohol-related problems: *'In the past 12 months, have you experienced any of the following problems related to your drinking?'* (From the NZ Health Survey Questionnaire). Response options included: Money problems, health problems, conflict with family or friends, problems with authorities, other, and no problems. Responses were categorised into the binary variable: Yes (at least one problem) or No problem.

The variables measuring mental illness (diagnosed mental illness, medicated depression, medicated sleep problem, suicidal ideation, and alcohol-related problems) were used to assess the presence of reported mental illness and determine if MHC-SF measured positive mental health as a correlated yet separate construct. Participants' responses were correlated with the overall MHC-SF and each of the subscales (emotional, psychological and social) for each of these binary variables.

5.2.3 Statistical Analyses

Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp, 2019) and AMOS (version 26) (Arbuckle, 2019). The significance level was set at 5.0% ($p \leq .05$). The analyses were conducted in five steps. First, a missing value analysis was performed in SPSS and indicated that 0.1 to 0.3% of the MHC-SF item scores were missing, mainly because "Don't Know" and "Refused to answer" response options were treated as missing data. Little's test showed that the values were not missing completely at random, χ^2 (125)=291.811, p=.000, therefore multiple imputation was not recommended, and missing data were deleted. The confirmatory factor analysis was run on both datasets (with and without missing data [missing data deleted]), and the results were very similar. The results of the dataset with the missing data deleted (n=2051) were reported.

Second, to assess construct validity, CFA was conducted in AMOS to assess the MHC-SF factor structure. Three models were tested to assess which factor structure of the scale would result in the best model fit for assessing positive mental health in this sample.
The estimation method used was maximum likelihood, and modification indices were used to improve the model fit. The goodness of fit statistics used to assess the model fit and structural validity of the CFA were the commonly cited root mean square error of approximation

(RMSEA< 0.08) and standardised root mean square residual (SRMR< 0.08) (Schreiber et al., 2006), the comparative fit index (CFI ≥ 0.90) (Lamers et al., 2011; Hu & Bentler, 1999), the goodness of fit index (GFI ≥ 0.95) (Schreiber et al., 2006), the Akaike's information criterion (AIC, lower AIC indicates a better fit) (Akaike, 1974; Joshanloo, 2016; Kline, 2005), Gamma Hat Index (≥ 0.90 indicates acceptable fit, and ≥ 0.95 a good fit) (Marsh, Hau & Wen, 2004).

Third, the construct validity of the MHC-SF was further examined through convergent validity (Carmines & Zeller, 1979). Spearman's Rho Correlations between the previously mentioned measures of wellbeing and mental illness and the MHC-SF were undertaken to explore the scale's convergent validity. Fourth, to investigate reliability, SPSS was used to assess the internal consistency of the MHC-SF. Internal consistency was evaluated through Cronbach's Alpha. Cronbach's Alpha values above 0.70 were considered acceptable internal consistency (Nunnally, 1978).

Fifth, multi-group CFA was performed to test the measurement invariance (how the scale works) across gender, age (16-29 and 30+), and ethnicity (Māori, Pasifika, Asian, MELAA [Middle Eastern, Latin American and African] and European). Configural (i.e., is the configuration the same across groups?), metric (i.e., are factor loadings the same across groups?), scalar (i.e., are the intercepts the same across groups?), and strict invariance (i.e., are the residual variances the same across groups?), were assessed (Luijten et al., 2019). Configural invariance was confirmed if RMSEA and SRMR were < 0.08, and CFA was >0.95 (Luijten et al., 2019; Cheung & Rensvold, 2002). Metric, scalar, and strict invariance were confirmed if ΔCFA ≤ 0.01 and ΔRMSEA ≤ 0.15, and ΔSRMR ≤ 0.03 (Chen, 2007). This would indicate that the null hypothesis of invariance should not be rejected. Latent mean differences (what the scale shows across groups) were then only explored if scalar invariance was supported (Joshanloo et al., 2013; Byrne, Shavelson & Muthén, 1989).

5.3 Results

5.3.1 Descriptive Statistics

Univariate statistics were calculated for each item of the MHC-SF (See Supplementary Table 5.5 for details and descriptive statistics of the MHC-SF items). Results demonstrated that most means had values close to five. Skewness values were below three and kurtosis values well below 10, which indicated univariate normal distribution of the items (Zhou & Abdullah, 2017).

5.3.2 Construct Validity:

MHC-SF Structural Model

First, three different models (one factor, two-factor, and three-factor models) were evaluated (Table 5.2) to assess the MHC-SF structure. For all three models, the modification indices showed that the fit of the model would improve if the residuals of the two items ('That our society is becoming a better place for people' and 'That the way our society works makes sense for you') were free to co-vary. All residuals were part of the same factor (social well-being), so modifications were performed. The indices for the original and modified models are presented in Table 5.2. None of the three modified models indicated a poor fit. However, the absolute and incremental fit indices' scores suggested that the three-factor model is the best fit to the data according to the criteria mentioned in the methods.

For example, the root mean square error of approximation indicated a good fit for all three models. However, the root mean square error of approximation for the three-factor model showed the best fit compared to the one-factor and two-factor model. The non-centrality parameter, the AIC, and SRMR were also lowest in the three-factor model compared with both other models and indicated a good fit. The three-factor model also had the best Gamma Hat fit: 0.97. The above absolute fit indexes' results suggest that the hypothesised three-factor model is the one that best fits the data compared to the other two models. The incremental fit index CFI result was also most favourable for the three-factor model, indicating the best improvement in fit compared to a baseline model (Xia & Yang, 2019; Hu & Bentler, 1999).

Table 5.2 Confirmatory Factor Analyses for the Three Mental Health Continuum Short Form Models (original and modified).

Model (original)	χ^2	df	*p*	RMSEA	90%CI RMSEA		CFI	SRMR	GFI	AGFI	Gamma Hat	AIC
One Factor	1255.28	77	.000	.086	.082	.091	.857	.0593	.908	.874	0.92	1311.28
Two Factor	962.45	76	.000	.075	.071	.080	.893	.0528	.932	.906	0.94	1020.45
Three Factor	677.98	74	.000	.063	.059	.067	.927	.0438	.952	.932	0.96	739.98

Model (modified)	χ^2	df	*p*	RMSEA	90%CI RMSEA		CFI	SRMR	GFI	AGFI	Gamma Hat	AIC
One Factor	929.85	76	.000	.074	.070	.078	.897	.0513	.932	.906	0.94	987.85
Two Factor	662.72	75	.000	.062	.058	.066	.929	.0441	.955	.937	0.96	722.72
Three Factor	486.97	73	.000	.053	.048	.057	.950	.0352	.967	.952	0.97	550.97

Note.χ^2= chi-square; df= degree of freedom; RMSEA = root mean square error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardised root mean squared residual; GFI = goodness of fit index; AGFI = adjusted goodness of fit index; AIC = Akaike's information criterion.

Figure 5.1 presents the results of the confirmatory factor analysis of the three-factor model (standardised values). The three factors were interrelated. The correlation was highest between emotional and psychological well-being (β =.88), followed by the correlation between psychological well-being and social well-being (β =.87), and the correlation between social well-being and emotional well-being (β =.65). The three-factor model's standardised solution showed that all MHC-SF items had a factor loading above .40 on their factor of emotional, psychological, or social well-being (Figure 5.1). All factor loadings were between .36 and .73 in the single-factor model and between .38 and .77 in the two-factor model, demonstrating lower factor loadings in the single and two factor models compared with three-factor model.

A second-order model was also considered; however, the fit indices were equivalent to the three-factor first-order model, therefore only the three-factor model as designed by Keyes was reported.

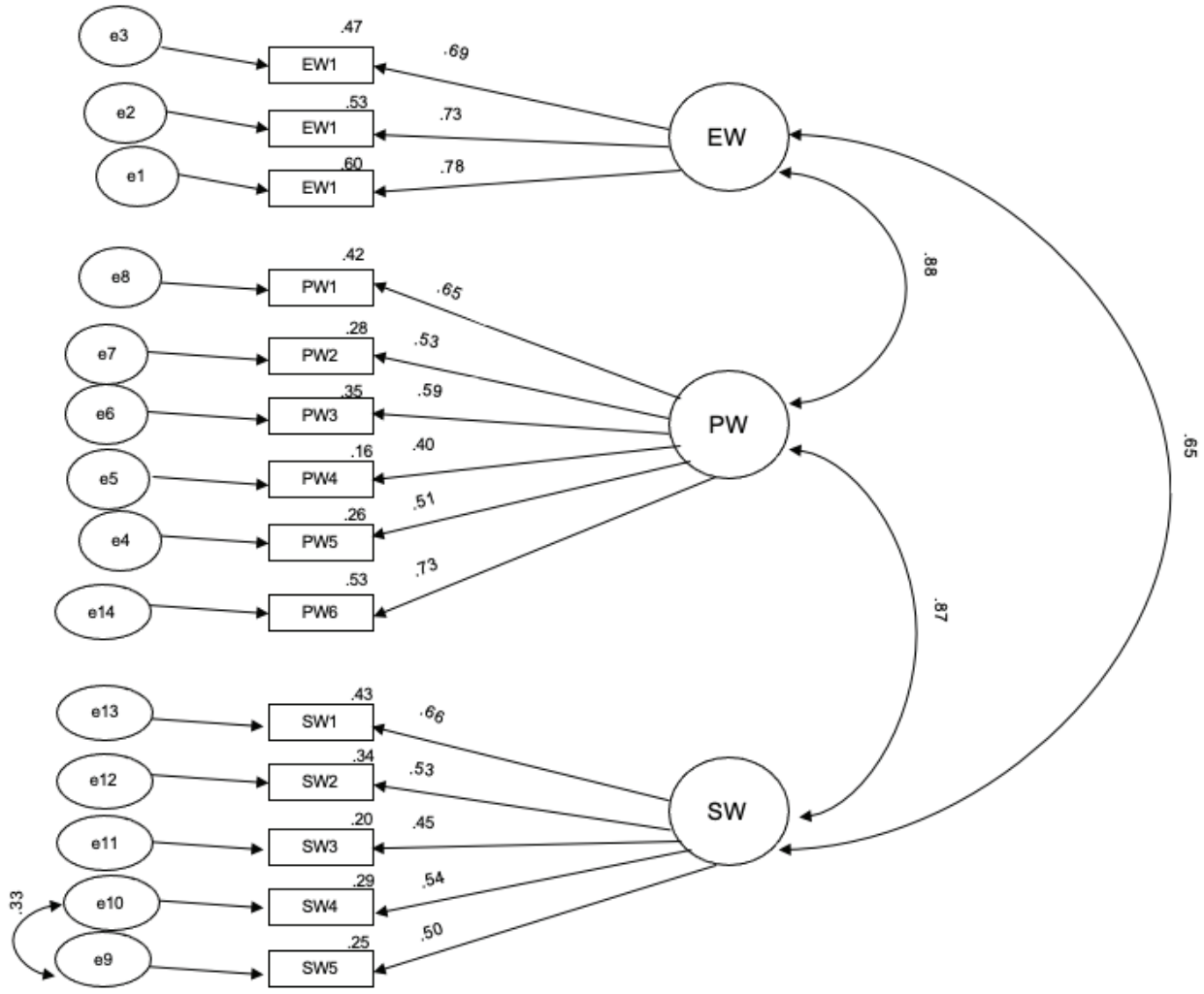

Figure 5.1 Confirmatory Factor Analysis of the Three-Factor Mental Health Continuum-Short Form (Standardised values).

Note. EW = emotional wellbeing; PW = psychological wellbeing; SW = social wellbeing.

5.3.3 Convergent Validity

Table 5.3 presents the combined results for the convergent validity analyses. The table presents Spearman's rho correlation coefficients. These coefficients showed significant positive correlations of the total MHC-SF scores and each of the dimensions with the measures of positive thoughts towards the future, comfortable with social identity and group valued by society. The correlation between the MHC-SF total score and 'comfortable with identity' displayed the highest magnitude (r= .36, p = .001).

Significant low correlations were found between the MHC-SF and the measures of mental illness, supporting convergent validity. The variable for suicidal ideation had the strongest negative correlation with the MHC-SF total score (r= -.23, p = .001). The significant low correlations indicate that the outcomes being measured by the MHC-SF are correlated yet distinct to the outcomes being measured by the items for mental illness.

Table 5.3 Spearman's rho Correlation Coefficients for Convergent of the MHC-SF.

Instrument	MHC-SF total	Emotional Well-being	Psychological Well-being	Social Well-being
Convergent Validity				
Positive Future	.27**	.29**	.25**	.32**
Comfortable in social identity	.36**	.32**	.33**	.33**
Group valued by society	.14**	.12**	.13**	.19**
Depression	-.16**	-.19**	-.17**	-.16**
Anxiety	-.12**	-.13**	-.12**	-.14**
Substance Abuse Disorders	-.11**	-.12**	-.08**	-.09**
Medicated sadness or depression	-.15**	-.15**	-.14**	-.11**
Medicated sleep problem	-.12**	-.10**	-.08**	-.07**
Suicidal Ideation	-.23**	-.23**	-.19**	-.20**
Alcohol-related problems	-.12**	-.09**	-.10**	-.06**

Note. MHC-SF = Mental Health Continuum Short Form.
**. Correlation is significant at the 0.01 level (2-tailed).

5.3.4 Reliability

Internal reliability was high for the total MHC-SF (a = .84) and adequate for the subscales of emotional well-being (a = .77), psychological well-being (a = .72), and social well-being (a= .71).

5.3.5 Invariance Analyses across Groups

According to the common criteria to evaluate model fit, configural and metric invariance was supported across gender, age and ethnicity. Scalar invariance was supported for gender only, according to the cut-off criteria suggested by Chen (2007). Since scalar invariance was not supported for age and ethnicity, partial scalar invariance was then investigated. Step by step, the intercepts of the items with the highest modification indices were treated as free parameters until a satisfactory model (partial scalar invariance) was achieved. Strict invariance was then checked using the adjusted scalar model. See Table 5.4.

Table 5.4 Invariance Analyses of the Mental Health Continuum-Short Form Across Groups.

Model	Description	χ^2	df	$\chi^2_D(\Delta df)$	CFI	ΔCFI	RMSEA	ΔRMSEA	SRMR	ΔSRMR
Gender										
	Configural Invariance	585.00	146	-	**.947**	-	**.038**	-	**.039**	-
	Metric Invariance	636.51	160	51.5(14)*	.943	**.004**	.038	**0**	.045	**-.0055**
	Scalar Invariance	696.43	174	111.4(28)*	.937	**.01**	.038	**0**	.045	**-.0057**
	Strict Invariance	748.35	188	163.3(42)*	.933	.014	.038	**0**	.047	**-.0078**
Age										
	Configural Invariance	616.907	146	-	**.943**	-	**.040**	-	**.058**	-
	Metric Invariance	656.109	160	39.20(14)*	.940	**.003**	.039	**.001**	.0758	**-.0178**
	Scalar Invariance	790.514	174	173.61(28)*	.925	.018	.042	**-.002**	.0791	**-.0211**
	Partial Scalar Invariance	724.223	170	107.32(24)*	.933	**.001**	.040	**0**	.0777	**-.0197**
	Strict Invariance	839.885	184	222.98(38)*	.920	.023	.042	**-.002**	.0685	**-.0105**
Ethnicity										
	Configural Invariance	982.85	365	-	**.929**	-	**.029**	-	**.080**	
	Metric Invariance	1118.63	421	135.75 (56)*	.919	**.01**	.028	**.001**	.123	**-.043**

	Scalar Invariance	1296.64	421	313.75(56)*	.899	.03	.032	**-.003**	.080	**-.0002**
	Partial Scalar Invariance	1089.73	414	106.88(49)*	.922	**.007**	.028	**.001**	.0803	**-.0003**
	Strict Invariance	1438.37	526	455.52(161)*	.895	.034	.029	-	.1201	**-.0401**

Note. χ^2 = chi-square; df= degree of freedom; $\chi^2_D(\Delta df)$ = scaled chi-square difference test; CFI = comparative fit index; ΔCFI = change in comparative fit index; RMSEA = root mean square error of approximation; ΔRMSEA = change in root mean square error of approximation; SRMR = standardised root mean squared residual; ΔSRMR = change in standardised root mean squared residual. *: p = .001; numbers in **bold** indicate below the threshold suggested by Chen (2007).

Latent Mean Differences

The exploration of latent mean differences is dependent on whether scalar invariance is supported or not (Joshanloo et al., 2013; Byrne, Shavelson, & Muthén, 1989). In the current study, full scalar invariance was only supported for gender, and thus latent mean differences of the MHC-SF were explored across gender. The latent factor means for males were constrained to zero, and the latent means for females were freely estimated.

The results confirmed that there were no significant gender differences in measurement of emotional (unstandardised fitted mean female = -.046, SE = .032, p = .150) and social well-being (unstandardised fitted mean female = -.061, SE = .046, p = .179). However, the mean for female's psychological wellbeing was estimated to be .053 units below the male's mean, significant at the .05 level (unstandardised fitted mean female = -.053, SE = .024, p = .027). These results confirm invariance in scale function across gender, particularly for the emotional and social well-being subscales of the MHC-SF.

Additionally, latent mean differences were explored across age groups. These supported partial scalar invariance, which indicates that the results comparing latent means should be interpreted cautiously. The latent means for the 16-29 age group were constrained to zero, while the latent means of the 30+ age group were freely estimated. This allowed a comparison between the 16-29 age group with the 30+ age group. Analyses showed that the means for the 30+ group were higher than the means for the 16-29 group, across each of the dimensions of well-being. For emotional well-being the 30+ group mean was estimated to be .373 units above the 16-29 group mean, significant at the .05 level (unstandardised fitted mean 30+ = .373, SE = .077, p = .001). For psychological well-being, the 30+ group mean was estimated to be .471 units above the 16-29 groups mean, significant at the .05 level (unstandardised fitted mean 30+ = .471, SE = .076, p = .001). Lastly, for social well-being the 30+ group mean was estimated to be .312 units above the 16-29 group mean, significant at the .05 level (unstandardised fitted mean 30+ = .312, SE = .083, p = .001).

Latent mean differences were also explored across ethnicity. Significant differences were only observed across emotional well-being. Firstly, the Pasifika group means were constrained to zero while the means for the other groups were freely estimated. Analyses showed that the MELAA group mean for emotional well-being was .639 units below the Pasifika groups mean, significant at the .05 level (unstandardised fitted mean MELAA = -.639, SE = .225, p = .005).

Analyses also showed that the Asian group mean for emotional well-being was .253 units lower than the Pasifika group mean, significant at the .05 level (unstandardised fitted mean Asian = -.253, SE = .105, p = .016). The non-significant latent mean differences are as follows: Emotional well-being: (unstandardised fitted mean Māori = -.137, SE = .109, p = .206) and (unstandardised fitted mean European = -.074, SE = .082, p = .366). Psychological well-being: (unstandardised fitted mean MELAA = -.053, SE = .240, p = .364), (unstandardised fitted mean Māori = -.024, SE = .137, p = .860), (unstandardised fitted mean Asian = -.121, SE = .135, p = .368), and (unstandardised fitted mean European = -.084, SE = .117, p = .472). Social well-being: (unstandardised fitted mean MELAA = .236, SE. = .260, p = .364), (unstandardised fitted mean Māori = -.065, SE = .150, p = .664), (unstandardised fitted mean Asian = -.060, SE = .149, p = .686), and (unstandardised fitted mean European = -.061, SE = .130, p = .637).

Next, the means for the Māori group were constrained to zero to compare differences with Asian, MELAA and European groups. Analyses showed that the MELAA group mean for emotional well-being was .600 units below the Māori groups mean, significant at the .05 level (unstandardised fitted mean MELAA = -.600, SE = .22, p = .006). Analyses also showed that the Asian group mean for emotional well-being was .215 units lower than the Māori group mean, significant at the .05 level (unstandardised fitted mean Asian = -.215, SE = .093, p = .022). There were no statistically significant differences with the European group for emotional well-being (unstandardised fitted mean European = -.036, SE = .067, p = .593). The other non-significant latent mean difference are as follows: Psychological well-being: (unstandardised fitted mean MELAA = -.043, SE = .225, p = .848), (unstandardised fitted mean Asian = -.104, SE = .106, p = .327), and (unstandardised fitted mean European = -.074, SE = .083, p = .372). Social well-being: (unstandardised fitted mean MELAA = .263, SE = .241, p - .275), (unstandardised fitted mean Asian = -.033, SE = .113, p = .773), and (unstandardised fitted mean European = -.034, SE = .086, p = .695).

When the Asian group means were constrained to zero to compare differences with MELAA and European groups, analyses showed that the MELAA group mean for emotional well-being was .525 units below the Asian group's mean, significant at the .05 level (unstandardised fitted mean MELAA = -.525, SE = .218, p = .016). There were no statistically significant latent mean differences between Asian and European groups for emotional well-being (unstandardised fitted mean European = .038, SE = .063, p = .543). There were also no statistically significant differences latent mean differences between Asian and European groups and Asian and

MELAA groups for psychological well-being (unstandardised fitted mean MELAA = .025, SE = .223, p = .910; unstandardised fitted mean European = -.006, SE = .077, p = .940) and social well-being: (unstandardised fitted mean MELAA = .255, SE = .241, p = .289; unstandardised fitted mean European = -.041, SE = .085, p = .629). Lastly, when the European group means were constrained to zero to compare with the MELAA group, analyses showed that the MELAA group's mean for emotional well-being was .576 units below the European group's mean, significant at the .05 level (unstandardised fitted mean MELAA = -.576, SE = .213, p = .007). There were no statistically significant latent mean differences between the groups for psychological well-being (unstandardised fitted mean MELAA = .028, SE = .214, p = .895) and social well-being (unstandardised fitted mean MELAA = .294, SE = .230, p = .200).

5.4 Discussion

This study aimed to explore the psychometric properties of the MHC-SF scale in the New Zealand context. It extends previous studies by carrying out these analyses with a larger and more representative sample of the population than the scale had been tested with previously. Findings confirmed the psychometric properties of the scale, including the construct validity and reliability. Findings also indicate that the MHC-SF can reliably be used to measure positive mental health for the population as a whole and for different groups within the population.

5.4.1 Construct Validity

Confirmatory factor analysis verified use of the three-factor MHC-SF scale for measuring positive mental health identified by Keyes (2002), indicating that it is useful to measure the domains of emotional well-being, psychological well-being and social well-being as separate constructs. This aligns well with the concept of positive mental health that has been found in previous international studies (Perugini et al., 2017; Keyes, 2006; Keyes et al., 2008; Petrillo et al., 2015; Joshanloo et al., 2013).

Convergent validity was demonstrated through the significant positive associations found between positive mental health as assessed by the MHC-SF and other well-being measures: positive feelings towards the future, comfortable in identity, and group valued by society. Similar results have been reported by other studies which have examined correlations between

the MHC-SF and different concepts of well-being (Luijten et al., 2019). Previous literature has highlighted positive future thinking as an important aspect of well-being (MacLeod & O'Connor, 2018). Convergent validity was also supported by the significant negative associations between the MHC-SF, the sub-scales, and mental illness measures. The fact that positive indicators of mental health had higher correlations with the MHC-SF scale compared with indicators of mental illness supports Keyes' dual continua model of mental health and mental illness, in which measures of mental health and mental illness are not considered as opposite ends of the same continuum.

Overall, the above analyses have confirmed validation of each dimension of the MHC-SF. The mental illness measures and 'positive feelings towards the future' are in line with psychological and emotional aspects of well-being and the 'comfortable in social identity' and 'group valued by society' variables are aligned with social aspects of well-being.

5.4.2 Reliability

Analysis of Cronbach's alphas confirmed the reliability of the scores obtained from the scale in this sample. The scores were above the .70 threshold suggested by Nunnally (1978), which suggest that the items measuring each of the three dimensions of the MHC-SF and the total MHC-SF showed acceptable internal consistency (Tavakol & Dennick, 2011).

5.4.3 Measurement Invariance and Latent Mean Differences

Configural and metric invariance was supported across gender, age, and ethnicity, adding further evidence to the MHC-SF psychometric properties and its utility for measuring positive mental health across different groups within the population. Full scalar invariance was supported across gender, and partial scalar invariance was supported across age and ethnicity groups. The assessment of measurement invariance highlighted that the scale works well across groups, while exploration of the latent mean differences highlighted differences in what the scale shows across groups. These sub-group analyses are important in highlighting differences across population groups which could in future inform resource allocation and prioritisation of mental health needs. Assessment of invariance across ethnicity was undertaken, as it was important to determine if the scale functioned well for different groups within the population.

However, due to the unbalanced sample size between ethnic groups, readers should interpret the analyses with caution.

Analyses of latent mean differences across gender confirmed invariance for the latent means for the social and emotional well-being dimensions across gender. Joshanloo (2016) also studied measurement invariance of the MHC-SF and found that the MHC-SF items were invariant across gender, with results supporting configural, metric and scalar invariance. Similarly, other studies have also found evidence for the invariance of the MHC-SF across gender (Lamers et al., 2011; Karaś et al., 2014; Petrillo et al., 2015). This study found that there were slight differences in latent means for the psychological well-being dimension (slightly lower for females). Joshanloo (2016) also found no significant gender differences in the latent means across the three dimensions of the MHC-SF.

A potential reason for this could be attributed to adherence to traditional gender roles, which may perpetuate different standards across gender. Matud and associates (2019) also found significant differences between men and women across psychological well-being dimensions, including higher scores for men for self-acceptance and autonomy. The authors found that the internalisation of attributes that were traditionally considered 'masculine' (e.g., independence, assertiveness, and strength) were associated with greater psychological well-being for both men and women in the sample. However, this study used Ryff's Psychological Well-Being Scale to measure positive mental health rather than the MHC-SF. Future studies could look more closely into gender differences in psychological well-being, including exploration of factors that might contribute to differences.

Exploration of latent mean differences across age groups identified that the latent means for all of the well-being dimensions were higher for the older age group (30+ age group). These results are consistent with those found by Keyes et al. (2002) which reported that higher subjective and psychological well-being was associated with increasing age in their United States sample. However, the result contrasts with findings reported in previous studies which found that younger people reported higher levels of emotional (Petrillo et al., 2015; Rogoza et al., 2018) and psychological well-being (Rogoza et al., 2018). This could also be the result of country-level differences as these studies were conducted in Vietnam and Italy. A potential explanation for these findings in a NZ context could be linked to education and age. Keyes et al. (2002) suggested that older adults with higher education levels were more likely to be thriving and

report high perceived quality of life. Other explanations could be related to the different lifestyles associated with older age. For instance, retirement and freedom from stress related to full-time work have been associated with improved well-being in older people (Drentea, 2002), and these may have been the people with most capacity to participate in the present study.

Exploration of latent mean differences across ethnic groups highlighted that the means for emotional well-being tended to be lower for the MELAA and Asian ethnic groups. While further exploration is needed to investigate possible explanations for these differences, a potential reason for MELAA and Asian immigrants to have lower emotional well-being could be due to factors related to migration such as separation from family, negative reactions from the host population, or isolation and trauma associated with migration as has been found elsewhere (Canadian Task Force, 1988).

Collectively, these results provide support for the MHC-SF as a reliable and valid measure of positive mental health for individuals aged 16 and over in the New Zealand population. The construct validity analyses provide confidence in the MHC-SF and the underlying constructs. Results indicate that the scale is relevant and robust across age, gender and ethnic groups in NZ. While these groups may have slight differences in their experiences and outcomes measured by the MHC-SF, these analyses give confidence in using this scale to measure mental health across different groups and populations in this context.

5.4.4 Strengths and Limitations

Strengths

Numerous studies worldwide have confirmed the psychometric properties of the MHC-SF. The current study contributes to this body of knowledge by validating these properties within a New Zealand context, using data from a large population-based study, with good representation across age, gender, and ethnicity. Previous evaluation of the MHC-SF scale in New Zealand did not meet these criteria.

Internationally, the experience of both mental illness and languishing has been shown to be associated with worse impacts on daily life and psychological functioning compared to those experiencing mental illness in the context of moderate or flourishing mental health (Keyes, 2007a). This highlights the need to continue to assess and support building of positive mental

health and supports the value of using the MHC-SF to measure positive mental health within the population.

Limitations

A limitation of the unbalanced sample sizes across ethnic groups meant the results of measurement invariance assessment across these groups should be interpreted with caution. Future researchers should consider the importance of balanced sample sizes for carrying out such analyses. Future studies exploring the psychometric properties of the MHC-SF could also include a greater variety of validated measures of well-being and mental illness, as well as measures unrelated to mental health to improve the assessment of criterion-related validity. There is also potential for sample bias given that the study was drawn from a general population and included people with better health, particularly older age groups (e.g., rest homes excluded). This could also explain the greater association of the positive mental health dimensions with older age in this sample.

5.4.5 Recommendations

Metric, scalar, and strict invariance across groups could also be further explored in future work assessing MHC-SF use in a New Zealand context, with more balanced samples across ethnic groups. Future studies could also explore the psychological well-being component of the MHC-SF for female samples in NZ to further unpack the latent mean differences for this group and see if these differences are replicated and sustained. Additionally, latent mean differences across age and ethnic groups could be further investigated to improve understandings of these differences.

As the MHC-SF psychometric properties have now been confirmed for the NZ population, using this scale to measure and assess positive mental health in clinical or non-clinical settings could be considered in future investigations. Future studies could also look to using the scale with other specific groups or populations across NZ, such as with ethnic minority communities.

5.5 Conclusion

In conclusion, the results of this confirmatory factor analysis verified the use of the MHC-SF as a strong tool for measuring positive mental health in NZ. Knowing that the MHC-SF is a sound measure means that it can be used with confidence to assess the distribution of positive mental health across the NZ population. This knowledge can be used to identify groups within the population that may need further support to enhance positive mental health.

Table 5.5 Supplementary Table: Descriptive Univariate Statistics of the MHC-SF Items.

Item	Description	*M*	*SD*	Skewness	Kurtosis
EW1	Happy	5.2	.91	-1.7	4.1
EW2	Interested in life	5.5	.87	-2.4	6.8
EW3	Satisfied with life	5.2	1.1	-1.8	3.2
PW1	That you liked most parts of your personality	5.3	.96	-1.8	4.1
PW2	Good at managing the responsibilities of your daily life	5.4	.90	-2.0	4.7
PW3	That you had warm and trusting relationships with others	5.5	.93	-2.6	7.3
PW4	That you had experiences that challenge you to grow and become a better person	4.5	1.6	-.77	-.70
PW5	Confident to think or express your own ideas and opinions	5.5	.91	-2.2	5.4
PW6	That your life has a sense of direction and meaning to it	5.2	1.2	-1.7	2.4
SW1	Like that you had something important to contribute to society	4.7	1.5	-1.1	-.06
SW2	That you belonged to a community (like a social group, or your neighbourhood)	4.7	1.7	-1.1	-.23
SW3	That our society is a good place, or is becoming a better place, for all people	3.2	1.7	.14	-1.4
SW4	That people are basically good	4.9	1.2	-1.3	1.4

SW5	That the way our society works makes sense to you	4.1	1.7	-.55	-1.1

Note. EW = Emotional well-being; PW = Psychological well-being; SW = Social well-being.

5.6 Chapter Summary

Results of the confirmatory factor analysis have confirmed the psychometric properties of the Mental Health Continuum-Short Form in a New Zealand context. The analyses provide confidence that this is a robust scale for measuring positive mental health for this sample. The findings build on previous work by confirming these findings in a larger and more gender-balanced sample in New Zealand. Now that the use of this scale has been validated, the next step is to use this scale to assess the positive mental health among women who have been exposed to IPV and to explore what factors may have contributed to positive mental health. The next section of the results explores this using a multivariable regression model.

Chapter 6 RESULTS: Contributing Factors to Positive Mental Health in the IPV Context

This paper investigates the factors that are associated with positive mental health in a sample of women who have been exposed to physical and/or sexual IPV. The MHC-SF is used to distinguish between lower and mental health in the sample. The aim of this study was to identify the modifiable factors that future interventions could address to improve mental health outcomes for women who have experienced IPV.

The results of these analyses have been produced as a manuscript. As mentioned, this thesis is secondary data analysis. I used the data and overall aims of the HKM study to extend the knowledge in this field and expand understandings through the conceptualisation of my own specific research goals and aims. For this manuscript, I determined the correct methodology and conceptualisation with the support of my supervisors. I was involved in the formal analysis and application of statistical techniques to analyse and synthesise the study data and results. I was responsible for writing the original draft of the published work. My co-authors were involved in the writing (reviewing & editing stage). They provided me with extensive feedback, revisions, and editing of my work. Please refer to the co-authorship forms attached to this thesis for further breakdown of contributions.

Evidence before this study:

- Previous studies have explored growth and recovery after IPV using measures such as PTG and resilience.
- To our knowledge the MHC-SF has not been used to measure positive mental health for an IPV sample previously.
- Previous studies have shown factors such as socio-demographics (e.g., education, employment, income), recency of exposure to violence, social reactions to disclosure, social support and formal support, as associated with PTG and resilience in the IPV context.

What this paper adds:

- The use of the MHC-SF in an IPV sample to explore what contributes to positive mental health is a novel contribution to the field of IPV research. This scale provides a measure of the *outcome* of positive mental health.
- We identified the following specific factors as being significantly associated with positive mental health for this sample: cessation of violence, support at the point of disclosure and on-going informal support.
- Socio-demographic factors, partnership status, childhood experiences, health status, and formal support were not statistically significant contributors to positive mental health for this sample.

This manuscript has been **published** in the Journal: *Violence Against Women* (2021) by SAGE Journals

Pir, S., Hashemi, L., Gulliver, P., Wiles, J., McIntosh, T., & Fanslow, J. (2021). Social-level factors related to positive mental health outcomes following intimate partner violence: results from a population-based Aotearoa New Zealand sample. *Violence Against Women*, 10778012211037380. Doi: 10.1177/10778012211037380

Note: This chapter may have minor differences from the published version which was revised in response to reviewer comments.

Social-Level Factors Related to Positive Mental Health Outcomes following Intimate Partner Violence: Results from a Population-Based Aotearoa New Zealand Sample.

6.1 Introduction

Intimate Partner Violence (IPV) warrants global attention, with an estimated 30% of women experiencing IPV worldwide (World Health Organization, 2013). Defined as any behaviour within an intimate relationship that can cause physical, psychological or sexual harm, IPV can have widespread physical and mental health outcomes (World Health Organization, 2012). This may include physical injuries, higher levels of depression and anxiety (Heise & García-Moreno, 2002), and suicidal ideation (Karakurt, Smith & Whiting, 2014). While the impact of these experiences must not be minimised, the capacity for survival, tenacity and resilience alongside these negative effects should also be acknowledged (Anderson et al., 2012; Saakvitne et al., 1998; Grych, Hamby & Banyard, 2015).

Some studies have suggested that not everybody necessarily reports enduring psychological problems after IPV experiences (e.g., Anderson et al., 2012). Post-Traumatic Growth (PTG), covering the domains of growth, relating to others, personal strength, appreciation of life and spiritual change (Tedeschi & Calhoun, 1996) has been investigated in samples of women who have previously experienced IPV. Valdez and Lilly reported that 87% of women who had previously experienced IPV reported PTG (Valdez & Lilly, 2015), while Cobb and colleagues reported evidence of PTG in 67% (Cobb, Tedeschi, Calhoun & Cann, 2006). In a further sample of 189 women who had experienced physical or sexual IPV in their lifetime, 42% were categorised as resilient (defined as scoring below the threshold for PTSD or depressive symptoms) (Machisa, Christofides & Jewkes, 2018).

Understanding the factors contributing to positive mental health following IPV is important to enable us to strengthen supportive pathways. However, there is a paucity of research exploring these pathways. The few studies that have explored this under the labels of resilience and PTG have noted that factors which contribute to better mental health can include individual characteristics (e.g., spirituality), relational factors (e.g., social support), and community or cultural factors (e.g., community cohesion and ethnic identity) (Howell et al., 2018; Kennedy,

2005; Anderson et al., 2012; Grych et al., 2015). Studies have also shown that growth after IPV is more likely once a relationship with an abusive partner or the trauma has ended (Cobb et al., 2006; Tedeschi & Calhoun, 1995).

Some studies have interpreted growth following IPV as the absence of mental illness; however, an alternative way of assessing positive mental health, distinct from measuring the absence of mental illness, has been developed. This conceptualises positive mental health as encompassing three components, *Emotional Wellbeing, Psychological Wellbeing* and *Social Wellbeing* [the Mental Health Continuum Short Form (MHC-SF)] (Keyes, 2002). According to Keyes, emotional wellbeing is considered the presence of positive *feelings* about life (the presence of positive affect, such as feeling in 'good spirits') or the absence of negative affect, such as not feeling 'hopeless'). Psychological wellbeing relates to individual factors such as whether individuals feel they are *functioning* well (i.e., like most parts of themselves, have trusting relationships with others, see growth in themselves, have a sense of purpose and direction, self-determination and feel like they have control over their environments). Social wellbeing relates to *social criteria* for evaluating functioning in life, such as social contribution, social acceptance and seeing society as having potential for growth (Keyes, 2002).

Measurement of positive mental health has been shown to have discriminant value in describing the health of general populations (Keyes, 2007). A benefit of this holistic measurement of positive mental health (incorporating assessment of positive emotion toward life and functioning well either psychologically or socially) is that it acknowledges that positive mental health consists of both individual and social factors. This concept of positive mental health adds to current understandings of concepts such as resilience and PTG, by understanding mental health as multi-dimensional and demonstrating mental health and mental illness as distinct but related concepts (Westerhof & Keyes, 2010). Additionally, the latent factors of the mental health continuum short form, which measures positive mental health, are in line with core components of the definition of mental health outlined by the World Health Organization (World Health Organization, 2001b; Guo, Tomson, Guo, Li, Keller & Söderqvist, 2015). The factors assess effective functioning for the individual and the community, hedonic components (feeling and emotion) and eudaimonic components (meaning and self-realisation) (Keyes, 1998; Waterman, 1993; Guo et al., 2015).

To our knowledge there have been no studies that have measured the prevalence of positive mental health for women who have been exposed to IPV. The current study seeks to determine the prevalence of positive mental health for women exposed to IPV and to identify characteristics and social factors that are associated with positive mental health.

6.2 Methods

6.2.1 Design And Sample

The sample was 454 women aged 16, and over (average age 47.5 years, SD = 15.8), who had experienced physical and/or sexual IPV in their past, some of whom may have experienced IPV within the past 12 months. Data was taken from the 2019 New Zealand Family Violence Study/ He Koiora Matapopore, a population-based study which explored people's health and life experiences. A quantitative questionnaire based on the World Health Organization Multi-Country Study on Violence Against Women (WHO-MCS) was used (García-Moreno, Jansen, Ellsberg, Heise & Watts, 2005).

6.2.2 Full Study Sample Sampling Strategies

The study was conducted in Auckland, Northland and the Waikato. These regions include the largest urban area of the country as well as numerous smaller urban and rural areas and accounts for about 40% of the Aotearoa New Zealand population. They include a diverse range of Māori (the indigenous population of New Zealand), Pasifika, Asian and European New Zealanders.

Random sampling was conducted using primary sampling units (PSU) based on meshblock boundaries, the smallest geographical units used by Statistics New Zealand. Starting from a randomly selected household, every second and sixth house was selected. Non-residential and short-term residential properties, rest homes and retirement villages were excluded, as well as people without a home, and those in boarding houses, residential institutions and prisons. Interviewers made visits to each selected household to recruit participants. Data was collected through face to face interviews, and answers were recorded on a tablet.

To be eligible to participate, the respondent needed to be aged 16 and over, able to speak conversational English, have lived in the household for one month or more, and slept in the

house for four or more nights a week on average. In households with more than one eligible respondent, the chosen participant was randomly selected.

To ensure the safety of participants, all research was conducted following safety guidelines for conducting research on violence against women (World Health Organization, 2001a). Interviewers only interviewed one randomly selected woman per household. Interviews were conducted in privacy with no one over the age of two years present, and the confidentiality of participant responses were maintained. Face-to-face interviews were conducted to enable rapport building and assessment and response to any potential distress. Interviewers were carefully selected and trained in safety protocols. Participants provided written informed consent. At the conclusion of the interview, all participants were provided with a list of support agencies regardless of disclosure status (for more details on the methods see Fanslow, Gulliver, Hashemi, Malihi, & McIntosh, 2021). Ethics approval was received from The University of Auckland Human Participants Ethics Committee (reference number 2015/ 018244).

6.2.3 Full Study Response Rate and Representativeness

The final sample size for the full study was 2,887 (including 1423 men and 1464 women). Those who agreed to participate in the study represented more than 60% of the eligible population (63.7% eligible women and 61.3% eligible men), and the response rates were comparable across deprivation levels. The ethnic and deprivation level distribution of the final sample was comparable to the general population. In particular, the representativeness of Māori in the sample (11%; 9% male and 12.8% female) was closely comparable to the distribution of Māori in the general population (12%; 11.4% male and 11.7% female). However, the final sample was under-represented for those aged 16-19 (3.4% compared to 7.1% in the general population) and for those aged 20-29 years (10.2% compared to 17% in the general population) and over-represented for those 60-79 years old (29.4% compared to 20.6% in the general population).

6.2.4 IPV Sample Selection Criteria

The IPV sample included only women who said yes to any of the following questions on lifetime IPV:

Physical IPV. Participants were asked: *'Has any partner ever slapped you or thrown something at you that could hurt you?' 'pushed or shoved you or pulled your hair?' ' hit you with their fist or something else that could hurt you?' 'kicked, dragged or beaten you up?' 'choked or burnt you on purpose?' 'threatened or actually used a gun, knife or other weapon against you?'.*

Sexual IPV. Participants were asked: *'Has any partner ever forced you to have sexual intercourse when you did not want to? For example by threatening you or holding you down' 'Did you ever have sexual intercourse when you did not want to because you were afraid of what your current or any other partner might do if you refused?' 'Did your current partner or any other partner ever force you to do anything else sexual that you did not want or that you found degrading or humiliating?'.* IPV Sample Socio-Demographic Characteristics are presented in Table 6.3.

6.2.5 Measures

Measures are based on the standardised questionnaire used in the WHO-MCS (García-Moreno et al., 2005). The measure of deprivation by Exeter and associates (2017) was added to this study questionnaire, as well as the validated scales: Mental Health Continuum Short Form (Keyes, 2002) and Adverse Childhood Experiences (Felitti et al., 1998). See Table 6.1 and 6.2.

Table 6.1 Measures of Socio-Demographic characteristics the IPV sample from the 2019 New Zealand Family Violence Study.

Variable	Measure
Age	Participants ages were categorised into the following groups: 16-24, 25-34, 35-44, 45-54 and 65+.
Education	Participants were asked '*What is the highest level of education that you achieved?'.* The response options were Primary, Secondary qualifications and Higher. The responses were made into a binary variable: Primary-Secondary and Tertiary.
Independent Source of Income	Participants were categorised into two categories: having an independent source of income from wages, investments or retirement income (Yes) or not (No).
Food Security	Participants were asked '*Do you ever worry about not having enough money to buy food?'* Responses were categorised into a binary variable: Food secure (never) and Food insecure (occasionally, sometimes, often and all the time).
Personal Income	Participants were asked *'Do you personally earn more or less than $50,000 per year?'* and response options included less than $25,000,

	$25,000-$49,999, $50,000-$74,999, $75,000-$100,000 and greater than $100,000. Responses were categorised into the binary variable of less than $50,000 and greater than $50,000.
Household Income	Similarly, participants were asked *'Does your household earn more or less than $50,000* per year' with the same response options available as for personal income.
Deprivation	Area level deprivation was measured in accordance with criteria set out in the New Zealand Indices of Multiple Deprivation (IMD) (Exeter, Zhao, Crengle, Lee & Browne, 2017). Seven domains of deprivation are covered by this measure including employment, income, crime, housing, health, education and geographical access (Exeter et al., 2017). We categorised individuals as living in areas that were least deprived, moderately deprived or most deprived.

Table 6.2 Measures of Contributing Factors the IPV sample from the 2019 New Zealand Family Violence Study.

Variable	Measure
Current Partnership Status	Participants were asked *'Are you currently married, or do you have a partner?'* Responses were made into a categorical variable: married, cohabiting, divorced/separated and widowed.
General Health	Participants were asked *'In general, would you describe your overall health as excellent, good, fair, poor, or very poor?'* Responses were made into the binary measure 'Bad' (Poor, Very Poor, Fair) and 'Good' (Excellent, Good).
Current Physical IPV	If participants answered yes to any of the physical IPV questions and indicated that IPV had occurred within the past 12 months, they were categorised as a 'yes' to current physical IPV.
History of Child Sexual Abuse	To increase the likelihood of disclosing sexual abuse experienced during childhood, a dual report method was undertaken. During the interview, respondents were asked '*Before the age of 15, do you remember if anyone ever touched you sexually, or made you do something sexual that you didn't want to do?*'. Immediately prior to the completion of the interview, respondents were also asked to make an anonymous report about their experience of child sexual abuse by putting a mark on a card with two faces on it (a happy face for no child sexual abuse and a sad face for experiencing child sexual abuse). Respondents were classified as sexually abused during childhood if they responded affirmatively to the interview question or marked the sad face in the anonymous report.
Adverse Childhood Experiences (ACE)	ACEs were measured according to the ACE criteria by Felitti and associates (1998). Eight items were used to measure this: *'Did you live with anyone who was depressed, mentally ill or suicidal?', 'Did you live with anyone who was a problem drinker or alcoholic?', 'Did you live with anyone who used illegal street drugs or who abused prescriptions medications?', 'Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?', 'Was your mother or step mother ever slapped, hit, kicked, punched or beaten up?' 'Before age 18, did any parent or adult in your home ever hit, beat, kick, or physically hurt you in any way?(not including smacking)', 'Did a parent or adult in your home ever swear at you, insult you, or put you down?' and 'Were your parents separated or divorced?'.* Responses were categorically grouped

	across 0-1 experiences, 2-5 experiences and 6+ experiences. The use of the ACE measure has been validated (Meinck, Cosma, Mikton & Baban, 2017)
Positive Childhood Experiences	Participants were asked: *'When you were growing up, in your first 18 years of life, did you live with anyone who ensured that your basic needs were met?' 'When you were growing up, in your first 18 years of life, did you live with anyone who recognised and encouraged your strengths?' 'When you were growing up, in your first 18 years of life, did you live with someone who loved you and who was on your side?'.* The responses were categorised into 0 experiences, 1 experience and 2+ experiences.
Help-Seeking	Participants were asked: *'Who have you told/did you tell about your partner's behaviour?'* Speaking to the police, a lawyer, the court, service providers, health workers or mental health workers was categorised as 'Formal Help Seeking'. Speaking to a family member, friends, neighbours or workmates was categorised as 'Informal Help Seeking'. All participants were also asked *'Did anyone try to help you?'* regardless of whether they had indicated they had sought help or not. Participants chose from the same options as help-seeking above (*Who did you tell about your partner's behaviour?*) and their responses were categorised as 'Received Formal Help' and 'Received Informal Help'. We measured receipt of informal help independently of simply telling someone about the partners behaviour (disclosure) because we acknowledge that some people may receive help even without disclosing.
Reaction to disclosure	A sub-sample was created of women who had indicated 'yes' to telling someone about their partner's behaviour (n=324). They were asked if they had told someone about their most recent experience of forced sex from a partner or non-partner and asked what response was received to this disclosure - *'How did they respond?'. Negative Reaction to Disclosure.* If these participants reported receiving any of the following responses: 'Blamed me for it', 'Told me to keep it quiet' or 'Were indifferent' it was categorised as a negative reaction. *Positive Reaction to Disclosure*. If participants reported experiencing any of the following responses: 'Supported Me' or 'Advised to report to police', it was categorised as a positive reaction. Participants could choose multiple responses.
Family Support	Participants were asked *'When you need help or have a problem, can you usually count on members of your family for support?'* Possible responses were 'Yes' or 'No'.
Support	Received informal help and family support were combined to make a categorical 'support' variable. The responses were grouped into four categories: receiving both family support and informal help, receiving neither family support nor informal support, receiving either family support or informal help.

6.2.6 Outcome Variable: Mental Health

Keyes' Mental Health Continuum Short Form (MHC-SF) was used to measure mental health. The use of the MHC-SF has been validated across many studies internationally (Perugini et al.,

2017; Schutte & Wissing, 2017; Salama-Younes, 2011). The MHC-SF groups 14 dimensions of mental health under three categories: *Positive Emotions*, which includes Positive Affect and Avowed quality of life (e.g., *'How often do you feel happy?'*), *Positive Psychological Functioning*, which includes self-acceptance, personal growth, purpose in life, environmental mastery, autonomy and positive relations with others (e.g., *'How often did you feel good at managing the responsibilities of your daily life?'*) and *Positive Social Functioning*, which includes social acceptance, social actualisation, social contribution, social coherence and social integration (e.g., *'How often did you feel that you had something important to contribute to society?'*) (Keyes, 2007a). Participants rated the frequency with which they experienced each of these items in the past month on a 6-point Likert scale, where never=1, every day=6.

The MHC-SF conceptualises mental health across the categories of *Flourishing, Moderate Mental Health* and *Languishing.* Flourishing is defined as living with high levels of well-being, with positive emotion and functioning well psychologically and socially. It is measured by having a high score (5 or 6) on one of the measures of emotional wellbeing, and high scores (5 or 6) on six of the eleven items of psychological and social wellbeing. Languishing is defined as low-levels of wellbeing, or feelings of emptiness, stagnation, and quiet despair. It is measured by having a low score (1 or 2) on one of the measures of emotional wellbeing and low scores (1 or 2) on six of the eleven items of psychological and social wellbeing. Participants who are neither flourishing nor languishing are categorised as 'moderately mentally healthy' (Keyes, 2002).

Positive and Lower Mental Health. For the purposes of this study, the above labels of *Flourishing* and *Languishing* were changed to 'Positive Mental Health' and 'Low Mental Health' respectively. The criteria for the measurements for each of these outcomes did not change, however the labels were changed to not minimise the detrimental impacts of IPV by implying that this experience is associated with flourishing.

Because of the low numbers of participants who reported 'Low mental health' in the IPV sample, those with 'Low mental health' and 'Moderate mental health' were grouped together as 'Lower Mental Health' (see results section). This combination of categories is common practice among other studies (Schotanus-Dijkstra et al., 2016; Sofija, Harris, Sebar & Phung, 2021; Redelinghuys & Rothman, 2020).

6.2.7 Statistical Analysis

Reported estimates of the prevalence of positive and lower mental health were obtained with descriptive statistics. Descriptive statistics were generated for the socio-demographic characteristics for the whole IPV sample as well as for each mental health group and the differences were tested with Chi square statistics. Chi square tests were also used to examine bivariate correlations between mental health status and other factors that were associated with mental health in the literature. We then built a multivariable logistic regression model including socio-demographic variables and contributing variables that had a p-value less than 0.05 in the bivariate analyses (Table 6.2). Given that the outcome variable is dichotomous and that there are multiple independent variables being explored, multivariable logistic regression is the most suitable statistical test for this study (Brunner & Giannini, 2011; Hidalgo & Goodman, 2013). All analyses were conducted with STATA 16 (StataCorp., 2019).

6.3 Results

6.3.1 Sample Demographics

The mean age for the entire sample was 50.8 years (SD=15.5), 51.9 years (SD=15.2) for those reporting positive mental health and 48.8 years (SD=16) for those reporting lower mental health. 5.1% were between 16-24 years old, 11.5% between 25-34, 19.3% between 35-44, 20.6% between 45-54, 21.9% between 55-64 and 21.7% in the 65 years and above. 24.5% were categorised as least deprived, 37.2% as moderately deprived and 38.3% as most deprived. 57.9% of the sample had post-secondary education and 42.1% had primary-secondary education. 78.9% of the sample reported having an independent source of income, and 66.4% reported food security (never worrying about food). 67.3% of the sample had a personal income of less than $50,000 NZD.

6.3.2 Mental Health Status Prevalence

66% of the IPV sample (n=300) reported positive mental health, 31% (n=141) reported moderate mental health, and 3% (n=13) reported low mental health. The combined lower mental health category prevalence was 34% (n=154).

6.3.3 Characteristics Of IPV Sample Reporting Positive Versus Lower Mental Health

Socio-Demographic Characteristics. Those reporting positive mental health did not differ significantly from those reporting lower mental health on socio-demographic characteristics including age, education, deprivation level, independent source of income, personal and household income, food security status and current partnership status. (See Table 6.3).

Table 6.3 Socio-Demographic characteristics associated with positive or lower mental health among the IPV sample from the 2019 New Zealand Family Violence Study.

	Mental health status			
	Positive Mental Health N=300 (66%)	Lower Mental Health N=154 (34%)	Total	P value
Socio-demographics n (%)				
Age Categories				0.111
16-24	12 (52.17)	11 (47.83)	23	
25-34	29 (55.77)	23 (44.23)	52	
35-44	62 (71.26)	25 (28.74)	87	
45-54	60 (64.52)	33 (35.48)	93	
55-64	63 (63.64)	36 (36.36)	99	
65+	73 (74.49)	25 (25.51)	98	
Education				0.994
Primary-secondary	126 (66.32)	64 (33.68)	190	
Tertiary	173 (66.28)	88 (33.72)	261	
Independent source of income				0.891
Yes	236 (65.93)	122 (34.08)	358	
No	64 (66.67)	32 (33.33)	96	
Food security				0.691
Secure (never worry)	201 (67.00)	99 (33.00)	300	
Insecure (have worried)	99 (65.13)	53 (34.87)	152	
Personal income				0.414
<50k	186 (64.58)	102 (35.42)	288	
>=50k	96 (68.57)	44 (31. 43)	140	
Household income				0.880
<25,000	45 (63.38)	26 (36.62)	71	
25,000-49,999	52 (65.82)	27 (34.18)	79	
50,000-74,999	50 (62.50)	30 (37.50)	80	
75,000-100,000	43 (66.15)	22 (33.85)	65	
>100,000	81 (69.23)	36 (30.77)	117	

Deprivation				0.588
Least Deprived	76 (68.47)	35 (31.53)	111	
Moderately Deprived	114 (67.46)	55 (32.54)	169	
Most Deprived	110 (63.22)	64 (36.78)	174	

6.3.4 Factors Contributing to Positive Mental Health in the IPV Sample at the Univariate level

General Health. Those with good general health were more likely to report having positive mental health (71%).

Current Physical IPV. Those who had in the past but who were not currently experiencing physical IPV were more likely to report positive mental health (67%).

Childhood Related Factors. Those who had fewer adverse childhood experiences were more likely to report positive mental health (e.g., 71% of those reporting 0-1 ACE's). There were no significant differences in relation to experiencing childhood sexual abuse and positive childhood experiences across the positive and lower mental health groups.

Support Factors. Telling formal or informal sources about the violence was not significantly associated with differences in reporting positive mental health. Those who received help from informal sources were significantly more likely to report positive mental health (70%). Receiving help from formal services was not significantly associated with reported mental health status. Participants who reported receiving any negative reaction to disclosure were more likely to report lower mental health (78%). Having received any positive reaction following disclosure did not significantly distinguish between those reporting positive and lower mental health.

Those who could usually count on members of their family for support in an emergency were more likely to report positive mental health (68%). Also, those who reported having both family support and informal help were more likely to report positive mental health (72%) while those reporting no family support and no informal help were more likely to report lower mental health (62%). (See Table 6.4).

Table 6.4 Factors contributing to positive mental health among the IPV sample from the 2019 New Zealand Family Violence Study.

	Positive Mental Health N=299 (66%)	Lower Mental Health N=154 (34%)	Total	P value
Current partnership status				0.577
Married	125 (67.93)	59 (32.07)	184	
Cohabiting	72 (61.02)	46 (38.98)	118	
Divorced/separated	79 (66.95)	39 (33.05)	118	
Widowed	24 (70.59)	10 (29.41)	34	
General health				**0.004**
Bad	85 (57.05)	64 (42.95)	149	
Good	214 (70.86)	88 (29.14)	302	
Current Physical IPV				**0.007**
Yes	12 (42.86)	16 (57.14)	28	
No	288 (67.61)	138 (32.39)	426	
Childhood Related Factors				
History of child sexual abuse				0.423
Not Abused	188 (67.63)	90 (32.37)	278	
Abused	110 (63.95)	62 (36.05)	172	
Adverse Childhood Experiences				**0.027**
0-1	151 (71.23)	61 (28.77)	212	
2-5	131 (63.59)	75 (36.41)	206	
6+	18 (50.00)	18 (50.00)	36	
Positive Childhood Experiences				0.759
0	4 (80.00)	1 (20.00)	5	
1	8 (61.54)	5 (38.46)	13	
2+	288 (66.06)	148 (33.94)	436	
Help seeking				
Telling Formal				0.496
Yes	87 (68.50)	40 (31.50)	127	
No	213 (65.14)	114 (34.86)	327	
Telling Informal				0.604
Yes	204 (66.89)	101 (33.11)	305	
No	96 (64.43)	53 (35.57)	149	

Received formal help				0.590
Yes	56 (63.64)	32 (36.36)	88	
No	244 (66.67)	122 (33.33)	366	
Received informal help				**0.024**
Yes	166 (70.94)	68 (29.06)	234	
No	134 (60.91)	86 (39.09)	220	
Family Support				**0.016**
Yes	266 (68.38)	123 (31.62)	389	
No	31 (52.54)	28 (47.46)	59	
Support				**0.002**
No family support/No informal help	13 (38.24)	21 (61.76)	34	
Yes family support/No informal help	199 (64.67)	65 (35.33)	184	
No family support/Yes informal help	18 (72.00)	7 (28.00)	25	
Yes family support/Yes informal help	147 (71.71)	58 (28.29)	205	
Negative Reaction to Disclosure				**0.004**
Yes	2 (22.22)	7 (77.78)	9	
No	213 (67.62)	102 (32.38)	315	
Positive Reaction to Disclosure				0.594
Yes	9 (60.00)	6 (40.00)	15	
No	206 (66.67)	103 (33.33)	309	

Note. P values in bold indicate significance at the < .05 level.

6.3.5 Logistic Regression Results

Table 6.5 Factors associated with positive mental health among the IPV sample from the 2019 New Zealand Family Violence Study.

Factors	AOR	95% CI		P value
General Health				
Bad	1.00			
Good	1.39	0.83	2.35	0.21
Adverse Childhood Experiences				
0-1	1.00			
2-5	0.89	0.52	1.50	0.65
6+	0.59	0.24	1.46	0.26
Current Physical IPV				
No	1.00			
Yes	0.29	0.11	0.76	0.011
Negative Disclosure Reaction				
No	1.00			
Yes	0.12	0.02	0.58	0.009
Support				
No family support/ No informal help	1.00			
Yes family support/ No informal help	3.89	1.22	12.41	0.022
No family support/Yes informal help	6.68	1.62	27.56	0.009
Yes family support/ Yes informal help	6.11	1.99	18.73	0.002

In this sample of women who have experienced IPV, there were no significant associations between general health, adverse childhood experiences and current positive mental health.

Women who reported current exposure to physical IPV were less likely to have positive mental health compared to women who did not report current exposure to physical IPV (AOR= 0.29; 95% CI 0.11 - 0.76). Women who reported a negative reaction to disclosure were also less likely to have positive mental health compared to those who did not report a negative reaction (AOR= 0.12; 95% CI 0.02-0.58). Compared to those who had no family support and received no informal help, positive mental health was almost four times more likely to be reported by women who had family support but no informal help (AOR= 3.89; 95% CI 1.22 – 12.41); and more than six and a half times more likely to be reported by those who had no family support

but who did receive informal help (AOR= 6.68; 95% CI 1.62 – 27.56). Those who had both family support and who received informal help were about six times more likely to report positive mental health (AOR= 6.11; 95% CI 1.99 – 18.73). See Table 6.5.

6.4 Discussion

This study explored the prevalence of positive mental health and associated factors among women who have experienced IPV. The purpose was to investigate what factors may support recovery and longer term positive mental health. Given the prevalence of IPV in the population, understanding ways to support recovery is important to mitigate the long-term negative consequences that can result.

6.4.1 The Prevalence of Positive Mental Health in the IPV Sample

Two thirds of the IPV sample reported positive mental health. The prevalence of positive mental health in our IPV sample is low compared with the general population in Canada (76.8% flourishing) (Afifi et al., 2016) but high compared to the general populations in United States (51.9 % flourishing) (Catalino & Fredrickson, 2011) and the Netherlands (36.5 % flourishing) (Schotanus-Dijkstra et al., 2016). Differences in prevalence rates may in part result from differences in recruitment and data collection methods such as face to face interviewing (Schotanus-Dijkstra et al., 2016), computer-assisted face to face interviewing (Afifi et al., 2016) and web-based surveys (Catalino & Fredickson, 2011). For example, studies have found that online surveys are not always representative of the entire population compared to face to face interviews (Blasius & Brandt, 2010).

The high prevalence of positive mental health in our sample may be partially due to selection bias. This IPV sample was identified through a population-based study, with a 64% response rate. As such, the respondents who chose to participate in the study may not necessarily represent the entire pool of women who have been exposed to IPV or who are experiencing low mental health. Those who were experiencing the most severe cases of IPV or the lowest mental health are likely to be missing from the sample, as previous studies have found that women who experience the most severe forms of IPV are less likely to participate in surveys, particularly those still cohabitating with their partners (McNutt & Lee, 2000; Waltermaurer, Ortega & McNutt, 2003). Studies have also shown that the stigma associated with mental

illness could act as a barrier for participating in mental health research (Woodall, Morgan, Sloan & Howard, 2010). The exclusion criteria for our study (e.g., excluding those who were without a home or those who lived in boarding houses or residential institutions) may also have contributed to the relatively high proportion of those reporting positive mental health.

6.4.2 Characteristics of Positive Mental Health in the IPV Sample

Those who reported positive mental health in our IPV sample reported that their general health was good. This is consistent with previous research demonstrating that physical health and mental health are interlinked (Ohrnberger, Fichera & Sutton, 2017). In our IPV sample, the other socio-demographic characteristics did not significantly differ between the positive and lower mental health groups.

6.4.3 Factors Contributing to Positive Mental Health

The logistic regression model highlighted a number of different factors that significantly contributed to positive mental health outcomes for women who have experienced IPV. Importantly, positive mental health outcomes were more likely to be reported by women who were not experiencing current physical violence. This highlights the importance of supporting women's safety, which needs to include active responses to contain the violent behaviour of the person using the violence (Family Violence Death Review Committee, 2016). Other studies have found that the cessation of physical IPV is important for recovery from depressive and PTSD symptoms (Blasco-Ros et al., 2010) and post-traumatic growth (Cobb et al., 2006; Tedeschi & Calhoun, 1995).

Telling either a formal or informal source of support about the IPV experience was not significantly associated with women's reported mental health status. While public awareness campaigns often urge women who experience violence to speak out or to tell others about the violence, this research suggests that telling alone is insufficient to support women's later positive mental health. Response at the point of disclosure emerged as having significant implications for contributing to women's later positive mental health. In the sub-sample of women who had disclosed their IPV to someone, those who reported experience of any negative response to disclosure were much less likely to report positive mental health. This

strong finding is consistent with previous literature, which reported that negative social reactions to disclosure may compound the negative impacts of IPV (Yndo, Weston & Marshall, 2019; Woerner, Wyatt & Sullivan, 2019). If people receive negative responses to their disclosure, they are likely to experience more distress and less likely to seek out further help or disclose the violence again (Family Violence Death Review Committee, 2016).

Importantly, other studies provide evidence that a positive response to disclosure (i.e., disclosure followed by receiving social support) is associated with better mental health for those who have experienced violence (Sylaska & Edwards, 2014). Previous research has highlighted that response at the point of disclosure is an important gateway to accessing additional support. Fostering an environment where people feel supported to disclose can enable future help-seeking (Yndo et al., 2019). While positive responses to disclosure of sexual IPV (partner and non-partner) did not emerge as a significant factor contributing to mental health in our study, this is likely to be because 95% of the IPV sub-sample who had told someone about their abuse, reported that they had not received positive responses to disclosure. This is a serious gap and indicates that considerable work is urgently required to ensure that friends, family and other informal sources of support as well as formal services have the training and resources. They need to respond in ways that support women's safety.

In this study, women who received help from informal sources were more than six and a half times more likely to report positive mental health. The implication of this is that the strongest contributor to positive mental health among women who have experienced IPV is receiving help (actions), rather than the disclosure itself. Results also indicate that family support is an important contributor to women reporting positive mental health. Our findings align with other studies, which have highlighted social support as an important contributor to better mental health outcomes for women who have experienced IPV (Howell et al., 2018; Coker et al., 2002b; Blasco-Ros et al., 2010; Ford-Gilboe et al., 2009). In particular, our findings make an important contribution on where the social support comes from – friends, neighbours, colleagues and family. Over half of our sample reported receiving informal support from family, friends, neighbours or workmates and many studies have shown these as vital sources of support (Sylaska & Edwards, 2014). Informal sources of support may also be present when the abusive partner is not, which means there is more potential for them to provide tangible support, such as providing safety or an escape from the violence (neighbours) (Paquin, 1994)

or interpersonal and instrumental support, such as workplace accommodations and information about resources available (workmates) (Kulkarni & Ross, 2016).

These findings can be linked to Ungar's (2012) social ecological theory of resilience, which suggests that it is a combination of individual needs and environmental factors that facilitate growth. In particular, Ungar points out that resilience following exposure to adversity is closely linked with the availability of meaningful opportunities and resources provided in the environment. This theoretical understanding is consistent with our finding that receiving help from informal sources of support and not just help-seeking by the individual was an important contributor to positive mental health in this sample. Further, the quality of support provided by one's environment, such as the support provided by informal supports (e.g., friends and family) and how meaningful that support was, facilitated positive mental health for those who experienced IPV.

In our study one in five women in the sample reported receiving formal help. However, there was no significant relationship between receiving help from formal services and women's positive mental health. This does not mean that receiving help from formal services is not important, as these services are important for providing pragmatic support such as housing support, financial help and care for children (Pels, van Rooij & Distekbrink, 2015) and for accessing legal and social services (Sayem, Begum & Moneesha, 2013). Accessing these formal services can be important for enhancing women's safety, but more focus is needed on how these services can change their organisational practice to improve access and response (Wills, Ritchie & Wilson, 2008).

While ACEs are associated with negative mental health outcomes in the general population (Bellis et al., 2019), we did not find a significant association between ACEs and mental health status in this IPV exposed sample. This is likely to be the result of low variance in ACE exposure between the positive and lower mental health groups in our IPV exposed sample, as ACEs are strongly associated with later exposure to IPV (Mair et al., 2012; Walsh, Blaustein, Knight, Spinazzola & Van Der Kolk, 2007). Similarly, when examining the factors contributing to positive mental health, given that a large majority of the sample reported having some positive childhood experiences (over 90%), these variables may have offered little to distinguish between the two mental health groups.

6.4.4 Strengths And Limitations

Much previous IPV research has focused on documenting the negative consequences associated with IPV exposure. This study provides important information about associations with better mental health outcomes following IPV, which can contribute to our understanding of resilience and recovery. We extend the limited previous research that explored mental health outcomes for women who have experienced IPV by measuring positive mental health as distinct from the absence of mental illness. To our knowledge, this is the first study exploring positive mental health in an IPV sample.

An additional strength of this study is that it is drawn from a population-based study and is, therefore, more representative of the IPV population in the community and not just from those who have sought services (i.e., shelters or those who have reported to police). The large sample size of 454 is another strength of this study. The use of validated measures for key dependent and independent variables also lends confidence to the robustness of our findings.

As noted previously, the response rate for this population-based study means that we may not have captured the full range of women who have been exposed to IPV, or those with the poorest mental health. This may mean, for example, that the overall prevalence of positive mental health that we obtained may be greater than would be obtained from other IPV samples e.g., those who are in shelters or engaging with the police. Nonetheless, our findings highlight the importance of factors that contribute to positive mental health which may still be relevant for those missing from our sample.

6.4.5 Practice Implications and Future Research

This research confirms the importance of violence cessation to enable women to experience positive mental health. To support violence cessation, services are necessary to help men to stop using violence and to ensure women's safety.

Given the importance of responses from informal sources of help in contributing to the recovery and resilience of women who have experienced IPV, there needs to be greater outreach to support these groups. Supporting friends, family, neighbours and colleagues to have the skills to respond well to disclosure and to provide practical support may assist women to

be safe, recover and contribute to their positive mental health. Strategies and programmes directed at informal sources should be targeted at points and places where people already are, such as schools, organisations and workplaces (Rayner-Thomas, Fanslow & Dixon, 2014). Consideration of women's support networks can also be important when determining services in clinical or legal settings (Kocot & Goodman, 2003).

This research highlights the importance of developing population level strategies to improve helpful responses following disclosure of IPV. Improvement strategies need to be specific about what responses are helpful or unhelpful. For example, poor understandings about the dynamics of violence by people in the community, including judging, minimising or not believing the violence and victim-blaming are unhelpful responses (The Backbone Collective, 2020). Other researchers have also highlighted the importance of strategies to improve responses to disclosure (Yndo et al., 2019; Syalska & Edwards, 2014). Further qualitative research to elucidate what helpful informal responses entail would be of benefit.

6.5 Conclusion

Overall, the results demonstrate that positive mental health following exposure to IPV is associated with a number of different social factors. Importantly, the cessation of the abuse, support at the point of disclosure and on-going informal support are factors which can be strengthened to promote better mental health for women who have experienced IPV.

6.6 Chapter Summary:

Two thirds of the IPV sample reported positive mental health; this is a pivotal finding as it demonstrates that positive mental health outcomes are possible for women who have been exposed to IPV. The results of this multivariable regression model have highlighted a number of important factors which were associated with positive mental health for these women. Specifically, informal social supports were found to be strongly associated with the experience of positive mental health. Given this finding, it is important to unpack further what specific aspects of informal social support enhance positive mental health in an IPV context. The next section of the results explores this question using structural equation modelling in order to develop a more comprehensive understanding of positive mental health and social support following IPV.

Chapter 7 RESULTS: Social Support in the IPV Context

This paper builds on the findings of the previous paper (Chapter 6) to explore which specific aspects of social support are associated with positive mental health for women who have experienced IPV. The aim of this paper was to identify ways in which communities, friends, and family can better support women who experience IPV.

The results of these analyses have been produced into a manuscript. As mentioned, this thesis is secondary data analysis. I used the data and overall aims of the HKM study to extend the knowledge in this field and expand understandings through the development of my own specific research goals and aims. For this manuscript, the guidance of my supervisors helped me to determine the correct methodology. I was involved in the formal analysis and application of statistical techniques to analyse and synthesise the study data and results. I was responsible for writing the original draft of the published work. My co-authors were involved in the writing (reviewing & editing stage). They provided me with extensive feedback, revisions, and editing of my work. Please refer to the co-authorship forms attached to this thesis for further breakdown of contributions.

Evidence before this study:

- To our knowledge, the psychometric properties of the MHC-SF have not been confirmed for an IPV sample and the scale has not been used to assess positive mental health for an IPV sample.
- Previous studies have identified the crucial role of social support for promoting PTG, resilience and lower symptoms of mental illness following experiences of IPV. In particular, the specific role of support from family and friends has been highlighted as valuable.
- More understanding is required of how the impact of social support may differ according to different socio-demographic factors such as ethnicity and deprivation in the context of NZ specifically, as well as according to different violence exposure factors such as IPV recency and severity.

What this paper adds:

- The results confirmed the psychometric properties of the MHC-SF for an IPV sample.
- We used structural equation modelling (SEM) to investigate aspects of social support and positive mental health in the IPV context. SEM is a robust and strong statistical method.
- We explored differences in the contribution of social support to the experience of positive mental health for those exposed to IPV across sub-groups. The groups were based on socio-demographic factors: ethnicity (Māori compared to European) and deprivation levels, and was based on types of violence exposure: severity and recency of violence. This contributes a unique exploration in the field of social support and IPV research.
- Results showed that there were no statistically significant differences in the pathway between the social support variables and positive mental health across socio-demographic factors and severity of violence.
- There was a statistically significant difference in the pathway between neighbour support and emotional well-being when comparing recent IPV exposure to lifetime exposure (higher association for lifetime group). However, the estimate was only statistically significant for the lifetime exposure group.
- Controlling for food security in the model only showed a significant relationship with emotional well-being. This finding demonstrates that social support is still beneficial in the IPV context regardless of food insecurity.
- The findings provide the identification of specific areas, where support from families and communities can be improved. For example, better resourcing and educating family and friends to provide enhanced support for women who have experienced IPV.

This manuscript has been ***accepted*** for publication in the journal: *Violence Against Women*

Note: This chapter may have minor differences from the published version which was revised in response to reviewer comments.

Which Aspects of Social Support Enhance Positive Mental Health in the Context of Intimate Partner Violence?

7.1 Introduction

Intimate Partner Violence (IPV) is defined as behaviour by an intimate partner or ex-partner, which can include physical aggression, sexual coercion, psychological abuse, and controlling behaviours (World Health Organization, 2016). Globally, one in three women have experienced physical and/or sexual IPV (World Health Organization, 2007). Similarly, in New Zealand (NZ), one in three women are affected (Fanslow & Robinson, 2004).

IPV experience is associated with adverse physical health outcomes, including death, injury and disability (Dillon, Hussain, Loxton & Rahman, 2013; Lagdon, Armour & Stringer, 2014). Poor mental health has also been noted, including increased risk of worse psychological well-being, depressive symptoms, substance abuse, chronic mental illness and Post-Traumatic Stress Disorder (Escribà-Agüir et al., 2010; Coker, Davis, Arias, Desai, Sanderson, Brandt & Smith, 2002a; Bradley, Schwartz & Kaslow, 2005). A study from Victoria, Australia, found that depression, anxiety, and suicide made up 35%, 27%, and 11% of the burden of disease attributable to IPV for women respectively (VicHealth, 2004).

Given that IPV is common and has detrimental impacts on mental health, there is a need to determine if and how these consequences might be mitigated and identify what supports may help women who have experienced IPV. At present, there is a paucity of evidence on what supports are available to women who have experienced IPV that may contribute to later positive functioning (Grych, Banyard & Hamby, 2015; Bonanno, 2004; Masten, 2001). The available research suggests that social support is an important contributor to promoting positive functioning following experiences of violence (Ahmad, Rai, Petrovic, Erickson & Stewart, 2013; Broughton & Ford-Gilboe, 2017; Machisa et al., 2018; Wright, 2015). The importance of social support has also been noted for Māori and Indigenous individuals (Hoeata, Nikora, Li, Young-Hauser & Robertson, 2011; Wilson, Jackson, & Herd, 2016; Waterworth, Rosenberg, Braham, Pescud & Dimmock, 2014; Richmond & Ross, 2008). Notably, it has been pointed out that sometimes familial reactions may not always be positive (Goodkind, Gillum,

Bybee & Sullivan, 2003). There is a need to explore further, the impact of social support following IPV among different groups, particularly for indigenous populations.

Social support can be considered support from within one's social network, either provided or perceived to be helpful in one's time of need (Frieling, Peach & Cording, 2018). Whilst frequently broadly defined, some studies have provided a more nuanced breakdown of social support according to the types of support supplied and who the support comes from. Within this framework, types of social support can be described as emotional (e.g., love, caring and sympathy from others) (Thoits, 1995), instrumental (e.g., practical help such as financial assistance) (Frieling et al., 2018; House, 1981), or informational (e.g., referrals to services) (Unger & Powell, 1980). Collectively, social support, socialising, and social belonging have been identified as important protective factors that contribute to well-being and resilience in the general population (Frieling et al., 2018).

Previous research with women who have experienced IPV has indicated that social support helps women mitigate feelings of alienation from social connections (isolation) caused by abusers and can counteract the reduced sense of self-worth which some women may feel after violent experiences (Coker et al., 2003). Women who experienced IPV but who maintained supportive social ties have also been found to be less likely to experience adverse mental health outcomes associated with violence, although this finding was also associated with lower levels of trauma exposure severity (Krauss, Wilson, Padrón & Samuelson, 2016). This suggests the need to consider severity of abuse while investigating association between social support and mental health outcomes in the context of IPV.

The source of and circumstances in which social support is provided also may be relevant. Wright (2015) reported that, in general, social support from family was considered to be particularly useful following IPV, but also noted that there was variation in this depending on the level of disadvantage. Women in more disadvantaged areas were shown to be less protected from IPV victimisation (even when they received social support from family) compared to women in less disadvantaged areas. This suggests a need to unpack further how social support may interact with material and financial resources across different deprivation levels.

The importance of social connectedness, stronger network ties, and supportive communities have been identified as enhancing resilience (measured as scoring below the threshold on

depression and trauma scales) after IPV (Machisa et al., 2018). Coker and associates (2002b) used support from friends, family members, and current (non-abusive partner) as variables to measure support. They found that experiencing higher levels of emotional support could modify the negative mental and physical health impacts of IPV and enhance psychological wellbeing. Mental and physical health was measured by various screening tools such as the Drug Abuse Screening Test, TWEAK (measuring alcohol abuse), the Spielberger State Personality Inventory (to measure anxiety) and the DSM-IV (assessing PTSD) alongside self-perceived assessments of mental and physical health. Similarly, Guruge and associates (2012) used emotional and tangible aid from one's network to assess social support (alongside considering social conflict) in their study of social support in the context of women and abusive partners. Mental health was measured using three indicators: the average of sub-scale scores on the general mental health index and scores based on symptom severity on the Center for Epidemiologic Studies-Depression Scale and the Davidson Trauma Scale. They also found positive health benefits of social support in this context.

The above studies use tools to measure mental health as 'fewer problems' or an absence of mental illness 'symptoms', which is different from measuring mental health as getting to a 'positive state'. Measuring mental health as a 'positive state' is more holistic and puts more focus on promoting mental health and not just reducing mental illness symptoms. This perspective also suggests that wellbeing and positive mental health are still possible in the face of mental illness, which is a positive and enabling perspective of mental health (Slade, 2010).

Overall, the purpose of this study was to explore the types of social support, which might help women mitigate the consequences that can occur after IPV experience, as well as investigate potential differences across sub-groups. We hypothesised that experiencing greater social support from family, friends and neighbours would be associated with higher positive mental health. Our study aimed to build on previous understandings by (a) using a more comprehensive assessment of positive mental health, beyond the absence of mental illness (b) exploring what types and sources of social support might contribute to positive mental health outcomes for women who have experienced IPV (c) exploring social support following IPV across ethnicity, deprivation, severity and recency of IPV.

7.2 Methods

7.2.1 Participants

Data was taken from the 2019 New Zealand (NZ) family violence study (2017-2019), a quantitative cross-sectional survey carried out with 2,877 men and women [edited out for blind review, 2020]. The questionnaire developed for the World Health Organization "Multi-Country Study on Women's Health and Domestic Violence against Women" was used (García-Moreno, Jansen, Ellsberg, Heise & Watts, 2005).

7.2.2 Procedure

Data collection was conducted in Auckland, Northland, and the Waikato (a region of the upper North Island). Random sampling was conducted using primary sampling units based on mesh-block boundaries used by Statistics New Zealand. The starting point was a randomly selected household, and every second and sixth house was selected. Data was collected through face-to-face interviews, with answers recorded on a tablet.

Eligibility criteria included: age 16 and over, ability to speak conversational English, lived in the household for one month or more, and slept in the house for four or more nights a week on average. In households with more than one eligible participant, one participant was randomly selected.: Non-residential and short-term residential properties, rest homes, retirement villages, people without a home and those in prisons were excluded. Only one randomly selected person per household was interviewed, and interviews were conducted in private with no one over the age of two years old present. Safety guidelines for conducting research on violence against women (World Health Organization, 2001a) were followed. Participants provided written informed consent, and after the interview, all participants were provided with a list of support agencies, regardless of disclosure status. Ethics approval was received from The University of Auckland Human Participants Ethics Committee (reference number 2015/ 018244). For more details on the methods, see Fanslow et al. (2021).

7.2.3 Study Sample

For the current study, data were restricted to a sub-sample of 453 women, aged 16 and over who indicated that they had experienced at least one form of IPV (physical and/or sexual) in their lifetime or the past twelve months (current). Women who said yes to any of the below items were included. To measure physical IPV, participants were asked, *'Has any partner ever slapped you or thrown something at you that could hurt you?' 'Pushed or shoved you or pulled your hair?' 'Hit you with their fist or something else that could hurt you?' 'kicked, dragged, or beaten you up?' 'choked or burnt you on purpose?' 'threatened or actually used a gun, knife, or other weapon against you?'*

To measure sexual IPV, participants were asked, *'Has any partner ever forced you to have sexual intercourse when you did not want to? For example, by threatening you or holding you down,' 'Did you ever have sexual intercourse when you did not want to because you were afraid of what your current or any other partner might do if you refused?' 'Did your current partner or any other partner ever force you to do anything else sexual that you did not want or that you found degrading or humiliating?'.*

7.2.4 Measures

Demographics: Age. Age was categorised in the following age bands: 16-29 years, 30-49 years, 50-69 years, and 70+ years. *Ethnicity.* Ethnicity was categorised as Māori, Pasifika, Asian, MELAA (Middle Eastern, Latin American, and African), and European.

Deprivation. Deprivation was measured according to the New Zealand Indices of Multiple Deprivation (IMD) (Exeter, Zhao, Crengle, Lee & Browne, 2017). This instrument covers seven domains of deprivation, including employment, income, crime, housing, health, education, and geographical access. The study participants were categorised as living in areas that were classified as least deprived, moderately deprived, and most deprived.

Food Security. Participants were asked, *'Do you ever worry about not having enough money to buy food?'* Responses were categorised as 'worried at some point' (occasionally, sometimes, often, and all the time) and 'never worried.' *Personal Income*. Participants were asked, *'Do you personally earn more or less than $50,000 per year?'* Binary response options included 'Less

than $49,999' and 'More than $50,000.' *Employment Status.* Participants were asked, *'What is your main daily occupation? Do you earn money by yourself?'* Response options included, 'Employed,' 'Retired,' 'Student,' 'Housework,' and 'Not Working.' *Educational Attainment.* Participants were asked, *'What is the highest level of education that you achieved?'* Responses included, 'Primary', 'Secondary Qualifications' and 'Higher'. Responses of primary or secondary were combined to the category of 'Primary/Secondary' to create a binary measure for educational attainment.

Recency. If participants answered yes to any of the physical or sexual IPV questions and indicated that the IPV occurred within the paths 12 months, this was categorised as 'recent IPV' versus lifetime IPV. *IPV Severity (physical IPV).* To measure IPV severity for the following questions: *'Has any partner ever…. slapped you or thrown something at you that could hurt you?', '...pushed or shoved you or pulled your hair?' '...hit you with their first or with something else that could hurt you?' '...kicked, dragged, or beaten you up?' '... choked or burnt you on purpose? '... threatened to use or actually used a gun, knife, or other weapon against you?'* The first two questions were categorised as 'moderate severity', and the last four questions were categorised as 'severe'.

Mental Health. The Mental Health Continuum-Short Form (MHC-SF) was used to assess positive mental health for this sample (Keyes, 2002). The MHC-SF has been used across many studies worldwide and in various cultural contexts, resulting in an abundance of evidence to support its use, validity, and reliability (Perugini et al., 2017). (Lim, 2014; Petrillo et al., 2015; Karaś, Cieciush & Keyes, 2014; Keyes et al., 2008; Joshanloo et al., 2013; CFA results see Chapter 5). The MHC-SF consists of 14 items grouped under the categories of Emotional (three items), Psychological (six items), and Social (five items) well-being. *Emotional well-being* includes positive affect and life satisfaction, e.g., *How often did you feel satisfied with life? Psychological well-being* includes self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others, e.g., *How often did you feel good at managing the responsibilities of your daily life? Social well-being* includes social acceptance, social actualisation, social contribution, social coherence, and social integration, e.g., *How often did you feel that you belonged to a community?* (Keyes, 2007a). Respondents rated the frequency with which they experienced these 14 positive aspects of mental health in the past month, using a 6-point Likert scale from "Never" = 1 to "Every day" = 6. Higher scores across the items indicated positive mental health compared to lower scores.

Social Support. The variables used to assess social support were: 'support from family/friends' and 'support from neighbours'. See Figure 7.1.

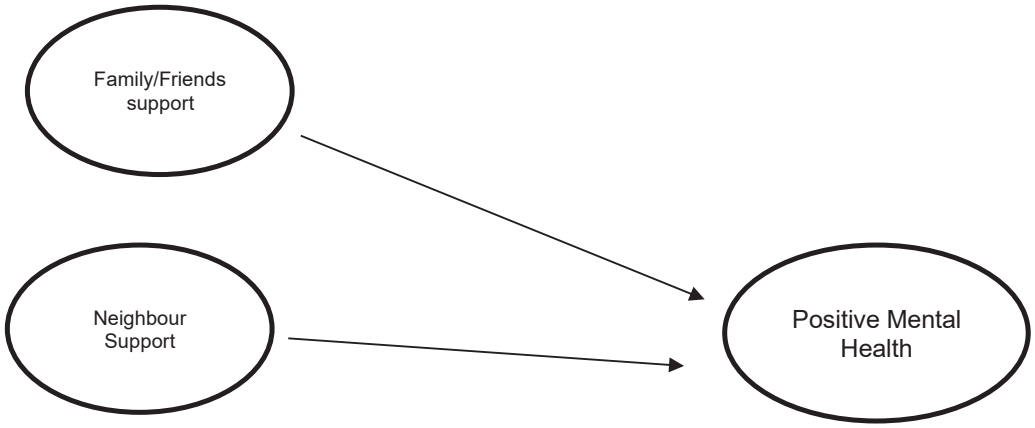

Figure 7.1 Proposed Theoretical Model of Social Support and Positive Mental Health in an IPV sample.

Family and Friends Support. To measure family and friends support, participants were asked: "When you need help or have a problem, can you usually count on members of your family for support? Possible response options were "Yes, No, and Do not Know." The latter was treated as a missing value. To measure IPV specific support, participants were asked, "*Did anyone try to help you?"* after telling them about their partner's behaviour (IPV): Responses categorised as 'Family' included: parents, brother or sister, uncle or aunt or partner's family. A count variable was created, indicating the number of family members who tried to help, ranging from 0 to 5. Responses categorised as 'Friends' included: friends, friends who live nearby, or friends from the workplace. A count variable was created, indicating the number of friends who tried to help ranging from 0 to 3.

Neighbour Support. Neighbour support was measured based on the participant's responses to the following questions: *"Do neighbours in your community generally tend to know each other well"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. *"If there was a street fight in your neighbourhood, would people generally do something to stop it?"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. *"If someone in your family*

suddenly fell ill or had an accident, would your neighbours offer to help?" The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. Thus, the responses to neighbour and family/friends support variables were treated as binary variables.

7.2.5 Data Analysis

Structural Equation Modelling (SEM) was the most appropriate method to assess the associations between social support and positive mental health. SEM is a statistical method that combines regression, path analysis, and factor analysis to enable complex modelling of closely related predictors (Sánchez, Budtz-Jorgensen, Ryan & Hu, 2005). SEM uses latent variables to reflect concepts that are not directly observable and takes measurement errors into account (Sánchez et al., 2005; Kline, 2011; Schumacker & Lomax, 2004).

Firstly, descriptive statistics were analysed, and a missing data analysis was carried out, which revealed that the percentage of missing values for most variables were below 10%, which is the suggested cut-off for statistical analyses (Bennett, 2001). There was the exception of one item of Neighbour support 'neighbours will stop a street fight' with 17.4% missing and one item of the MHC-SF 'that our society is becoming a better place for people' with 14% missing. This was largely in part due to recoding of the "Don't know/Don't remember" values as 'missing'. Therefore, no further action was taken, and analyses were run using maximum likelihood with missing data. Additionally, a separate dataset was created where all cases with missing values were deleted to compare results and the analyses still held strong (associations and indices were the same as the full data set), giving further confidence in the results of the model with the missing values.

Secondly, confirmatory factor analyses (CFA) were carried out to assess the latent constructs underlying social support and positive mental health. To examine the loading of each of factors, standardised beta coefficients were reported. Parameters were estimated using maximum likelihood with incomplete data. A structural model was then created, exploring the link between social support and positive mental health outcomes. Different fit statistics were examined to determine how well the model was supported by the data. These fit statistics included the most frequently cited: RMSEA, CFI, Gamma Hat index and CMIN/DF. An

'acceptable fit' is when the CFI value is larger than 0.95 (Schermelleh-Engel & Moosbrugger, 2003). An RMSEA value of smaller than 0.05 is an indicator of convergence fit to the analysed data of the model, with values between 0.05 and 0.08 indicating a close to good fit. In terms of Gamma Hat, ≥ .90 indicates an acceptable fit, while ≥ .95 indicates a good fit to the data (Marsh, Hau & Wen, 2004). Values of < 3 indicate acceptable fit for CMIN/DF (Kline, 1998). The assessment of the model also included evaluating individual parameters and path standardised beta coefficients. Reliability of the MHC-SF scale was assessed through Cronbach's Alpha (values of .70 and above considered acceptable internal consistency) (Nunnally, 1978). Food security was controlled for in the structural model, to assess the influence of this variable on mental health.

To determine if socioeconomic characteristics influenced the associations between the variables of social support and positive mental health, a subgroup analysis was conducted where the SEM model was run within each deprivation level (least, moderate, and most) to assess whether associations changed. Additionally, with over 20% of the sample Māori, a sub-group analysis was also conducted to explore differences between this group and the European group. Sub-group analyses were also run across IPV severity levels (moderate versus severe) and recency (recent IPV exposure [within the past 12 months] versus lifetime exposure). Descriptive analyses were conducted with the Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp, 2019) and CFA and SEM was conducted with AMOS 26 (Arbuckle, 2019).

7.3 Results

7.3.1 Sample Demographics.

Sample demographics are summarised in Table 7.1.

Table 7.1 Demographic Characteristics of the IPV Sample.

Demographic	Frequency (n)	Percentage (%)
Age		
16-29	43	9.5
30-49	159	35.3
50-69	190	42.1
70+	59	13.1
Ethnicity		
European	351	77.5
Asian	33	7.3
Pasifika	25	5.5
MELAA	9	2
Māori	91	20.1
Deprivation level		
Least deprived	110	24.3
Moderately deprived	169	37.3
Most deprived	174	38.4
Food Security		
Never worried	299	66.3
Worried at some point	152	33.7
Personal income		
Less than $50,000 per year	288	67.4
More than $50,000 per year	139	32.6
Employment status		
Employed	278	61.4
Retired	79	17.4
Student	17	3.8
Housework	45	9.9
Not working	34	7.5
Education attainment		
Primary/Secondary	190	42.2
Higher education	260	57.8

Recent IPV (12months)		
Yes	36	7.9
No	417	92.1
Severity Physical IPV (ever)		
Moderate	168	41.3
Severe	239	58.7

7.3.2 Confirmatory Factor Analysis for MHC-SF and Social Support

CFA results for the MHC-SF model showed strong factor loadings for each of the mental health observed variables ranging from .33 to .80, all significant at p = .001. Based on modification indices, one item from SW ("That you belonged to a community") was deleted to improve model diagnostics. The error terms for items 10 and 11 (β = .25) and items 10 and 12 (β = .30) were also correlated based on modification indices. This is common practice among other studies of the MHC-SF (e.g., Joshanloo, Jose, & Kielpikowski, 2017).

There were strong significant correlations between the variables: EW and PW (β = .82, p = .001), PW and SW (β = .92, p = .001), and EW and SW (β = .57, p = .001). Model diagnostics indicated a good fit: CFI = .951; RMSEA = .052 (90% CI .040-.063); CMIN/DF =2.20; Gamma Hat = .98. See Figure 7.2. Despite high correlations between the variables, the three-factor structure of the MHC-SF has the best fit compared to other factor structures (see Pir et al., 2021; Chapter 5 results). Analysis of reliability indicated acceptable fit for each of the dimensions of EW (a= .78), PW (a =.70), SW (a= .74), and the overall MHC-SF (a = .85).

CFA results for the social support variables showed a correlation between Family/Friends support and Neighbour support of β = .28 at p = .04. The factor loadings for the family/friends support and neighbour support variables ranged from .35 to .63. Model diagnostics indicated acceptable fit: CFI=.95; RMSEA=.05(90% CI .015 - .087); CMIN/DF = 2.2; Gamma Hat = .99. See Figure 7.3.

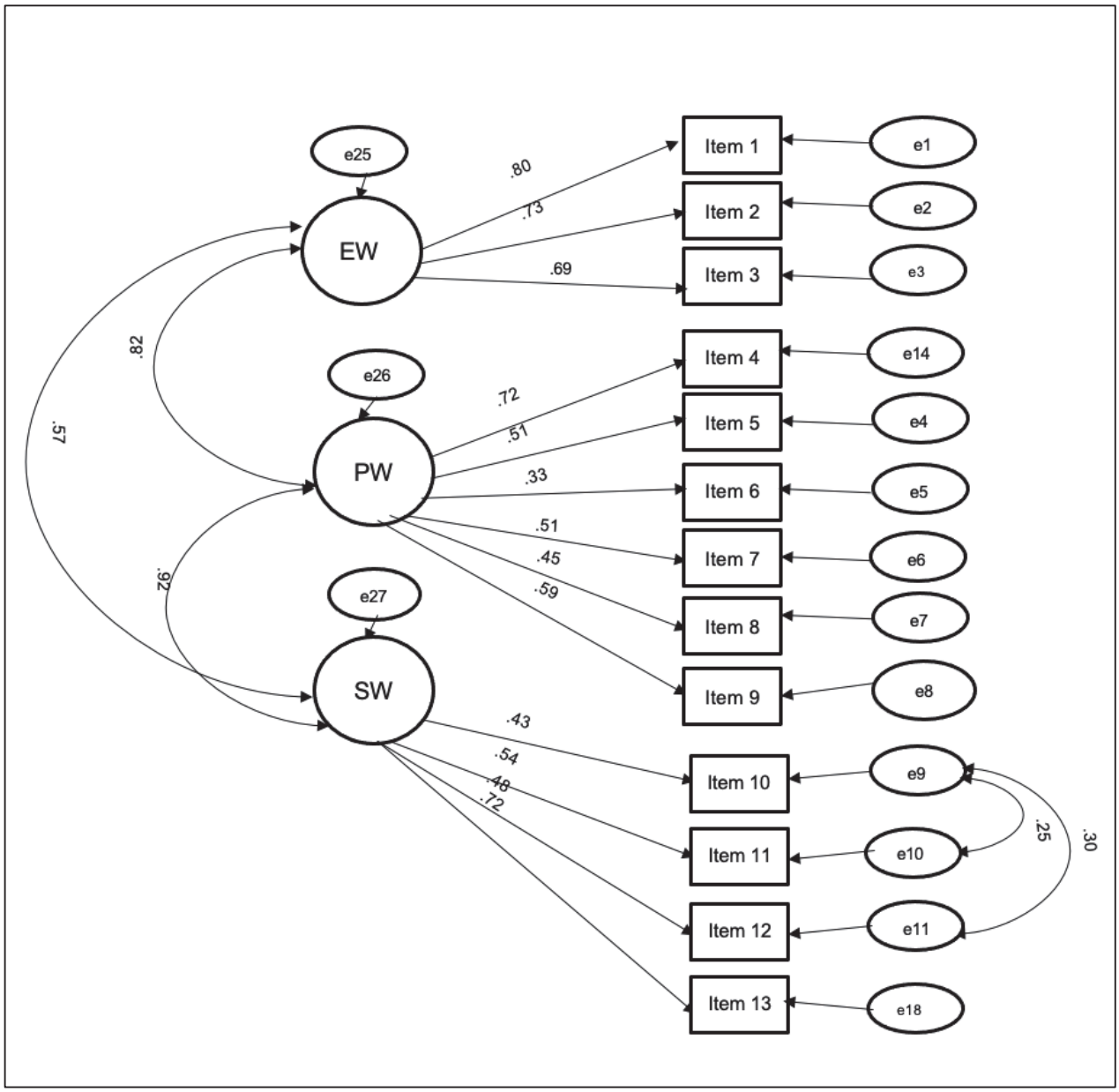

Figure 7.2 Confirmatory Factor Analysis of the MHC-SF Model.

Note. PW = Psychological Well-being; SW = Social Well-being; EW = Emotional Well-being; Items = items of the MHC-SF measuring each dimension (see methods for more detail); e = error term

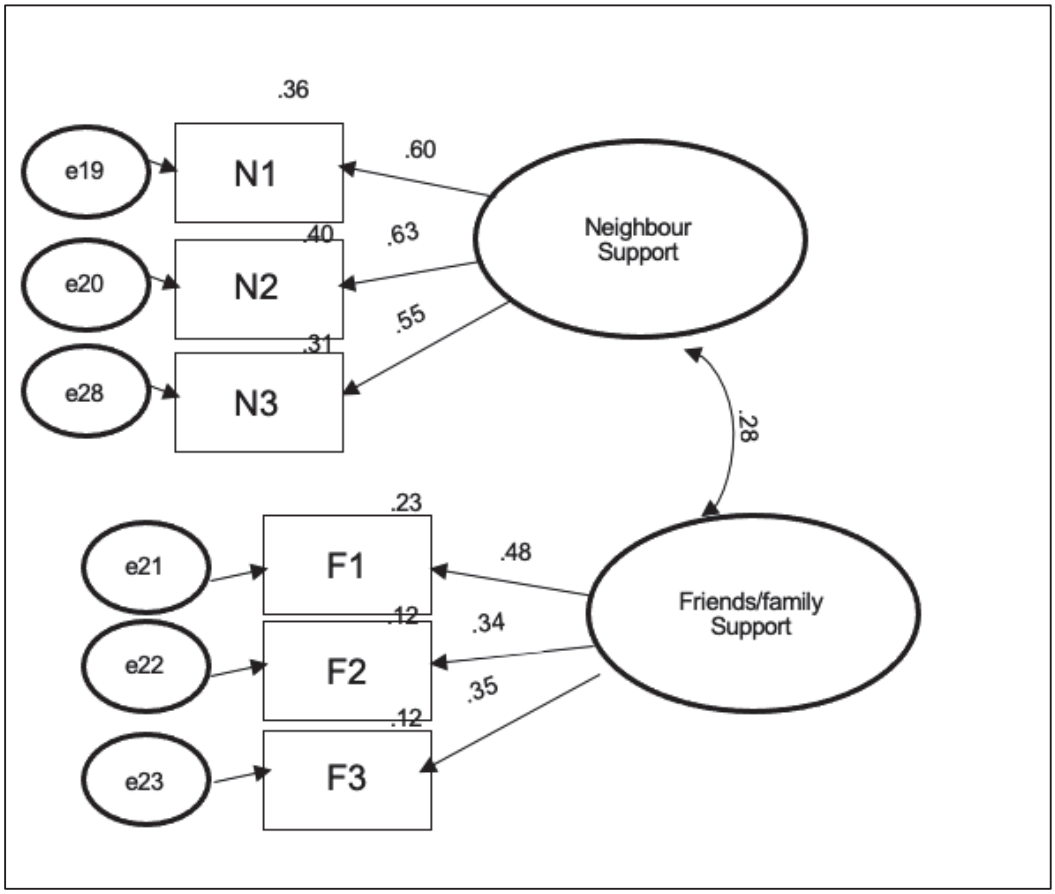

Figure 7.3 Confirmatory Factor Analysis of the Social Support variables.

Note. N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; F1 = family help count ; F2 = friends help count; F3 = count on family for support; e = error term.

7.3.3 Structural Model

Figure 7.4 shows the findings of the SEM model. In addition to the correlations between the error terms e9 and e10 (β = .25) and e9 and e11(β = .31), the error terms between e5 and e18 (β = .25), and e6 and e9 (β = .21) were also correlated based on modification indices. Results of the SEM showed that most facets of social support had significant correlation with each dimension of positive mental health: family/friends support with emotional wellbeing was not significant at the .05 level (β=.22, p = .063), however family/friends support was significantly associated with psychological wellbeing (β=.31, p = .026), and social wellbeing (β=.32, p =

.032). Neighbour support with emotional wellbeing (β=.24, *p* = .004), psychological wellbeing (β=.20, *p* = .028), and social wellbeing (β=.22, *p* = .029).

Support from family/friends showed the highest correlation with positive mental health, in particular with social wellbeing. The correlation between family/friends' support and neighbour support was β = .34, significant at p = .01. Overall, model diagnostics indicated a good fit (RMSEA=.038 [90% CI .029 - .047], CFI=.95, TLI = .93; Gamma Hat=.98, CMIN/DF = 1.65). Table 7.2 summarises the standardised and unstandardised beta coefficients, the mean and standard deviation of the variables. Controlling for food security showed only a significant relationship with emotional well-being (β= -.18, *p* = .001), indicating a negative relationship between food insecurity and emotional wellbeing for this sample. No other significant associations between food security and outcomes were found, and most associations of other pathways remained relatively the same. For simplicity, the Figure 7.4 does not include food security however, results are presented in Table 7.3.

Table 7.2 Standardised and Unstandardised Beta Coefficients, Mean and Standard Deviation of Variables.

			Standardised Estimate	Unstandardised Estimate	S.E.	C.R.	P
EW	<---	Neighbour Support	.243	.856	.298	2.868	.004
PW	<---	Neighbour Support	.198	.508	.232	2.192	.028
SW	<---	Neighbour Support	.216	.741	.338	2.190	.029
EW	<---	FamilyFriends Support	.224	1.464	.786	1.862	.063
PW	<---	FamilyFriends Support	.312	1.487	.666	2.231	.026
SW	<---	FamilyFriends Support	.323	2.054	.960	2.140	.032
Item 1	<---	EW	.797	1.416	.104	13.656	***
Item 2	<---	EW	.726	.963	.075	12.889	***
Item 3	<---	EW	.694	1.000			
Item 5	<---	PW	.509	1.000			
Item 6	<---	PW	.297	.858	.166	5.177	***
Item 7	<---	PW	.520	1.037	.128	8.123	***
Item 8	<---	PW	.449	.741	.101	7.340	***
Item 9	<---	PW	.594	1.161	.133	8.733	***
Item 10	<---	SW	.417	1.000			
Item 11	<---	SW	.553	1.029	.140	7.378	***
Item 12	<---	SW	.485	1.122	.158	7.087	***
Item 13	<---	SW	.702	1.564	.224	6.991	***
Item 4	<---	PW	.722	1.901	.196	9.722	***
N2	<---	Neighbour Support	.619	1.000			
N1	<---	Neighbour Support	.625	1.411	.214	6.603	***

F3	<---	FamilyFriends Support	.346	1.000			
F2	<---	FamilyFriends Support	.246	1.108	.439	2.524	.012
F1	<---	FamilyFriends Support	.458	2.976	1.017	2.926	.003
N3	<---	Neighbour Support	.544	.914	.141	6.472	***

Note. *** = p = .001. N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; F1 = family help count ; F2 = friends help count; F3 = count on family for support; PW = psychological well-being; SW = social well-being; EW = emotional well-being; Items = items of the MHC-SF measuring each dimension (see methods for more detail).

Table 7.3 Standardised and Unstandardised Beta Coefficients, Mean and Standard Deviation of Variables (controlling for food security).

			Standardised Estimate	Unstandardised Estimate	S.E.	C.R.	P
EW	<---	Neighbour Support	.247	.831	.285	2.919	.004
PW	<---	Neighbour Support	.214	.546	.222	2.464	.014
SW	<---	Neighbour Support	.241	.800	.320	2.498	.012
EW	<---	FamilyFriends Support	.206	1.605	.867	1.850	.064
PW	<---	FamilyFriends Support	.276	1.560	.726	2.149	.032
SW	<---	FamilyFriends Support	.300	2.209	1.040	2.124	.034
EW	<---	Food Security	-.176	-.284	.089	-3.185	***
PW	<---	Food Security	-.050	-.058	.069	-.848	.396
SW	<---	Food Security	.019	.029	.096	.306	.759
Item 1	<---	EW	.799	1.414	.102	13.806	***
Item 2	<---	EW	.723	.957	.074	12.946	***
Item 3	<---	EW	.697	1.000			
Item 5	<---	PW	.507	1.000			
Item 6	<---	PW	.302	.877	.167	5.258	***
Item 7	<---	PW	.516	1.030	.128	8.066	***
Item 8	<---	PW	.450	.746	.101	7.347	***
Item 9	<---	PW	.593	1.164	.134	8.716	***
Item 10	<---	SW	.406	1.000			
Item 11	<---	SW	.548	1.047	.145	7.232	***
Item 12	<---	SW	.486	1.155	.165	6.989	***
Item 13	<---	SW	.708	1.622	.236	6.865	***
Item 4	<---	PW	.723	1.908	.197	9.704	***
N2	<---	Neighbour Support	.622	1.000			
N1	<---	Neighbour Support	.608	1.368	.206	6.644	***
F3	<---	FamilyFriends Support	.291	1.000			
F2	<---	FamilyFriends Support	.289	1.551	.578	2.684	.007
F1	<---	FamilyFriends Support	.516	3.994	1.449	2.757	.006
N3	<---	Neighbour Support	.571	.939	.141	6.536	***

Note. *** = p = .001. N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; F1 = family help count; F2 = friends help count; F3 = count on family for support; PW = psychological well-being; SW = social well-being; EW = emotional well-being; Items = items of the MHC-SF measuring each dimension (see methods for more detail).

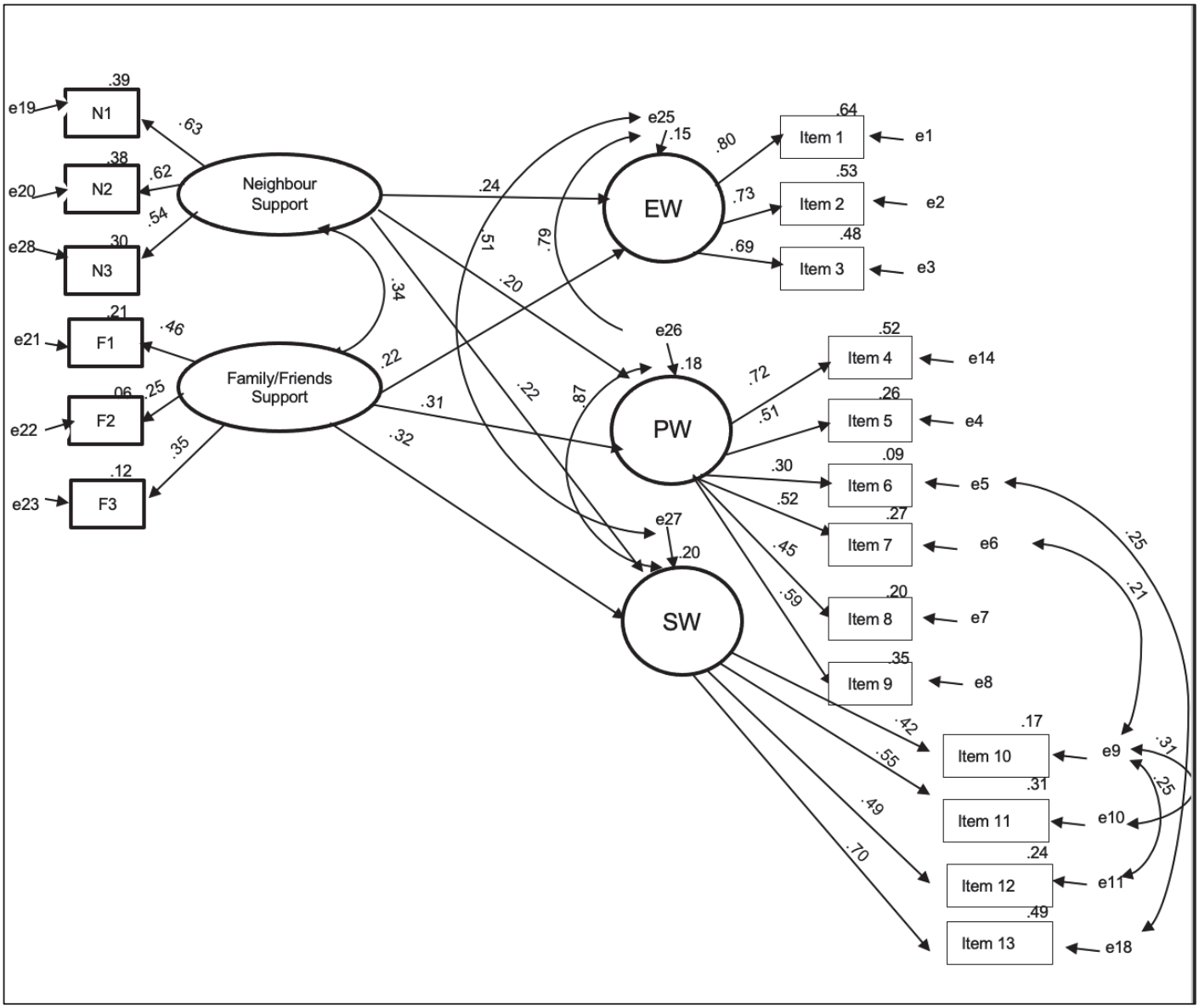

Figure 7.4 Structural Equation Model: Social Support and MHC-SF in the context of IPV.

Note. Beta coefficients are standardised path coefficients. RMSEA=.038 (90% CI .039-.047), CFI=.95, Gamma Hat=0.98; CMIN/DF = 1.65. F1 = family help count; F2 = friends help count; F3 = family support broad; N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; PW = psychological well-being; SW = social well-

being; EW = emotional well-being; e = error term. IPV = intimate partner violence. All pathways are significant at the $p \leq 0.05$ level, except for the family/friends support and EW pathway. See Table 7.2.

7.3.4 Subgroup Analyses

To explore potential differences across ethnic groups, we also ran a multigroup comparison model with separate coefficients for Māori (n = 91) and European (n = 351). An unconstrained multigroup model with coefficients freely estimated was compared to a constrained model with all structural path coefficients constrained to be equal between the two groups. The chi-square difference test between the unconstrained and the constrained model indicated that there are no significant parameter differences between the two groups, as the p value was not significant (CMIN= 25.468; DF = 19; p = .146).

Similar non-significant results were also found for sub-group analyses across deprivation levels: least deprived (n=110) compared to moderately deprived (n =169) (CMIN = 24.446; DF = 20; p = .223), least deprived compared to most deprived (n=174) (CMIN= 28.759; DF = 20; p = .093), and moderately deprived compared to most deprived (CMIN = 22.231; DF = 20; p = .323) when the same methods were applied.

To explore potential differences across recency of exposure to IPV, we ran a multigroup comparison with separate coefficients for recent exposure to IPV (n= 36), and lifetime exposure to IPV (n=417). The chi-square difference test between the unconstrained and constrained model indicated that there were significant parameter differences between the two groups (CMIN = 37.473; DF = 20; p = .010).

Each individual structural pathway was constrained to identify these differences, and results showed that there was a significant difference in the pathway between neighbour support and emotional well-being, however this difference was only statistically significant for the lifetime exposure group. There were also significant differences in the pathway between N3 (neighbours know each other well) and the neighbour support variable between groups, as well as for some of items of the MHC-SF (items 6,8, 12, 4). However, differences between these pathways are not the focus of the current study aims. See Table 7.4 for multi-group analysis results for these two groups.

Additionally, non-significant results were found for sub-group analyses across severity levels: moderate (n= 168) compared to severe (n=239) (CMIN = 21.053; DF = 20; *p* = .394).

Table 7.4 Sub-group analyses for IPV recency (recent exposure vs. lifetime).

			Recent IPV exposure (12 months)			Lifetime IPV exposure		
Path			**Coefficient (unstandardised)**	***SE***	***p***	**Coefficient (unstandardised)**	***SE***	***p***
EW	**<--**	**Neighbour Support**	**.355**	**.547**	**.516**	**.760**	**.382**	**.046**
PW	<--	Neighbour Support	.544	.236	.021	.544	.236	.021
SW	<--	Neighbour Support	.697	.339	.040	.697	.339	.040
EW	<--	FamilyFriends Support	1.301	.783	.097	1.301	.783	.097
PW	<--	FamilyFriends Support	1.430	.663	.031	1.430	.663	.031
SW	<--	FamilyFriends Support	2.303	.998	.021	2.303	.998	.021
Item 1	<--	EW	1.416	.102	.001	1.416	.102	.001
Item 2	<--	EW	.963	.073	.001	.963	.073	.001
Item 3	<--	EW	1.000			1.000		
Item 5	<--	PW	1.000			1.000		
Item 6	**<--**	**PW**	**7.137**	**16.316**	**.662**	**.803**	**.166**	**.001**
Item 7	<--	PW	1.026	.125	.001	1.026	.125	.001
Item 8	**<--**	**PW**	**5.951**	**13.564**	**.661**	**.696**	**.098**	**.001**
Item 9	<--	PW	1.146	.131	.001	1.146	.131	.001
Item 10	<--	SW	1.000			1.000		
Item 11	<--	SW	1.028	.140	.001	1.028	.140	.001
Item 12	**<--**	**SW**	**13.544**	**39.691**	**.733**	**1.096**	**.160**	**.001**
Item 13	<--	SW	1.589	.227	.001	1.589	.227	.001
Item 4	**<--**	**PW**	**12.525**	**28.307**	**.658**	**1.856**	**.192**	**.001**
N2	<--	Neighbour Support	1.000			1.000		
N1	**<--**	**Neighbour Support**	**.496**	**.217**	**.022**	**1.565**	**.247**	**.001**
F3	<--	FamilyFriends Support	1.000			1.000		
F2	<--	FamilyFriends Support	1.233	.470	.009	1.233	.470	.009
F1	<--	FamilyFriends Support	3.259	1.113	.003	3.259	1.113	.003
N3	<--	Neighbour Support	.940	.147	.001	.940	.147	.001

Note. All coefficients are un-standardised. Unconstrained paths (those that differed significantly between groups) are in bold. All other paths are constrained to equality between groups.

7.4 Discussion

First, the results support the hypothesis that social support is a vital contributor to supporting positive mental health outcomes following IPV. Notably, of the items measured, the analyses showed that having support from family and friends (both IPV specific and support more generally) had the most significant impact on positive mental health, followed by overall neighbourhood support. In particular, the SEM results highlight the importance of experiencing a combination of these different sources of support and positive mental health.

In relation to violence exposure factors, sub-group analyses showed that there was a statistically significant difference in the pathway between neighbour support and emotional

well-being when comparing recent IPV exposure to lifetime exposure. The estimate was only significant for the lifetime exposure group. This suggests that time since exposure to IPV could affect social support for positive mental health outcomes. This result builds on the findings from Žukauskienė et al.'s (2019) study of social support and posttraumatic growth in the context of IPV. The authors also found that women for whom more time had passed since the last incident of IPV had experienced higher rates of posttraumatic growth. Our study extends these findings by demonstrating that recent exposure to IPV is detrimental to reporting positive mental health outcomes. For our sample however, there were no statistically significant differences in the structural pathways between neighbour support and family support and positive mental health, based on the level of severity experienced.

There were also no statistically significant differences between the groups across the socio-demographic factors of ethnicity (when comparing Māori and European groups) and deprivation levels in relation to the structural pathways between neighbour support and family support with positive mental health. This indicated that the model was stable across these different groups. Given the indicated importance of social support across cultures, future explorations should explore cultural differences in larger samples to investigate the implications of potential differences further. It is also still pertinent to enhance social support in more deprived areas, as other studies have identified the importance of social support in improving low-income women's psychological and emotional well-being (Simmons, Braun, Wright & Miller, 2007). Overall, the results of the sub-group analyses highlight a pertinent finding: social support is important for positive mental health in the context of IPV regardless of socio-demographic and violence exposure factors. The non-significant associations do not mean that these factors are not important, but instead show that social support is beneficial for women who experience IPV across severity, deprivation, and the ethnic groups explored.

This current study is unique because it explores the relationship between IPV social support and positive mental health. Other studies that have measured recovery or growth following IPV have based their assessments of 'mental health' by measuring an absence of mental illness. Our study used a validated, holistic measure and positive indicator of positive mental health to assess who is doing well after IPV experience. The finding that with social support, positive mental health is possible in the context of IPV is an important message of hope for women who experience IPV. The use of SEM in this study was another strength as this method enabled an exploration of complex associations across the social support constructs simultaneously. This

resulted in a more comprehensive picture of mental health IPV as the interrelated aspects of social support were able to be considered. The use of SEM in this context expands on previous knowledge in this field, and is a stronger statistical method compared to other methods, such as multiple regression.

Other strengths include the sample being drawn from a random sample of the general population and the relatively large sample size, particularly for an IPV sample. Importantly, this study aimed to highlight the potential contributing factors towards enabling better mental health outcomes for women. This has been similarly highlighted in other studies exploring growth following violence (Cobb, Tedeschi, Calhoun & Cann, 2006). The subgroup analyses conducted are particularly novel explorations in the context of investigating social support and mental health in the IPV context, particularly the exploration of differences for the Māori population. The sub-group analyses and controlling for food security highlight that social support is highly valuable in the context of IPV regardless of some demographic or material factors.

Limitations of the study are that causality cannot be inferred due to the research's cross-sectional nature. Additionally, community measures of well-being and understandings of cultural aspects of support were not included in the questionnaire. Future work could benefit from including measures to better capture the ethnic and culturally diverse realities in NZ. Also, the MHC-SF is a measure of positive mental health based on the past month, and therefore we cannot infer if the mental health status assessed is enduring. Additionally, further sub-group analyses across ethnicity and deprivation as well as across IPV severity and recency with larger sample sizes would be of benefit to identify potential significant differences in social support and mental health pathways and extend the study findings. Inclusion of more specific questions around practical and informal supports (and timing of these supports) in future would also strengthen understanding of which aspects of social support can help enable positive mental health outcomes.

7.4.1 Practical Implications

Given the prevalence of IPV in the community and the high likelihood of negative physical and mental health impacts following IPV exposure, it is essential to develop a stronger understanding of what can be done to support recovery and resilience. Our results suggest that

focusing on how family and friends can be resourced to provide better support for family members who have experienced IPV would be beneficial. West and Wandrei (2002) highlight that friends and family are the original 'front-line' helpers that have the potential to support women who experience IPV by complementing the support available from formal help sources. This could be through providing emotional supports, such as love, empathy, and practical supports such as help with finance and seeking information or referrals (Thoits, 1995; Frieling et al., 2018; House, 1981; Unger & Powell, 1980).

Although friends and family tend to be frequently contacted as resources for support by women who experience violence (Fanslow & Robinson, 2010), there is little research exploring how informal social networks behave in terms of *how* they provide help (West & Wandrei, 2002). Interventions could consider incorporating family-centric approaches to educate family and friends on how they can be more supportive of those who experience IPV. Machisa and associates (2018) also suggest the need for more interventions to promote healthy social support and networks across families and communities, through, for example, resourcing support groups to help women network with each other and capacity building for community-based organisations to enable more effective social support for women. These networks have the potential to be a source of both instrumental and emotional support (Thoits, 1995; Frieling et al., 2018; House, 1981; Unger & Powell, 1980).

Interventions that have a focus on advocacy and building community networks could also have beneficial outcomes on building social networks and support. For example, the “SASA!” intervention, which had a strong focus on building community engagement and responses through training of community activists on violence prevention and engagement with stakeholders and social networks to address harmful social norms (Abramsky et al., 2014). Importantly, some women may be isolated from their social networks by their violent partners (World Health Organization, 2012) and thus face barriers in accessing social supports. Therefore, it is crucial to understand how to develop social support for these women, particularly if they are still living with a partner that controls or isolates them. Interventions should be aware of these implications and look to develop strategies to help women safely re-engage with these networks.

Additionally, it is also important to consider that friends and family may unintentionally engage in unhelpful or negative responses, such as judgement. This is significant as negative responses

from family and friends can further compound the harm caused by IPV by making women feel worse about their situation and is associated with lower quality of life. The offering of support from family and friends without judgement or negative reactions is essential to promoting well-being (Goodkind et al., 2003). Therefore, it is important for interventions to engage with wider family members to enhance the support they provide and their accountability for reducing violence and improving wellbeing. Future research could explore more closely what kinds of support provided by friends and family are helpful or unhelpful and identify more information about the most beneficial timing of support to explore ways in which interventions can resource informal sources to provide the most helpful types of support. Lastly, while this study's results confirm the use of the MHC-SF in the IPV context, future work could also explore other ways in which positive outcomes can be measured and enhanced.

7.5 Conclusion

To enable more supportive contributions towards positive mental health for women who are experiencing IPV, future interventions need to better resource communities through education and practical resources to enhance the positive support provided by friends, families and neighbours. Future interventions should also enhance access to support for women exposed to violence, whom may have reduced perceived support.

7.6 Chapter Summary:

First, analyses showed that MHC-SF is a valid measure of positive mental health. Next, informal support was identified as a key contributor to positive mental health in the IPV context. Lastly the results of this SEM build on this and show the crucial role that support from friends, family, and neighbours can have on enhancing positive mental health. The social support SEM extends the findings of each results chapter, by demonstrating important aspects of social support that contributed to positive mental health for women who have experienced IPV. Family and friends' support contributed most significantly to positive mental health. Importantly, the benefits of social support were stable across ethnicity, deprivation, and IPV severity. The next section synthesises the results of each of the models and outlines the key findings in relation to a socio-ecological perspective. The key implications and recommendations for policy, research and practice follow.

Chapter 8 DISCUSSION

8.1 Introduction

It is known that IPV is rife, and the negative consequences have been well established, particularly for physical and mental health. However, there is a gap in understanding more comprehensively which factors enable positive mental health despite previous exposure to IPV. This thesis aimed to fill that gap. Three analytic procedures were conducted to answer the main research question: assessing the psychometric properties of the MHC-SF in a population-based sample, a multivariable regression model exploring factors contributing to positive mental health in a sample of women with exposure to IPV, and structural equation modelling exploring the association between different aspects of social support with positive mental health in a sample of women with exposure to IPV.

The overall objectives of this thesis were to:

- Explore the psychometric properties of Keyes' MHC-SF, an existing conceptual tool that measures positive mental health:
  (c) In the NZ context
  (d) For an IPV sample
- Identify the factors contributing to positive mental health in a sample of women who have experienced IPV and compare factors between women with positive mental health and those with lower mental health scores.
- Explore factors related to social support and informal supports that enable positive mental health for women who have experienced IPV.
  (a) Identify potential differences across socio-demographic factors and violence exposure factors.
- Develop a comprehensive framework of factors contributing to positive mental health after IPV exposure, based on a socio-ecological and population health perspective to better understand the experience of mental health following IPV.
- Develop practice and policy recommendations based on the above analyses.

A feminist empiricist lens was applied throughout the research process, including the interpretation of the results and subsequent implications discussed in this chapter. The research

and findings are situated within an overall population health perspective. In line with this population health perspective, Ungar's (2012) socio-ecological perspective is used as a framework to synthesise the main findings across the three results chapters.

This chapter begins with a summary of each of the main results and a discussion of how the findings are situated and contextualised within the existing literature. This includes consideration of how the findings corroborate and/or challenge previous literature. Next, I will outline the novel contributions of this study and what the findings added to this field of knowledge. I will then synthesise the conclusions based on the socio-ecological approach. In the next section, I will outline the strengths, gaps, and limitations of the study. I will then conclude by identifying the implications of this study for practice and policy.

8.1.1 Results synthesis

If we look at improving outcomes in the IPV context, we need to use a population health lens. This enables an exploration of factors beyond the individual level that could be modified and addressed. Promoting positive mental health has proven benefits for society. As a holistic and multidimensional measure, the MHC-SF captures positive mental health and helps identify people who are functioning well, beyond the absence of mental illness symptoms. There are three central findings of this thesis. First, results show that the MHC-SF is robust as an instrument to measure positive mental health in the NZ context. The second key finding is the importance of social factors such as not experiencing recent IPV and, specifically, informal social support in the context of IPV being associated with positive mental health. The third key finding highlights the positive effect of social support being association with mental health and demonstrates that social support is a significant factor across socio-demographic groups and severity of physical violence experienced.

The evidence that contributed to the understanding of these three key findings is discussed below. The concept of the MHC-SF is expanded in part one, the contributing factors are expanded in part two, and social support is expanded in part three.

8.2 Study Findings Situated Within Literature

8.2.1 Part One: Psychometric Evaluation of the MHC-SF

First, the results of the confirmatory factor analysis of the MHC-SF builds on the findings of other international literature confirming the psychometric properties of the MHC-SF (e.g., Perugini et al., 2017; Schutte & Wissing, 2017; Salama-Younes, 2011; Petrillo et al., 2015) by validating the scale in a NZ context. The confirmatory factor analysis extends previous work in NZ by validating the MHC-SF in a larger, more gender-balanced, and general population sample in NZ. The results of this thesis indicate that the MHC-SF can be used to measure positive mental health for the general population (and sub-groups) within NZ.

Specifically, the results build on the findings of other studies by confirming the three-factor structure of the MHC-SF as well as supporting the convergent validity (e.g., Joshanloo et al., 2013; Keyes, 2006; Keyes et al., 2008; Perugini et al., 2017; Petrillo et al., 2015; Luijten et al., 2019). These results provided further support for the construct validity of the scale in a NZ sample.

Reflecting on the strengths of the MHC-SF, this scale provides a holistic measure of positive mental health as an outcome that is multi-dimensional and which has not previously been used in the IPV context. Additionally, Hone et al. (2014) identified that the MHC-SF was more comprehensive compared to other measures of positive mental health and more widely used and validated (Hone et al., 2014).

Furthermore, measurement invariance analyses showed that the MHC-SF was invariant across age, gender, and ethnicity. This is a crucial finding as it indicates that the MHC-SF can be used to identify any potential differences in positive mental health between groups. Knowing this means that further explorations could be conducted to determine why there may be differences in mental health between groups, which could, in turn, be used to investigate how to improve mental health outcomes for different groups.

For example, analysis of latent mean differences showed some differences across gender, age, and ethnicity in this sample. The latent mean for psychological well-being was slightly lower for females compared to males. This is consistent with the results of Matud et al.'s study (2019), which used Ryff's Psychological Well-being Scale to measure positive mental health and found higher scores for men across the psychological well-being dimension. Our study results demonstrate a similar finding using the MHC-SF in New Zealand. It has been hypothesised that these differences could result from the internalisation of social constructs and gender norms. For example, adopting traditionally 'masculine' traits such as assertiveness and independence could be associated with greater psychological well-being (Matud et al., 2019).

Similarly, assessing the latent mean differences across age groups identified that the means for the 30+ age group were higher across all dimensions of the scale compared to the 16-29 years age group. This finding is in line with other studies which have also demonstrated that older people report higher scores of positive mental health outcomes (e.g., Keyes et al., 2002; Keyes & Westerhof, 2012). The reasons for older age being associated with better mental health could be related to factors such as retirement and freedom of work, which have been shown to be related to improved well-being (Drentea, 2002). However, while some other studies have suggested that younger age is associated with higher emotional and psychological well-being (e.g., Petrillo et al., 2015; Rogoza et al., 2018), these differences in results could be due to differential country or cultural level influences of the study contexts.

Analysis of latent mean differences across ethnic groups showed that the means for the emotional well-being dimension of the MHC-SF were lower for the MELAA and Asian ethnic groups compared to the other ethnic groups in the sample. Similar results were reported in Lamborn et al.'s (2018) study in Canada, which found that the 'ethnic minority' group had statistically significant lower levels of emotional well-being and psychological well-being compared to the 'white' Canadian group. However, in Lamborn et al.'s study, the ethnic minority group in this sample did have higher levels of social-wellbeing.

The lower scores in emotional well-being for the MELAA and Asian ethnic groups in the thesis sample could be related to wider community or societal factors. For example, the lower scores could be linked to factors associated with the migration journey. This could include the detrimental effects of negative reactions, separation, trauma, and isolation related to migration (Canadian Task Force, 1988).

Differences in emotional well-being in the thesis sample could also potentially be linked to using mental health services. For example, Tiwari and Wang's study (2008) found that Asian-Canadians were less likely to use mental health services compared to Caucasians. This could suggest that ethnic minority status could be associated with under-treatment of mental health concerns and be associated with lower emotional well-being (Lamborn et al., 2018). This also suggests further investigations of barriers to mental health treatment for these groups (Tiwari & Wang, 2008). Similarly, Gilbertson and Meares' (2013) report for the Auckland Council showed that Asian people in Auckland have lower rates of access to mental health services, and that there needs to be improved and earlier accessibility to mental health services for Asian and MELAA groups. This needs to be done in culturally sensitive ways.

Based on these results, consideration could be made for developing tailored responses for enhancing the positive mental health of minority groups such as MELAA and Asian groups in NZ. Further investigation of these differences and subsequent action to address the lower means could be of benefit for improving the positive mental health for these groups. Developing tailored responses to address mental health could also be a consideration for younger age groups (16-49) and for women, who also demonstrated lower latent means across some of the dimensions of the MHC-SF scale.

On a broader level, some studies have also shown between-country differences of positive mental health scores. For example, people in Iran have shown significantly lower scores across the three dimensions of the MHC-SF compared to people in the Netherlands and South Africa (Joshanloo et al., 2013). This indicates that contextual and cultural factors are important considerations when exploring indicators of positive mental health between groups. The confirmatory factor analysis results in this thesis confirm that the MHC-SF is a robust and valid tool for measuring positive mental health in NZ, and future work could benefit from further exploration of between-country differences using the scale.

Overall, the results of part one provide confidence in using the MHC-SF to measure positive mental health. Thus, it is used to explore positive mental health more specifically in an IPV sample for parts two and three. The structural equation modelling in part three demonstrates that social support is a key factor in promoting positive mental health among women who have experienced IPV and that this factor is consistent across subgroups.

8.2.2 Part Two: Contributing factors to Positive Mental Health in the IPV Context

Once it was established that the MHC-SF was a robust measure of positive health for the study sample, the next step was to use the scale to gain insights into factors that contribute to positive mental health for women who had exposure to IPV. Factors to explore were chosen based on what was identified as important in the literature and the corresponding available variables from the HKM questionnaire. In line with a population health lens, these variables included individual factors and beyond.

A central finding was that positive mental health *is* possible in the context of IPV. Results showed that two-thirds of the IPV sample reported positive mental health. This is an important message of hope for women who have exposure to IPV, and subsequent analyses suggest factors that could be associated with these better outcomes. While the prevalence of positive mental health appears high in this sample, this could also potentially be due to the sample type. Those with the most severe cases of IPV or the lowest mental health may be missing from the sample, as it was drawn from a general population. Women who experience the most severe IPV are also less likely to participate in surveys (McNutt & Lee, 2000; Waltermaurer et al., 2003)

First, other studies in the field of PTG and resilience have reported that cessation of violence is important (Blasco-Ros et al., 2010; Cobb et al., 2006; Tedeschi & Calhoun, 1995). The multivariable regression results are consistent with and extend previous findings by indicating that cessation of violence is also an important factor in supporting positive mental health. Women in the study who were not experiencing physical IPV within the past 12 months were more likely to report positive mental health. This emphasises that women's safety from violence should always be the priority, and actions are needed that focus on containing the violent behaviour of the perpetrator (Family Violence Death Review Committee, 2016). The findings of the structural equation modelling reinforce this interpretation, with analyses showing that if more time had passed since exposure to IPV, the significant association of social support with positive mental health was stronger. This reinforces that cessation of violence and freedom of abuse are critical in ensuring that positive mental health outcomes can be enhanced.

The factor with the strongest association with positive mental health in the multivariable regression was receiving help from informal sources. Interestingly 'telling' informal help was not significant at the univariate level. This indicates that receiving help and actions are what is most helpful, rather than just the act of disclosing IPV. At the multivariable level, support from family was also significantly associated with positive mental health for women who have experienced IPV. Other studies have found that social support helped reduce symptoms of mental illness among women exposed to IPV (e.g., Howell et al., 2018; Coker et al., 2002b; Blasco-Ros et al., 2010; Ford-Gilboe et al., 2009) and that friends, family, neighbours and workmates are specifically helpful informal sources of help (Syalska & Edwards, 2014). The thesis results extend these findings by showing that social support and these informal supports are also significantly associated with positive mental health. The value of informal supports could be because of their ability to provide tangible support (e.g., safety from violence) or interpersonal and instrumental support (e.g., information about resources) (Kulkarni & Ross, 2016).

These findings, which highlight the value of informal supports in the IPV context, are further reinforced by the results of the SEM. The SEM results are discussed further in part three, however, the key finding of the SEM was that the association of social support with positive mental health was significant across factors such as socio-demographics and severity of IPV. This is a unique and important contribution to the field of IPV, as the results suggest that social support matters across all severity groups, regardless of socio-demographic factors. This has important implications for interventions addressing IPV and suggests that population-wide approaches to improve the social support provided by informal supports could be valuable for women exposed to IPV.

Results of the multivariable regression also showed that women who reported a negative reaction to disclosure (in relation to experience of forced sex) were less likely to report positive mental health compared to those who did not report a negative reaction. This builds on the findings of previous studies, which have found that negative social reactions to IPV disclosure by informal supports were associated with increased negative psychological health symptoms and psychological distress (Sylaska & Edwards, 2014; Edwards, Dardis, Sylaska, & Gidycz, 2015). Our study results expand this to highlight that negative social reactions to disclosure are also detrimental to enhancing positive mental health. While keeping in mind the limitations of this current thesis, given that it is secondary analysis the measurement of reaction to disclosure

was limited to reactions to disclosure of forced sex (by partners and non-partners). Future studies could build on this by considering a broader conceptualisation of social reactions to disclosure. However, it was still important to consider negative reactions to disclosure in this thesis as previous literature had also identified the need to look more closely at the impact of negative support (Liang et al., 2005). Liang et al. suggest that friends and family may inhibit a woman from leaving a violent relationship or seeking formal support. Worryingly, the thesis results also showed that the percentage of women in our IPV sample reporting positive reactions to disclosure is very low. 95% of the IPV sub-sample who had told someone about their abuse reported that they had *not* received any positive reactions to their disclosure.

The low rates of positive reactions to disclosure in the IPV sub-sample differ from other studies which have found that women perceive more positive social reactions to disclosure from their networks than negative social reactions (Yndo et al., 2019; Edwards & Dardis, 2020) or that women receive a mix of positive and negative social reactions (Trotter & Allen, 2009). However, our results do not necessarily mean that informal sources of help do not want to be supportive or help their loved ones who may disclose. Instead, our results extend previous studies by highlighting that informal sources of support may have gaps in education or awareness of how to be supportive or respond in such situations. For instance, a lack of knowledge about where one could get information to offer effective help or advice for a loved one (Metzger & Woodley, 2011) could potentially account for the low rates of positive reactions to disclosure reported. Therefore, improving responses to disclosures needs to happen on a large scale. Education could better inform communities and individuals about how to respond to disclosures and be more supportive of friends and families who may disclose trauma, such as IPV.

Improving reactions to disclosures is crucial because previous research has identified the association between positive social disclosure reactions and more psychological health benefits and fewer negative health symptoms (Sylaska & Edwards, 2014). Our results expand this understanding to suggest that promoting more positive social reactions to disclosure may also be associated with positive mental health.

Friends and family are one of the most highly sought out sources of help for disclosure of violence and help-seeking for women who experienced IPV (Goodkind, Gillum, Bybee & Sullivan, 2003; Sylaska & Edwards, 2014, Simon-Kumar, 2019). They are often the first points

of help following IPV (West & Wandrei, 2002), and the reactions of informal sources of support are crucial in informing the next steps taken, including further help-seeking or leaving abusive relationships (Yndo et al., 2019; Fanslow & Robinson, 2010). Examples of positive reactions to disclosures have been described through other research. They include taking the issue seriously, suggesting places the individuals can go for further help-seeking, linking to other services, providing tangible information and advice, asking what the person wants to do, and emotional support and belief (Yndo et al., 2019; Ullman, 2000; Edwards & Dardis, 2020). Increasing knowledge and awareness among friends, family, and communities of how to implement positive reactions to disclosure, as suggested, would be highly valuable.

An interesting finding of the multivariable analysis was that socio-demographic and individual factors (e.g., age, partnership status, education, deprivation, income, and food security) were not significantly associated with positive mental health. While previous studies have suggested socio-demographic factors as important contributors to better mental health outcomes (e.g., Elderton et al., 2017; Friedli & World Health Organization, 2009; Momtaz et al., 2016), our multivariable analysis found that these socio-demographic factors were not significantly associated with positive mental health as an outcome for this IPV sample. This indicates that for women who have experienced IPV in our sample, the association with positive mental health was independent of demographics and access to money and socio-economic resources. Building on these results, the SEM model in part three showed that social support was an important contributor to positive mental health for women exposed to IPV for all groups of women (e.g., regardless of ethnicity or deprivation). This is consistent with Machisa et al.'s (2018) finding, who found that access to informal social support plays a more significant role in contributing to resilience than access to and ownership of material resources. Our results extend Machisa et al.'s finding of highlighting the importance of informal support by also demonstrating that material or economic resources were not significantly associated with positive mental health in the IPV context, but informal support was.

Similarly, both telling or receiving help from formal services (police, lawyer, court, service providers, health workers or mental health workers) did not have significant associations with positive mental health for this IPV sample. This indicates that, for women who had experienced IPV in our sample, their positive mental health was independent of access to formal services and more strongly associated with social support factors. This contrasts to Ahmad et al.'s

(2013) study, which outlined professional support as an important resource in their exploration of resilience in the IPV context.

There could be some potential reasons explaining the non-significant association between formal support and positive mental health found in our study. This could be related to structural inequities, quality of services, and lack of collaboration between agencies, as highlighted in Wilson et al.'s (2015) report for the Family Violence Death Review Committee. Wilson et al. point out that despite the crucial need for organisations and services aimed at helping women and children who experience abuse to work collaboratively, they are currently not able to provide the 'seamless wrap-around' support that is warranted. Instead, agencies and service providers all too often put the responsibility on the people experiencing the violence to change the situation themselves rather than sharing the responsibility with other agencies to stop the perpetrator's abusive behaviours (Wilson et al., 2015). Additionally, the tendency of agencies to place the responsibility on the individual women does not acknowledge the structural inequities that many people who experience violence may be faced with, such as Māori women and children who are more likely to die from family violence compared to päkehä (Wilson et al., 2015).

Therefore, when viewed through the lens of Wilson et al.'s work, the non-significant associations between formal support with positive mental health for women exposed to IPV further reinforce that there is still a long way to go for services in NZ to improve the support and care they provide for women affected by IPV and family violence. As our study results have shown, it is the influence of social reactions to disclosure and informal support (beyond individual characteristics) that were significantly associated with positive mental health. Therefore, formal agencies need to reorient their services towards collective efforts that address IPV beyond an individual responsibility focus and account for contextual influences.

Despite significant associations at the univariate level, at the multivariable level, non-significant associations were found between women's self-reported general health and adverse childhood experiences (ACE) with positive mental health when taking covariate factors into consideration. This does not mean that childhood experiences or general health are not crucial to positive mental health. Instead, this finding suggests that in the presence of social support, individual factors were not significantly associated with positive mental health for this sample. However, in relation to ACEs specifically, the IPV sample is likely to have fairly high rates of

ACEs, as ACEs are strongly associated with later exposure to IPV (Mair et al., 2012; Walsh et al., 2007). So the non-significant relationship found here could be a result of the limited variance in ACE exposure in this sample. Therefore, whilst ACEs may still affect mental health outcomes in the general population (Bellis et al., 2019), we may not see this relationship in our IPV sample because of the sample characteristics.

To summarise, the main findings can be contextualised in line with Ungar's socio-ecological perspective (2012). Ungar suggests that the combination of individual and social factors is important to consider, however, the focus should be on the social factors. The findings from the multivariable regression support Ungar's interpretation, as the factors that were significant at the individual level (e.g., general health) did not reach significance when the social level factors (e.g., informal support) were included in the model. The results of the regression highlight that focus needs to be on stopping the violence (relationship level), enhancing informal supports (community level), and supporting reactions to disclosure (societal level). In addition, these findings are in line with Ungar's multisystemic resilience framework, as the regression results demonstrate that in the same way that Ungar's model demonstrates that resilience is demonstrated across different 'systems', these results demonstrate that it is factors across different levels that contribute to positive mental health in the IPV context. These factors could relate to psychological systems and the social environment in relation to Ungar's model. In part three, structural equation modelling builds on these findings to highlight specifically the importance of social support and that the impact is stable across groups.

8.2.3 Part Three: Social Support in the IPV Context

Building on the findings of the multivariable regression model, the structural equation modelling continued to explore factors more closely at the social level. Firstly, the results confirm that the scale is a valid measure of positive mental health for women who have experienced IPV.

As mentioned, previous studies have emphasised the importance of social support for PTG, resilience, and reduction of mental illness symptoms or consequences (Ahmad et al., 2013; Broughton & Ford-Gilboe, 2017; Coker et al., 2003; Choi et al., 2018; Dias et al., 2019; Kamimura, Parekh, & Olsen, 2013; Wright, 2015; Machisa et al., 2018). The structural

equation modelling results extend the findings of these previous studies by demonstrating the benefits of social support on positive mental health specifically.

Results showed that it wasn't just one source of social support that was significantly associated with positive mental health, but the combination of support from family, friends, and neighbours. In particular, the support from family and friends had the strongest association with positive mental health. Informal sources of support, such as friends and family, can be helpful sources of help as allies; they can support women towards further help-seeking and accessing other services of help—for example, practical services or specialist help and information seeking (West & Wandrei, 2002).

A particularly salient finding of the structural equation modelling was that the significance of the association of social support with positive mental health varied depending on the recency of the IPV. This was evidenced by the statistically significant difference in the pathway between neighbour support and emotional well-being when comparing recent IPV exposure to lifetime exposure. The estimate was only statistically significant for the lifetime exposure group. This finding builds on the same result reported in the multivariable regression of part two. That is, not experiencing current or recent IPV (within the past 12 months)was an important feature of positive mental health, and that for those with recent experience of IPV means social support was not significantly associated with positive mental health.

These results are in line with the study of Escribà-Agüir et al. (2010), which found that psychological distress was higher among women who reported current IPV compared to women who had suffered lifetime IPV (after adjusting for age, education, monthly household income, tangible social support, and native country). The findings of the structural equation modelling expand on these findings by demonstrating that not experiencing recent or current IPV is important not only for reducing mental illness symptoms but also for enhancing positive mental health for women who have experienced IPV.

However, when exploring another violence exposure factor, there were no significant differences in the association between social support and positive mental health based on IPV severity levels. This contrasts with Krauss et al. (2016), who found that individuals with exposure to IPV who maintained social ties were less likely to experience adverse mental health and that this finding was associated with lower levels of trauma exposure. However, this could

be because Krauss et al. (2016) measured adverse mental health outcomes, whereas this thesis looked at positive mental health as the outcome. The findings of this thesis show that social support was significantly associated with positive mental health regardless of the severity of IPV experienced.

Sub-group analyses across the socio-demographic factors of ethnicity (Māori and European) and deprivation also did not demonstrate any significant differences in the association of social support with positive mental health. This is a helpful finding as the results show that social support was significantly associated with positive mental health for everyone in this IPV exposed sample, regardless of ethnicity and deprivation level. It was particularly material to explore differences for Māori given the greater burden of IPV faced by this group in NZ (Marie, Fergusson & Boden, 2008). While other studies may have found differences across ethnicity in predicting PTG in the context of interpersonal violence (e.g., Frazier et al., 2001; Kennedy, Davis, & Taylor, 1998; Kleim & Ehlers, 2009). The findings from the structural equation modelling expand on this to highlight that for the outcome of positive mental health in the context of IPV, social support is beneficial independent of ethnicity and deprivation.

Similarly, controlling for food security did not strongly influence the association between social support and positive mental health for this IPV sample. This suggests that the association of social support with mental health for this sample was independent of socio-economic factors. This builds on the findings of the multivariable regression, which also demonstrated that demographic and economic factors were not significantly associated with positive mental health in the IPV context. This is also in line with Machisa et al.'s (2018) study, which found no significant differences in the proportion of non-resilient versus resilient women by factors such as education, employment, availability of food in the home, and the experience of child sexual abuse. The thesis findings extend this knowledge by reinforcing that social factors made the most significant difference in not just reducing mental illness but also were associated with positive mental health.

The conclusions of the structural equation modelling provide further evidence and support for Ungar's socio-ecological (2012) and multisystemic resilience (2021) perspective as factors across multiple levels such as the social environment and psychological system were identified as significantly associated with positive mental health. First, once cessation or time since IPV exposure has been established, the findings confirm that support from friends and family

(relationship level) and support from neighbours (community level) were significantly associated with positive mental health in the context of IPV. As highlighted in the multivariable regression, the results from the structural equation modelling also reinforce the notion that, while the combination of individual and social level factors are important, the focus should be on the social factors. This is evidenced by the findings of this model, as the individual-level factors, such as ethnicity and deprivation, and the relationship-level factor of IPV severity did not significantly affect social support. The results demonstrate that social support is good for everyone regardless of ethnicity, deprivation and IPV severity experienced. This has important implications for subsequent population-wide interventions. This is discussed in more detail later in this chapter.

8.2.4 Novel Contributions of this Study

The literature review illustrated that some instruments measuring growth or mental health outcomes assess outcomes as an absence of mental illness symptoms or based on a particular threshold of symptoms (e.g., Machisa et al., 2018). It was established that there is a need for a measure of mental health that thinks of mental health *beyond* the absence of mental illness. This thesis fills this gap by using a measure of mental health which regards positive mental health as a more holistic concept and uses this measure within a sample of women who have experienced IPV. To our knowledge, at the time of this thesis, this is the first study to measure positive mental health in this way within an IPV sample. The use of the MHC-SF to measure positive mental health in this context adds to the current literature by measuring mental health using a tool that is in line with the definition of mental health outlined by the World Health Organization.

The confirmatory factor analysis validated the use of the MHC-SF for a general population in NZ and for an IPV specific population. The results demonstrate that positive mental health can be measured. However, it is also important to acknowledge that not everyone who has experienced IPV has positive mental health; some women in the sample did not have positive mental health. Specifically, the results highlight the importance of the types of social support (informal and family) and the effect of negative social reactions to disclosures. Crucially, the findings highlight the importance of the length of time since exposure to IPV and cessation of current abuse. In particular, not experiencing IPV within the past 12 months was an important factor associated with positive mental health.

Moreover, the results of structural equation modelling add to the existing literature by detailing aspects of informal social support associated with positive mental health following IPV in the NZ context. For instance, the importance of family and friends' support alongside neighbour support is identified. The results demonstrate that aspects of general support (e.g., neighbours knowing each other well) and IPV-specific support (e.g., support from family/friends after IPV) have significant associations with positive mental health. These findings echo the results highlighted in the multivariable logistic regression and demonstrate the multidimensional nature of social support in the IPV context. Additionally, analyses showed a lack of variability of these associations across ethnicity, IPV severity, and deprivation. This shows that social support in the context of IPV was significant regardless of socio-demographic or violence exposure factors. However, the recency of IPV could potentially influence how effective social support is in the context of IPV. The exploration of sub-group differences in the context of social support and IPV are particularly novel investigations.

Overall, the research findings and subsequent implications align with the goals of feminist empiricist research (Leckenby, 2007; Intemann, 2010; Hundleby, 2011) through the provision of empirical evidence that outlines important areas for policy and practice to enhance mental health outcomes for women. The social and community context is taken into consideration to explore IPV from a socio-ecological framework and highlight modifiable social factors that can be addressed to improve mental health in the IPV context.

To summarise the novel contributions of this thesis:

- The analyses validate the use of the MHC-SF for the NZ general population and an IPV sample. The use of the MHC-SF in the multivariable regression model demonstrates that the MHC-SF can distinguish between groups. This confirms that the scale has utility in the IPV context.
- The findings highlight the importance of cessation of violence first and foremost. As well as the value of informal support following IPV and social reactions to disclosures of violence. Regardless of socio-economic factors, the value of social support is most salient in the context of IPV.
- An exploration of what may underpin positive mental health in the context of IPV in relation to social support highlights the key role that friends, families and communities (neighbours) can have. The findings reinforce the importance of not being exposed to

current IPV (within the past 12 months) and demonstrate that the benefits of social support are important regardless of ethnicity, deprivation, and IPV severity.

8.3 Thesis Synthesis A socio-ecological Framework

To synthesise the key results across each of the three main statistical models (see Chapters 5,6, and 7), I summarised the main conclusions based on a socio-ecological framework (see Table 8.1). This table outlines the most salient findings contextualised across the individual, relationship, community, and societal levels. This helps highlight key social actions points across these levels and is in line with the population health foundation of this thesis.

The implications of these findings, outlined in the table, are discussed in more detail in section 8.5 of this chapter.

Table 8.1 Summary of Main Study Findings Based on a Socio-Ecological Perspective.

Individual Level:

- Latent means scores for the MHC-SF were lower for the younger age group, females, and some ethnic groups (MELAA and Asian) for the general NZ population sample.
- Individual-level factors, such as socio-demographic factors (e.g., education, income), individual health and adverse childhood experiences, were not significantly associated with positive mental health for women exposed to IPV.
- The positive association of social support in the context of IPV and positive mental health was consistent across socio-demographic groups.

Relationship level:

- Cessation of the violence is an important step for ensuring women get the help and support that is needed to enhance positive mental health.
- Informal support provided from sources such as family, friends and neighbours was significantly associated with positive mental health for women following experiences of IPV.

- Informal sources of support should be better resourced to provide help in the most beneficial ways for women who experience IPV. These sources can be important allies to accessing further help or services.

Community level:

- The combination of support at disclosure and on-going social support was significantly associated with positive mental health.
- There is a need to resource and enhance how community groups, neighbours, and neighbourhoods can be involved and support members of their community.
- Education and outreach to help community groups improve ways to provide support for women who experience violence and increase their sense of social connection and social well-being.

Societal level:

- Formal help-seeking was not a significant contributor to positive mental health for women with exposure to IPV. To enhance the benefits of these sources of help, the support provided by services, agencies and formal help need further investigation.
- Improvement is needed to increase positive reactions to disclosures of IPV in communities. Widespread education and promotion of appropriate and supportive responses to disclosures would have a positive effect.
- The significance of social support was stable across groups. Population-wide approaches to improve social support can be implemented to enhance positive mental health for IPV.

8.4 Strengths, Gaps, and Limitations

8.4.1 Strengths

This study adds to the body of international knowledge confirming the psychometric properties of the MHC-SF by validating the use of this scale for a large population-based sample in NZ. This sample had good representation across age, gender, and ethnicity. This study confirmed the psychometric properties of the MHC-SF for an IPV-specific sample.

This is the first study, to our understanding, to measure mental health using the MHC-SF for an IPV sample. This study extends previous research exploring the positive mental health outcomes for women exposed to IPV by measuring mental health beyond the absence of mental illness symptoms. Thus, the findings provide a unique contribution to IPV research and concrete suggestions for improving mental health in the IPV context encompassing a range of social factors beyond the individual.

The population-based sample used is a major strength for this current thesis's overall aims, questions, and intentions. Women included in the IPV sample were drawn from a more diverse community sample compared with previous IPV research that has involved specifically selected or convenience samples, such as women in shelters or health clinics. The current study included those who had not sought formal help, which improves the information and understandings resulting from IPV research. Bender's (2017) review of IPV research (ethics, methods and measurement) recommended that broadening recruitment and sampling in IPV studies to include a more diverse variety of women, as well as including those who may not have sought out formal help-seeking, could improve the quality and scope of information gained. The increase in the scope of knowledge could be beneficial for informing and enhancing interventions in the IPV field (Bender, 2017). Therefore, the population-based sample drawn on in this thesis is in line with Bender's recommendations.

The sample size for the CFA and the IPV sample for the regression and structural equation modelling are large compared to previous studies in this field. Other studies exploring IPV have had much smaller samples to this thesis (e.g., 144, 130, and 191 participants) (Mishra et al., 2014; Pico-Alfonso et al., 2006; Coker et al., 2003). This provides more confidence in the robustness and power of the results.

Structural equation modelling is another strength of this study and expands previous analyses in this line of research. It is a stronger statistical method compared to other statistical methods such as simple regression, and this provides further confidence in the conclusions drawn from the results.

The study findings provide valuable and novel understandings. The results can help inform policy and practice to enable more supportive pathways following IPV experience to improve

mental health outcomes for women. The study also provides a unique contribution and message of hope for women who have experienced violence.

From a population health perspective, it is crucial to address inequity in societies and consider the upstream and broader social determinants of health. Shi and associates (2009) point out that policy goals and research should be well published across academic publications for public health work. The authors suggest that this puts consistent pressure on policymakers and helps enhance awareness of and highlight the severity of public health issues. Shi and associates emphasise that policymakers are more likely to act when they perceive clear public demand. Therefore, one of the goals of this thesis was to publish each of the results chapters to ensure that implications and policy recommendations were being disseminated to the public, academics, and policymakers.

8.4.2 Limitations and Gaps

Given the cross-sectional nature of the data, inferences about causality are not possible to confirm from the study's findings. Additionally, The MHC-SF provides a cross-sectional snapshot based on self-reported perceptions of positive mental health in the month previous to the survey. Therefore, the study does not provide information on how people have progressed in their positive mental health over time. Future studies could consider applying the MHC-SF at different points along the IPV journey to better understand how people have changed in their positive mental health and what might be most helpful at each specific stage. Longitudinal studies could be of benefit to provide a better understanding of these pathways of positive mental health. Further studies similar to the longitudinal analyses of Ford-Gilboe et al.'s (2009) work which followed service use among women who had left abusive partners, could be useful to conduct in other locations.

Conducting qualitative interviews in future studies could be particularly valuable in relation to identifying specific aspects of informal supports that are helpful and identifying in more detail the pathways, access, and usage of formal sources of support. Qualitative methods could also help develop interventions and approaches to improve support for women who have experienced IPV, based on women's voices.

There is also potential for sample bias, given that the sample was drawn from a general population. This means people with better health (particularly in the older age groups, e.g., rest homes excluded) may be overrepresented in the sample. Also potentially missing from this study, particularly for the IPV sample, are those with the highest IPV severity and those with the lowest mental health. As Johnson (2006) points out, more severe forms of violence and control are more likely to be found in the experiences of samples of women in shelters compared to more situational IPV in community samples. Thus, the perspectives and experiences of these women may be missing from our study sample (Bender, 2017). Nonetheless, our findings still have important implications for those missing from our sample.

A limitation of some of the sub-group analyses was the unbalanced or smaller sub-group sizes. This could have contributed to some of the resulting non-significant associations. Future research could aim to extend study findings by carrying out the sub-groups analyses in more balanced samples. For example, additional analyses in larger and more balanced ethnic group samples would be beneficial for expanding understandings of cross-cultural differences in positive mental health outcomes.

Methodologically, it would also be beneficial to include other measures or scales of positive mental health (e.g., the satisfaction with life scale (Diener et al., 1985)), and mental illness (e.g., living with chronic illness scale (Ambrosio et al., 2020)) when constructing future questionnaires to investigate IPV and mental health. This would strengthen the validation study when comparing the MHC-SF to other measures. This is a limitation of secondary data analysis, as there is less control over the measures that can be utilised in the study. Similarly, the measurement of IPV exposure and factors such as exact timing of exposure, frequency, or if is ongoing, and a broader conceptualisation of social reactions to disclosure was limited because of the nature of secondary data analysis.

An important consideration for the interpretation of the results is the dichotomisation of IPV exposure and positive mental health as discussed in the methodology chapter. Given the complexity and the broadness of each concept, the binary conceptualisation of IPV and positive mental health should be taken into consideration when interpreting the results. In relation to IPV exposure, the binary measure in the thesis may not fully capture complex and ongoing nature of IPV. Therefore, results may not be fully reflective of the factors that are associated with positive mental health for circumstances in which IPV is ongoing or exposure cyclical.

In addition, the measurement of IPV is restricted to physical and sexual IPV and thus the results may not capture the full extent of factors that may be associated with positive mental health for other forms of IPV (e.g., psychological, economic, spiritual etc.). Also, the definition of IPV severity was restricted to physical IPV and based on the criteria previously used (World Health Organization, 2005). This definition may not account for women's own perceptions of IPV severity, this limitation could be addressed in future studies.

The binary measure of positive mental health for the regression model may also not capture the dual-continuum perspective of mental health as conceptualised by Keyes. However, a continuous measure of positive mental health was used in the structural equation modelling. Lastly, another important consideration for the interpretation of results is the limitations in measurement of other complex variables. Given that this was secondary data analysis, some of the items used for analysis may not fully capture the complexity of some constructs such as mental illness measures (e.g., depression), severity, frequency, and timing of IPV as mentioned, and reactions to disclosure of violence. This should be kept in mind when interpreting the associations with positive mental health in the IPV context.

Additionally, other variables could be helpful to explore in future studies. For example, in the HKM questionnaire from which the study data was drawn, no community measures of well-being were included or questions related to cultural aspects of support. However, social support has been identified as important across cultures and for indigenous populations (e.g., Hoeata et al., 201; Wilson et al., 2016; Waterworth et al., 2014; Richmond & Ross, 2008). Future work could better incorporate cultural measures of well-being to better represent the culturally diverse realities in NZ. It would be worth exploring whether there is an additional dimension to the measure of positive mental health – the 'cultural' dimension. This would enable a closer look at how this cultural dimension plays a role across contexts and how informal supports are helpful or unhelpful in relation to this in the IPV context.

Furthermore, early exploration of the literature (Chapter 3) also identified that measurements and instruments of positive mental health should account for negative changes and experiences also. This has been a critique of measures such as PTG (Frazier, Oishi, & Steger, 2003; Park & Lechner, 2006; Calhoun & Tedeschi, 2006). Calhoun and Tedeschi (2006) also identified spirituality as necessary when considering growth outcomes. While these two gaps could not

be addressed in this thesis, this could potentially be addressed in future studies by including measures of negative changes or scales designed explicitly for spirituality to explore this in more depth.

Lastly, in this thesis, there was no variability found in positive mental health based on socio-demographic factors, including socio-economic status. The opportunity to explore additional intersectional understandings of IPV and positive mental health was limited based on the HKM questionnaire variables available. While a few notable qualitative intersectional analyses of IPV have already been conducted, which have assessed additional factors (e.g., multiple discrimination, social stigma, sociocultural factors, and race) and their effect on identity, understandings, sexual health, decision-making, and access to resources in the context of IPV (e.g., Rodríguez Martínez, 2015; Barrios, Khaw, Bermea, & Hardesty, 2020; Bagwell-Gray, Jen, & Schuetz, 2020). The findings of those qualitative analyses could be further enhanced by future quantitative investigations (alongside continued qualitative analyses) to build on the qualitative findings and strengthen the knowledge on intersectional understandings of IPV and mental health.

8.5 Practice and Policy Implications

First, since the psychometric properties of the MCH-SF have now been confirmed for a population-wide NZ sample, as well as for an IPV sample, there is evidence for using the scale to assess positive mental health across groups. Future work could use the MHC-SF in different IPV samples or other specific sub-groups to assess positive mental health and identify any potential differences between groups. This could lead to future investigations into enhancing mental health outcomes and addressing any differences between groups accordingly.

Next, the assessment of factors contributing to positive mental health in the IPV context highlights other vital implications. First, the results affirm the importance of violence cessation or not experiencing current IPV (within the past 12 months). Therefore, current services and agencies addressing IPV need to ensure that the priority is on ensuring women's safety and that the onus is on the actions of the person carrying out the abuse and the agencies (Wilson et al., 2015).

This analysis also highlighted the vital role of social factors in association with positive mental health, particularly the support of informal sources of social support. The results of this thesis indicate the value of better resourcing family, friends and neighbours to provide helpful support for loved ones who experience IPV. Importantly, the results showed that the positive benefits of social support appear to be significant across groups (e.g., ethnic groups, deprivation, IPV severity, and measures of poverty [food security]). This indicates that systems and services designed to enhance positive mental health for the whole population can be helpful to improve the mental health of women exposed to IPV.

Interventions should focus on incorporating family-centric approaches to educate family and friends on how they can be more supportive. For example, Machisa et al. (2018) suggest resourcing support groups to help women who experience IPV to network with each other as well as for community organisations to enhance their capacity building to provide more effective support for women. Machisa et al. suggest that more interventions are needed to promote healthy social support across families and communities and develop these networks. As discussed, women may be isolated from their social networks by their violent partners. Sullivan (2012) also highlights the value of support groups and suggests that support groups for women who have experienced IPV could help combat this isolation. This could be through the provision of mutual support, encouragement of each other's strengths, and hearing each other's stories, which are expected to improve self-esteem and self-efficacy (Sullivan, 2012). For example, in Taylor's (2000) study of support group experiences of African American women exposed to IPV, analyses showed that these support groups helped women connect with each other and feel more validated. Women in this study also reported that support groups helped reduce their isolation and helped them make needed changes in their lives.

Given that the value of neighbour support was highlighted in the thesis analyses, focusing on community-based interventions to build social networks and support for women who experience IPV could also be beneficial. For example, the 'SASA' intervention, where community activists in intervention sites received training on gender-based violence prevention, power inequalities and gender norms. After this training, the activists carried out advocacy activities that involved different stakeholders and members of their social networks, intending to address harmful social norms around gender-based violence. Lower rates of IPV were subsequently reported among the intervention community (Abramsky, Deveries, Kiss,

Nakuti, Kyegombe, Starmann… & Watts, 2014; Kyegombe, Starmann, Devries, Michau, Nakitu, Musuva…& Heise, 2014; Ogbe, Harmon, Van den Bergh, & Degomme, 2020).

Other phases of the 'SASA' programme involved helping communities move from improved awareness about violence to implementing sustained action and prevention. This included challenging victim-blaming ideologies, educating community members on how to intervene when violence occurs, supporting people who experience violence, providing referral information to community members so they can support women who need help, and supporting service providers (Abramsky et al., 2018). Implementation of this programme has been shown to create environments of supportive bystander action, as community members were more likely to intervene after witnessing IPV (Abramsky et al., 2018). Similar interventions adapted for the NZ context, could also be beneficial.

The non-significant associations between formal support and positive mental health in the present study indicate potential areas of improvement that are needed to enhance the benefits of these types of support for women who experience IPV in NZ. As mentioned previously, the lack of collaboration between agencies and the framing of services addressing family violence in NZ needs major improvement (Wilson et al., 2015). Future interventions should aim to enhance the collaboration between agencies that aim to provide support for women who experience IPV. This could potentially enable the benefits of formal types of support to be better accessed by women.

An example of such an approach in the United States is the 'Street Violence Response Team' in San Francisco, which involves weekly meetings with representatives from the mayor's office, the police department, community organisations, the public health department, child and family services, and the district attorney's office (City & County of San Francisco - the Office of the Mayor, 2016; American Public Health Association, 2018). Such a collaborative response team could also be of benefit in NZ to help develop more coordinated responses to prevent and address IPV and work towards gaining positive mental health outcomes. Another example is the 'Intervention for Health Enhancement After Leaving'. This is a primary health care intervention for women who had recently left violent partners and was developed through a collaborative partnership between academics, non-government organisations and community members. There was a significant reduction in depression and PTSD after this intervention,

which was sustained at twelve months post-intervention (Wuest, Merritt-Gray, Dubé, Hodgins, Malcolm, Majerovich... & Varcoe, 2015).

Additionally, since informal supports can be important in supporting women towards further help (Yndo et al., 2019), it is crucial that services are designed to promote positive mental health and address previous trauma that may be associated with IPV. Trauma-informed providers who have enhanced awareness of trauma can better assist these women towards recovery (Anyikwa, 2016).

The detrimental effect of negative reactions to disclosure was also emphasised in the study findings. This also has some vital implications, in particular the need to improve responses to disclosure. Other researchers have also highlighted this (Yndo et al., 2019; Sylaska & Edwards, 2014). The low rates of positive responses to disclosure experienced by women in this study also emphasise the need to develop population-level strategies to improve helpful responses to disclosures of IPV. One effective strategy can be through the use of education, which can be a powerful public health tool to raise awareness about population health issues and challenge health inequities. This can help build support and resources for addressing and eliminating disparities (Shi et al., 2009). This could be through gearing educational programmes to assist and strengthen 'bystander responses', eliminate negative responses, and support people to provide more helpful forms of social support.

For example, one suggestion could be the nationwide adoption of educational programmes, such as the 'Body Safe' programme in NZ (Rape Prevention Education, 2016) as a helpful strategy. This is an example of a sexual violence prevention education programme that provides consent education to high school youth already implemented in Auckland, NZ. This programme includes tools and education around supportive ways to respond to disclosures of violence. Adopting programmes like this and adapting for different contexts (e.g., universities, workplaces, and community spaces) would be of great benefit. This could help improve community and individual understanding of how to react and respond to disclosures of violence in supportive ways.

Such education programmes must include robust evaluations (involving women who have experienced violence) and updating of the programmes. This ensures that the most appropriate

and up to date education about IPV prevention and support is being disseminated. Involving stakeholders in the evaluation process has been shown to be effective in producing detailed reports that are user-friendly and provide insightful recommendations for strengthening interventions (Gilliam, Davis, Barrington, Lacson, Uhl, & Phoenix, 2002).

One other example directly targeting social reactions to disclosures is the 'Supporting Survivors and Self' (SSS) intervention adopted in the United States. This programme teaches people ways to respond to IPV disclosure that are positive and not negative and also how to cope with their own distress and model healthy coping mechanisms for those who disclose to them (Edwards, Waterman, Ullman, Rodriguez, Dardis & Dworkin, 2020; Schackner, Weiss, Edwards & Sullivan, 2017). Adopting programmes such as this in NZ would be an effective way to educate and better assist informal sources of support. It will help those who disclose to them about IPV in more positive and beneficial ways that could enable long-term positive mental health. Another valuable suggestion is ensuring that these educational approaches are embedded in policy and mandated across educational organisations and workplaces.

Similarly, media campaigns, which can combine different formats such as the internet, television, and radio, can be effective and simple ways to educate and raise awareness about public health issues (Shi et al., 2009). In this context, media campaigns can be developed that are targeted at the support networks around women who experience IPV. Such campaigns could aim to highlight ways to provide effective support for these women and include information about where additional support people and places are at a local and national level.

A crucial consideration at the institutional level is ensuring tailored responses for minority and at-risk groups. Despite the sub-group analyses showing no variability in the effect of social support when comparing Māori with the European group, this does not mean that the outcomes and experiences of IPV are equal for these groups. As mentioned, Māori women and children and more likely to die from family violence (Wilson et al., 2015). Interventions aimed at reducing victimisation for Māori need to address structural differences and consider wider contextual factors, for example, addressing social and economic inequalities, urban/rural disparities, and structural racism. Interventions should also be developed from a Māori conceptual framework (Ministry of Justice, 2020). Focusing on groups at the highest risk for violence and reducing violence in these communities means that the inequities associated with

this violence will also decrease and enable healthier and safer communities (American Public Health Association, 2018).

An example of an approach tailored to indigenous needs is 'ROS' (Reclaiming Our Spirits). ROS is a health promotion intervention developed for indigenous women in Canada that builds on an IPV-specific intervention (iHEAL) (Ford-Gilboe, Merritt-Gray, Varcoe, & Wuest, 2011; Ford-Gilboe, Wuest, Varcoe & Merritt-Gray, 2006; Wuest, Ford-Gilboe, Merritt-Gray, & Varcoe, 2013). ROS was developed to address the gap in available services and evidence-based interventions specifically designed to address the needs of indigenous women (Varcoe et al., 2019). Applying similar methods as ROS and tailoring a response to IPV specifically through a Māori lens and practice could also potentially demonstrate valuable results.

8.6 Conclusion

This thesis has explored positive mental health in the context of recent or historical exposure to IPV. Confirming the use of the MHC-SF to measure positive mental health and exploring social support in more detail, these findings have illustrated that positive mental health in the IPV context is associated with a range of modifiable social factors. While a range of individual, social, and structural factors were explored, social support had the biggest effect. Regardless of material resources and general health, when social factors came into play, those had the strongest association with positive mental health. In particular, focusing on stopping violence and ensuring support at the point of disclosure and on-going social support over time are significantly helpful social factors associated with positive mental health. Notably, of social support was significant across socio-demographic factors (e.g. ethnicity and deprivation) and severity of physical violence.

The findings reflect meaningful progress in knowledge for IPV and empirical feminist research. The results centralise women's issues in relation to IPV and highlight critical areas of improvement to enhance the mental health of women who are exposed to IPV. The development of policy and practice recommendations is backed by substantial empirical evidence and indicates solid goals for communities and key players in positions of power to prioritise and act upon.

While the detrimental impact of IPV should never be minimised, these findings suggest how communities can support women who have had exposure to IPV and show that positive mental health following IPV is possible. This is an important, hopeful, message for women with exposure to IPV. Family, friends, and communities have a significant role in promoting positive mental health outcomes for women who experience IPV. Future work should explore how communities can be equipped to better support and assist positive mental health.

Chapter 9 REFERENCES

Abramsky, T., Devries, K., Kiss, L., Nakuti, J., Kyegombe, N., Starmann, E., Cundill, B., Francisco, L., Kaye, D., & Musuya, T. (2014). Findings from the SASA! Study: a cluster randomized controlled trial to assess the impact of a community mobilization intervention to prevent violence against women and reduce HIV risk in Kampala, Uganda. *BMC Medicine, 12*(1), 1-17. https://doi.org/10.1186/s12916-014-0122-5

Abramsky, T., Musuya, T., Namy, S., Watts, C., & Michau, L. (2018). Changing the norms that drive intimate partner violence: findings from a cluster randomised trial on what predisposes bystanders to take action in Kampala, Uganda. *BMJ Global Health, 3*(6), e001109. doi: 10.1136/bmjgh-2018-001109

Adams, P. J., & Buetow, S. (2014). The place of theory in assembling the central argument for a thesis or dissertation. *Theory & Psychology, 24*(1), 93-110. DOI:10.1177/0959354313517523

Afifi, T. O., MacMillan, H. L., Taillieu, T., Turner, S., Cheung, K., Sareen, J., & Boyle, M. H. (2016). Individual- and relationship-level factors related to better mental health outcomes following child abuse: Results from a nationally representative canadian sample. *The Canadian Journal of Psychiatry / La Revue Canadienne De Psychiatrie, 61*(12), 776-788. https://doi.org/10.1177/0706743716651832

Agaibi, C. E., & Wilson, J. P. (2005). Trauma, PTSD, and resilience: A review of the literature. *Trauma, Violence, & Abuse, 6*(3), 195-216. DOI: 10.1177/1524838005277438

Ahmad, F., Rai, N., Petrovic, B., Erickson, P. E., & Stewart, D. E. (2013). Resilience and resources among South Asian immigrant women as survivors of partner

violence. *Journal of Immigrant and Minority Health, 15*(6), 1057-1064. DOI: 10.1007/s10903-013-9836-2

Akaike, H. (1974). A new look at the statistical model identification. *IEEE Transactions on Automatic Control, 19*(6), 716-723. doi:10.1109/TAC.1974.1100705

Altman, D. G., & Royston, P. (2006). The cost of dichotomising continuous variables. *BMJ (Clinical research ed.)*, *332*(7549), 1080. https://doi.org/10.1136/bmj.332.7549.1080

Ambrosio, L., Navarta-Sánchez, M. V., Meneses, A., & Rodríguez-Blázquez, C. (2020). Living with Chronic Illness Scale: Pilot study in patients with several chronic diseases. *Atencion Primaria, 52*(3), 142-150. doi: 10.1016/j.aprim.2018.08.008

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Author.

American Public Health Association. (2018). Violence is a public health issue: Public health is essential to understanding and treating violence in the US. *Policy*, (20185).

Anderson, J. M. (2006). Reflections on the social determinants of women's health exploring intersections: Does racialization matter? *CJNR (Canadian Journal of Nursing Research), 38*(1), 7-14.

Anderson, K. (2011). *Enhancing Resilience in Survivors of Family Violence*. Springer Publishing.

Anderson, D. K., Saunders, D. G., Yoshihama, M., Bybee, D. I., & Sullivan, C. M. (2003). Long-term trends in depression among women separated from abusive partners. *Violence against women*, *9*(7), 807-838. doi: 10.1177/1077801203009007004.

Anderson, K. M., Renner, L. M., & Danis, F. S. (2012). Recovery: Resilience and growth in the aftermath of domestic violence. *Violence Against Women, 18*(11), 1279-1299. https://doi.org/10.1177/1077801212470543

Anyikwa, V. A. (2016). Trauma-informed approach to survivors of intimate partner violence. *Journal of Evidence-Informed Social Work, 13*(5), 484-491. https://doi.org/10.1080/23761407.2016.1166824

Arbuckle, J. L. (2019). Amos (Version 26.0). [computer software]. Chicago: SPSS.

Argento, E., Muldoon, K. A., Duff, P., Simo, A., Deering, K. N., & Shannon, K. (2014). High prevalence and partner correlates of physical and sexual violence by intimate partners among street and off-street sex workers. *PloS One, 9*(7), e102129. https://doi.org/10.1371/journal.pone.0102129

Ashton, J., & Seymour, H. (1988). *The new public health* (Vol. 1). Open University Press.

Bagwell-Gray, M. E., Jen, S., & Schuetz, N. (2020). How Intimate Partner Violence and Intersectional Identities Converge to Influence Women's Sexual Health across Environmental Contexts. *Social Work, 65*(4), 349-357. https://doi.org/10.1093/sw/swaa031

Barrios, V. R., Khaw, L. B. L., Bermea, A., & Hardesty, J. L. (2020). Future directions in intimate partner violence research: An intersectionality framework for analyzing women's processes of leaving abusive relationships. *Journal of Interpersonal Violence,* , 0886260519900939. https://doi.org/10.1177/0886260519900939

Barry, M., & Jenkins, R. (2007). *Implementing Mental Health Promotion*. Elsevier Health Sciences.

Bellis, M. A., Hughes, K., Ford, K., Rodriguez, G. R., Sethi, D., & Passmore, J. (2019). Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: a systematic review and meta-analysis. *The Lancet Public Health, 4*(10), e517-e528. https://doi.org/10.1016/S2468-2667(19)30145-8

Bender, A. K. (2017). Ethics, methods, and measures in intimate partner violence research: The current state of the field. *Violence Against Women, 23*(11), 1382-1413. https://doi.org/10.1177/1077801216658977

Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health, 25*(5), 464-469. https://doi.org/10.1111/j.1467-842X.2001.tb00294.x

Bharmal, N., Derose, K. P., Felician, M., & Weden, M. M. (2015). Understanding the upstream social determinants of health. *California: RAND*, 1-18.

Blasco-Ros, C., Sánchez-Lorente, S., & Martinez, M. (2010). Recovery from depressive symptoms, state anxiety and post-traumatic stress disorder in women exposed to physical and psychological, but not to psychological intimate partner violence alone: A longitudinal study. *BMC Psychiatry, 10*(1), 98. https://doi.org/10.1186/1471-244X-10-98

Blasius, J., & Brandt, M. (2010). Representativeness in online surveys through stratified samples. *Bulletin of Sociological Methodology/Bulletin De Méthodologie Sociologique, 107*(1), 5-21. https://doi.org/10.1177/0759106310369964

Bonanno, G. A. (2004). Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive after Extremely Aversive Events? *American Psychologist, 59*(1), 20-28. 10.1037/0003-066X.59.1.20

Bott, S., Guedes, A., Ruiz-Celis, A. P., & Mendoza, J. A. (2019). Intimate partner violence in the Americas: a systematic review and reanalysis of national prevalence estimates. *Revista Panamericana De Salud Publica, 43*:e26. https://doi.org/10.26633/RPSP.2019.26

Bradley, R., Schwartz, A. C., & Kaslow, N. J. (2005). Posttraumatic stress disorder symptoms among low-income, African American women with a history of intimate partner violence and suicidal behaviors: Self-esteem, social support, and religious coping. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies, 18*(6), 685-696. https://doi.org/10.1002/jts.20077

Breiding, M., Basile, K. C., Smith, S. G., Black, M. C., & Mahendra, R. R. (2015). In National Center for Injury Prevention and Control (U.S.). Division of Violence Prevention. (Ed.), *Intimate partner violence surveillance: uniform definitions and recommended data elements. Version 2.0*

Broughton, S., & Ford-Gilboe, M. (2017). Predicting family health and well-being after separation from an abusive partner: role of coercive control, mother's depression and social support. *Journal of Clinical Nursing, 26*(15-16), 2468. 10.1111/jocn.13458

Brown, J. (1997). Working toward freedom from violence: The process of change in battered women. *Violence Against Women, 3*(1), 5-26. https://doi.org/10.1177/1077801297003001002

Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford publications.

Brunner, H. I., & Giannini, E. H. (2011). Trial design, measurement, and analysis of clinical investigations. *Textbook of Pediatric Rheumatology* (pp. 127-156). WB Saunders.

Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: the issue of partial measurement invariance. *Psychological Bulletin, 105*(3), 456. https://doi.org/10.1037/0033-2909.105.3.456

Calhoun, L. G., & Tedeschi, R. G. (2004). Author's Response: "The Foundations of Posttraumatic Growth: New Considerations". *Psychological Inquiry, 15*(1), 93-102. 10.1207/s15327965pli1501_03

Calhoun, L. G., & Tedeschi, R. G. (2006). *The Foundations of Posttraumatic Growth: An Expanded Framework* (pp. 3-23). Lawrence Erlbaum Associates Publishers.

Canadian Task Force on Mental Health Issues Affecting Immigrants and Refugees. (1988). *Review of the Literature on Migrant Mental Health.* Ministry of Supply and Services.

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment*. Sage publications.

Carver, C. S. (1998). Resilience and thriving: Issues, models, and linkages. *Journal of Social Issues, 54*(2), 245-266. https://doi.org/10.1111/0022-4537.641998064

Catalino, L. I., & Fredrickson, B. L. (2011). A Tuesday in the life of a flourisher: The role of positive emotional reactivity in optimal mental health. *Emotion, 11*(4), 938-950. doi: 10.1037/a0024889

Centers for Disease Control and Prevention. (2015). *Behavioral risk factor surveillance system adverse childhood experiences study module*. Centers for Disease Control and Prevention.

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 14*(3), 464-504. https://doi.org/10.1080/10705510701301834

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*(2), 233-255. https://doi.org/10.1207/S15328007SEM0902_5

Chida, Y., & Steptoe, A. (2008). Positive psychological well-being and mortality: a quantitative review of prospective observational studies. *Psychosomatic medicine*, *70*(7), 741-756. doi: 10.1097/PSY.0b013e31818105ba

Cho, H., & Huang, L. (2017). Aspects of help seeking among collegiate victims of dating violence. *Journal of Family Violence, 32*(4), 409-417. https://doi.org/10.1007/s10896-016-9813-3

Choi, A. W. M., Liu, L. L., Chan, P. Y., Lo, R. T. F., Wong, J. Y. H., & Tang, D. H. M. (2018). The Significance of Volunteer Support for Female Survivors Recovering from Intimate-Partner Violence. *The British Journal of Social Work, 49*(7), 1778-1797. 10.1093/bjsw/bcy109

Choi, A. W., Lo, B. C., Lo, R. T., To, P. Y., & Wong, J. Y. (2019). Intimate partner violence victimization, social support, and resilience: effects on the anxiety levels of young mothers. *Journal of Interpersonal Violence, 00*(0), 1-25. https://doi.org/10.1177/0886260519888532

City & County of San Francisco - the Office of the Mayor. (2016). *Supporting Individuals Impacted by Street Violence.* https://violenceprevention.sfgov.org/coordination.html

Cobb, A. R., Tedeschi, R. G., Calhoun, L. G., & Cann, A. (2006). Correlates of posttraumatic growth in survivors of intimate partner violence. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies, 19*(6), 895-903.

Coker, A. L., Davis, K. E., Arias, I., Desai, S., Sanderson, M., Brandt, H. M., & Smith, P. H. (2002a). Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive Medicine, 23*(4), 260-268. https://doi.org/10.1016/S0749-3797(02)00514-7

Coker, A. L., Smith, P. H., Thompson, M. P., McKeown, R. E., Bethea, L., & Davis, K. E. (2002b). Social support protects against the negative effects of partner violence on mental health. *Journal of women's health & gender-based medicine*, *11*(5), 465-476. https://doi.org/10.1089/15246090260137644

Coker, A. L., Watkins, K. W., Smith, P. H., & Brandt, H. M. (2003). Social support reduces the impact of partner violence on health: application of structural equation models. *Preventive Medicine, 37*(3), 259-267. https://doi.org/10.1016/S0091-7435(03)00122-1

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety, 18*(2), 76-82. doi: 10.1002/da.10113.

Corlett, S., & Mavin, S. (2018). Reflexivity and researcher positionality. In C. Cassell, A.L. Cunliffe, & G. Grandy (eds.), *The SAGE Handbook of Qualitative Business and Management Research Methods* (pp. 377-399). SAGE.

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review,43*(6), 1241- 1299.

Crowell, N. A., & Burgess, A. W. (1996). *Understanding Violence Against Women.* American Psychological Association.

Cushman, P. (1990). Why the self is empty: Toward a historically situated psychology. *American Psychologist, 45*(5), 599-611. doi:10.1037/0003-066X.45.5.599

Davis, C.G., Wortman, C.B., Lehman, D.R., & Cohen Silver, R. (2000). Searching for meaning in loss: Are clinical assumptions correct? *Death Studies, 24*(6), 497-540. 10.1080/07481180050121471

Day, A., Gerace, A., Oster, C., O'Kane, D., & Casey, S. (2018). The views of women in prison about help-seeking for intimate partner violence: At the intersection of survivor and offender. *Victims & Offenders, 13*(7), 974-994. https://doi.org/10.1080/15564886.2018.1514339

Denton, M., Prus, S., & Walters, V. (2004). Gender differences in health: a Canadian study of the psychosocial, structural and behavioural determinants of health. *Social Science & Medicine, 58*(12), 2585-2600. https://doi.org/10.1016/j.socscimed.2003.09.008

DeVault, M. L. (1996). Talking back to sociology: Distinctive contributions of feminist methodology. *Annual Review of Sociology, 22*(1), 29-50. https://doi.org/10.1146/annurev.soc.22.1.29

Dias, N. G., Costa, D., Soares, J., Hatzidimitriadou, E., Ioannidi-Kapolou, E., Lindert, J., Sundin, O., Toth, O., Barros, H., & Fraga, S. (2019). Social support and the intimate partner violence victimization among adults from six European countries. *Family Practice, 36*(2), 117-124. doi:10.1093/fampra/cmy042

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13

Diener, E., Kahneman, D., & Helliwell, J. (2010). *International differences in well-being*. Oxford University Press.

Diener, E., & Seligman, M. E. (2002). Very happy people. *Psychological Science, 13*(1), 81-84.doi: 10.1111/1467-9280.00415

Diener, E., & Seligman, M. E. (2004). Beyond money: Toward an economy of well-being. Psychological Science in the Public Interest, 5(1), 1-31. https://doi.org/10.1111/j.0963-7214.2004.00501001.x

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*(2), 143-156.doi: 10.1007/s11205-009-9493-y

Dillon, G., Hussain, R., Loxton, D., & Rahman, S. (2013). Mental and physical health and intimate partner violence against women: A review of the literature. *International Journal of Family Medicine, 2013.* https://doi.org/10.1155/2013/313909

Dohrenwend, B. P., Neria, Y., Turner, J. B., Turse, N., Marshall, R., Lewis-Fernandez, R., & Koenen, K. C. (2004). Positive Tertiary Appraisals and Posttraumatic Stress Disorder in U.S. Male Veterans of the War in Vietnam: The Roles of Positive Affirmation, Positive Reformulation, and Defensive Denial. *Journal of Consulting and Clinical Psychology, 72*(3), 417-433. 10.1037/0022-006X.72.3.417

Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology, 29*(1), 94-122. https://doi.org/10.1016/j.joep.2007.09.001

Dore, I., O'Loughlin, J. L., Sabiston, C. M., & Fournier, L. (2017). Psychometric evaluation of the mental health continuum-short form in French Canadian young adults. *The Canadian Journal of Psychiatry / La Revue Canadienne De Psychiatrie, 62*(4), 286-294. https://doi.org/10.1177/0706743716675855

Drentea, P. (2002). Retirement and mental health. *Journal of Aging and Health, 14*(2), 167-194. https://doi.org/10.1177/089826430201400201

Dunn, J. L. (2005). Victims" and "survivors": Emerging vocabularies of motive for "battered women who stay. *Sociological Inquiry, 75*(1), 1-30. https://doi.org/10.1111/j.1475-682X.2005.00110.x

Dunn, J. R., & Hayes, M. V. (1999). Toward a lexicon of population health. *Canadian Journal of Public Health*, *90*(1), S7-S10.doi: https://doi.org/10.1007/BF03403570

Dunne, J. E. (2002). Information seeking and use by battered women: A "person-in-progressive-situations" approach. *Library & Information Science Research, 24*(4), 343-355. https://doi.org/10.1016/S0740-8188(02)00132-9

Edwards, K. M., & Dardis, C. M. (2020). Disclosure recipients' social reactions to victims' disclosures of intimate partner violence. *Journal of Interpersonal Violence, 35*(1-2), 53-76. https://doi.org/10.1177/0886260516681155

Edwards, K. M., Dardis, C. M., Sylaska, K. M., & Gidycz, C. A. (2015). Informal social reactions to college women's disclosure of intimate partner violence: Associations

with psychological and relational variables. *Journal of Interpersonal Violence*, *30*(1), 25-44. https://doi.org/10.1177/0886260514532524

Edwards, K. M., Waterman, E. A., Ullman, S. E., Rodriguez, L. M., Dardis, C. M., & Dworkin, E. R. (2020). A pilot evaluation of an intervention to improve social reactions to sexual and partner violence disclosures. *Journal of Interpersonal Violence.* Advance online publication. https://doi.org/10.1177/0886260520918585

Elderton, A., Berry, A., & Chan, C. (2017). A systematic review of posttraumatic growth in survivors of interpersonal violence in adulthood. *Trauma, Violence, & Abuse*, *18*(2), 223-236. doi: 10.1177/1524838015611672

Escribà-Agüir, V., Ruiz-Pérez, I., Montero-Piñar, M. I., Vives-Cases, C., Plazaola-Castaño, J., Martín-Baena, D., & G6 for the Study of Gender Violence in Spain. (2010). Partner violence and psychological well-being: buffer or indirect effect of social support. *Psychosomatic Medicine, 72*(4), 383-389. doi: 10.1097/PSY.0b013e3181d2f0dd

Exeter, D. J., Zhao, J., Crengle, S., Lee, A., & Browne, M. (2017). The New Zealand Indices of Multiple Deprivation (IMD): A new suite of indicators for social and health research in Aotearoa, New Zealand. *PloS One, 12*(8), e0181260. https://doi.org/10.1371/journal.pone.0181260

Family Violence Death Review Committee. (2016). *Family Violence Death Review Committee. 2016. Fifth Report: January 2014 to December 2015*. Author.

Fanslow, J. (2005). *Beyond zero tolerance: key issues and future directions for family violence work in New Zealand*. Families Commission.

Fanslow, J., Gulliver, P., Hashemi, L., Malihi, Z., & McIntosh, T. (2021). Methods for the 2019 New Zealand family violence study-a study on the association between violence

exposure, health and well-being. *Kōtuitui: New Zealand Journal of Social Sciences Online,* 16(1), 196-209. https://doi.org/10.1080/1177083X.2020.1862252

Fanslow, J., & Robinson, E. (2004). Violence against women in New Zealand: prevalence and health consequences. *The New Zealand Medical Journal (Online), 117*(1206).

Fanslow, J., & Robinson, E. (2010). Help-seeking behaviors and reasons for help seeking reported by a representative sample of women victims of intimate partner violence in New Zealand. *Journal of Interpersonal Violence, 25*(5), 929-951. https://doi.org/10.1177/0886260509336963

Fanslow, J., Robinson, E., Crengle, S., & Perese, L. (2010). Juxtaposing beliefs and reality: Prevalence rates of intimate partner violence and attitudes to violence and gender roles reported by New Zealand women. *Violence Against Women, 16*(7), 812-831. https://doi.org/10.1177/1077801210373710

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245-258. https://doi.org/10.1016/S0749-3797(98)00017-8

Fergusson, D. M., Horwood, L. J., & Ridder, E. M. (2005). Partner Violence and Mental Health Outcomes in a New Zealand Birth Cohort. *Journal of Marriage and Family, 67*(5), 1103-1119. doi:10.1111/j.1741-3737.2005.00202.x

Foot, P. (2003). *Natural goodness*. Clarendon Press.

Ford-Gilboe, M., Merritt-Gray, M., Varcoe, C., & Wuest, J. (2011). A theory-based primary health care intervention for women who have left abusive partners. *Advances in Nursing Science, 34*(3), 198-214. doi: 10.1097/ANS.0b013e3182228cdc

Ford-Gilboe, M., Wuest, J., Varcoe, C., & Merritt-Gray, M. (2006). Developing an evidence-based health advocacy intervention for women who have left an abusive partner. *CJNR (Canadian Journal of Nursing Research), 38*(1), 147-167.

Ford-Gilboe, M., Wuest, J., Varcoe, C., Davies, L., Merritt-Gray, M., Campbell, J., & Wilk, P. (2009). Modelling the effects of intimate partner violence and access to resources on women's health in the early years after leaving an abusive partner. *Social Science & Medicine, 68*(6), 1021-1029. https://doi.org/10.1016/j.socscimed.2009.01.003

Fowler, D. (2007). The extent of substance use problems among women partner abuse survivors residing in a domestic violence shelter. *Family & Community Health*, *30*(1 Suppl), S106-S108. doi: 10.1097/00003727-200701001-00014

Frazier, P., Conlon, A., & Glaser, T. (2001). Positive and negative life changes following sexual assault. Journal of Consulting & Clinical Psychology, 69, 1048–1055. doi:10.1037/0022-006X.69.6.1048

Frazier, P., Oishi, S., & Steger, M. (2003). Assessing optimal human functioning. In W.B. Walsh (Ed.), *Counseling Psychology and Optimal Human Functioning* (pp. 251-278). Lawrence Erlbaum Associates Publishers.

Frazier, P., Tennen, H., Gavian, M., Park, C., Tomich, P., & Tashiro, T. (2009). Does self-reported posttraumatic growth reflect genuine positive change? *Psychological Science, 20*(7), 912-919. https://doi.org/10.1111/j.1467-9280.2009.02381.x

Friedli, L., & World Health Organization. (2009). *Mental health, resilience and inequalities* (No. EU/08/5087203). WHO Regional Office for Europe.

Frieling, M., Peach, E. K., & Cording, J. (2018). *The Measurement of Social Connectedness and its Relationship to Wellbeing.* Ministry of Social Development.

Gallagher, M. W., Lopez, S. J., & Preacher, K. J. (2009). The hierarchical structure of well-being. *Journal of Personality, 77*(4), 1025-1050. https://doi.org/10.1111/j.1467-6494.2009.00573.x

García-Moreno, C., Jansen, H. A., Ellsberg, M., Heise, L., & Watts, C. (2005). *WHO multi-country study on women's health and domestic violence against women*. World Health Organization.

Gilbertson, A., & Meares, C. (2013). *Ethnicity and migration in Auckland. Auckland Council Technical Report, TR2013/012.* Auckland Council.

Gilliam, A., Davis, D., Barrington, T., Lacson, R., Uhl, G., & Phoenix, U. (2002). The value of engaging stakeholders in planning and implementing evaluations. *AIDS Education and Prevention, 14*(3 Supplement), 5-17. https://doi.org/10.1521/aeap.14.4.5.23878

Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence, 14*(2), 99-132. https://doi.org/10.1023/A:1022079418229

Gondolf, E. W., & Fisher, E. R. (1988). *Battered women as survivors: An alternative to treating learned helplessness.* Lexington Books/DC Heath and Com.

Goodkind, J. R., Gillum, T. L., Bybee, D. I., & Sullivan, C. M. (2003). The impact of family and friends' reactions on the well-being of women with abusive partners. *Violence Against Women, 9*(3), 347-373. https://doi.org/10.1177/1077801202250083

Grubaugh, A. L., & Resick, P. A. (2007). Posttraumatic growth in treatment-seeking female assault victims. *Psychiatric Quarterly, 78*(2), 145-155. doi:10.1007/s11126-006-9034-7

Grych, J., Hamby, S., & Banyard, V. (2015). The resilience portfolio model: Understanding healthy adaptation in victims of violence. *Psychology of Violence, 5*(4), 343. https://doi.org/10.1037/a0039671

Guo, C., Tomson, G., Keller, C., & Söderqvist, F. (2018). Prevalence and correlates of positive mental health in Chinese adolescents. *BMC Public Health, 18*(1), 263. doi:10.1186/s12889-018-5133-2

Guruge, S., Ford-Gilboe, M., Samuels-Dennis, J., Varcoe, C., Wilk, P., & Wuest, J. (2012). Rethinking social support and conflict: lessons from a study of women who have separated from abusive partners. *Nursing Research and Practice, 2012*, 738905. https://doi.org/10.1155/2012/738905

Hankivsky, O., & Varcoe, C. (2019). 18. From Global to Local and Over the Rainbow: Violence Against Women. *Women's health in Canada* (pp. 477-506). University of Toronto Press.

Harding, S. (1989). Is there a feminist method. In N. Tuana (Ed.), *Feminism and Science* (pp.18-32). Indiana University Press.

Hardy, C., Phillips, N., & Clegg, S. (2001). Reflexivity in organization and management theory: A study of the production of the research subject'. *Human Relations, 54*(5), 531-560. https://doi.org/10.1177/0018726701545001

Health Canada. (1997, January). *Press release by the Federal, Provincial and Territorial Advisory Committee on Population Health* [Press release].

Heise, L. (1998). Violence against women: An integrated, ecological framework. *Violence Against Women, 4*(3), 262-290. https://doi.org/10.1177/1077801298004003002

Heise, L. (2011). *What Works to Prevent Partner Violence? An Evidence Overview*. STRIVE Research Consortium, London School of Hygiene and Tropical Medicine.

Heise, L., & García-Moreno, C. (2002). Violence by intimate partners. In E.G. Krug, L.L. Dahlbeg, J.A. Mercy, A.B. Zwi & R. Lozano (Eds.), *World Report on Violence and Health* (pp. 89-121). World Health Organization.

Herrman, H., Saxena, S., & Moodie, R. (2005). *Promoting mental health: concepts, emerging evidence, practice: a report of the World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne.* World Health Organization.

Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? *The Canadian Journal of Psychiatry, 56*(5), 258-265. https://doi.org/10.1177/070674371105600504

Hibbert, P., Coupland, C., & MacIntosh, R. (2010). Reflexivity: Recursion and relationality in organizational research processes. *Qualitative Research in Organizations and Management: An International Journal, 5*(1), 47-62. doi: 10.1108/17465641011042026

Hidalgo, B., & Goodman, M. (2013). Multivariate or multivariable regression? *American Journal of Public Health, 103*(1), 39-40. doi: 10.2105/AJPH.2012.300897

Hjørland, B., & Hartel, J. (2003). Afterword: Afterword: Ontological, Epistemological and Sociological Dimensions of Domains: *Knowledge Organization, 30*(3/4), 239-245.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology, 6*(4), 307-324. https://doi.org/10.1037/1089-2680.6.4.307

Hodges, T. A., & Cabanilla, A. S. (2011). Factors that impact help-seeking among battered Black women: application of critical and survivor theories. *Journal of Cultural Diversity, 18*(4), 120-125.

Hoeata, C., Nikora, L. W., Li, W. W., Young-Hauser, A. M., & Robertson, N. (2011). Māori women and intimate partner violence: Some sociocultural influences. *MAI Review*, *3*, 1-12.

Hone, L. C., Jarden, A., Schofield, G. M., & Duncan, S. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of wellbeing. *International Journal of Wellbeing, 4*(1), 62-90. doi:10.5502/ijw.v4i1.4

House, J.S. (1981). *Work, stress and social support*. Reading, MA: Addison Wesley.

Howell, K. H., & Miller-Graff, L. E. (2014). Protective factors associated with resilient functioning in young adulthood after childhood exposure to violence. Child abuse & neglect, 38(12), 1985-1994. doi:10.1016/j.chiabu.2014.10.010

Howell, K. H., Thurston, I. B., Schwartz, L. E., Jamison, L. E., & Hasselle, A. J. (2018). Protective factors associated with resilience in women exposed to intimate partner violence. *Psychology of Violence, 8*(4), 438. https://doi.org/10.1037/vio0000147

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Hundleby, C. (2011). Feminist empiricism. In S.N. Hesse-Biber (Ed.), *Handbook of Feminist Research: Theory and Praxis* (pp. 28-45). Sage.

Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Applied Psychology: Health and Well-Being, 1*(2), 137-164. https://doi.org/10.1111/j.1758-0854.2009.01008.x

Huppert, F. A., & So, T. T. C. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social Indicators Research, 110*(3), 837-861. https://doi.org/10.1007/s11205-011-9966-7

IBM Corp. (2019). IBM SPSS Statistics for Windows, Version 26.0.[computer software]. Armonk, NY: IBM Corp.

Ickovics, J. R., & Park, C. L. (1998). Paradigm shift: Why a focus on health is important. *Journal of Social Issues, 54*(2), 237-244. https://doi.org/10.1111/j.1540-4560.1998.tb01216.x

Insel, T. R., & Scolnick, E. M. (2006). Cure therapeutics and strategic prevention: raising the bar for mental health research. *Molecular Psychiatry, 11*(1), 11-17. https://doi.org/10.1038/sj.mp.4001777

Intemann, K. (2010). 25 years of feminist empiricism and standpoint theory: Where are we now? *Hypatia, 25*(4), 778-796. doi:10.1111/j.1527-2001.2010.01138.x

Jané-Llopis, E., Barry, M., Hosman, C., & Patel, V. (2005). Mental health promotion works: a review. *Promotion & Education, 12*(2_suppl), 9-25. https://doi.org/10.1177/10253823050120020103x

Janoff-Bulman, R. (2004). Posttraumatic growth: Three explanatory models. *Psychological Inquiry, 15*(1), 30-34.

Johnson, M. P. (2006). Conflict and control: Gender symmetry and asymmetry in domestic violence. *Violence Against Women, 12*(11), 1003-1018. https://doi.org/10.1177/1077801206293328

Jonassen, D. H. (1991). Objectivism versus constructivism: Do we need a new philosophical paradigm? *Educational Technology Research and Development, 39*(3), 5-14. https://doi.org/10.1007/BF02296434

Joshanloo, M. (2016). A New Look at the Factor Structure of the MHC-SF in Iran and the United States Using Exploratory Structural Equation Modeling. *Journal of Clinical Psychology, 72*(7), 701-713. doi:10.1002/jclp.22287

Joshanloo, M., Jose, P. E., & Kielpikowski, M. (2017). The value of exploratory structural equation modeling in identifying factor overlap in the Mental Health Continuum-Short Form (MHC-SF): A study with a New Zealand sample. *Journal of Happiness Studies, 18*(4), 1061-1074. https://doi.org/10.1007/s10902-016-9767-4

Joshanloo, M., & Jovanović, V. (2017). The factor structure of the Mental Health Continuum-Short Form (MHC-SF) in Serbia: An evaluation using exploratory structural equation modeling. *Journal of Mental Health, 26*(6), 510-515. https://doi.org/10.1080/09638237.2016.1222058

Joshanloo, M., Wissing, M. P., Khumalo, I. P., & Lamers, S. M. (2013). Measurement invariance of the Mental Health Continuum-Short Form (MHC-SF) across three cultural groups. *Personality and Individual Differences, 55*(7), 755-759. https://doi.org/10.1016/j.paid.2013.06.002

Kaboub, F. (2008). Positivist paradigm. *Encyclopaedia of Counselling, 2*(2), 343.

Kamimura, A., Parekh, A., & Olson, L. M. (2013). Health indicators, social support, and intimate partner violence among women utilizing services at a community organization. *Women's Health Issues, 23*(3), e179-e185. https://doi.org/10.1016/j.whi.2013.02.003

Karakurt, G., Smith, D., & Whiting, J. (2014). Impact of intimate partner violence on women's mental health. *Journal of Family Violence, 29*(7), 693-702. doi:10.1007/s10896-014-9633-2

Karaś, D., Cieciuch, J., & Keyes, C. L. (2014). The polish adaptation of the mental health continuum-short form (MHC-SF). *Personality and Individual Differences, 69*, 104-109. https://doi.org/10.1016/j.paid.2014.05.011

Kennedy, A. C. (2005). Resilience among Urban Adolescent Mothers Living with Violence: Listening to Their Stories. *Violence Against Women, 11*(12), 1490-1514. doi: 10.1177/1077801205280274

Kennedy, A. C., Adams, A., Bybee, D., Campbell, R., Kubiak, S. P., & Sullivan, C. (2012). A model of sexually and physically victimized women's process of attaining effective formal help over time: The role of social location, context, and intervention. *American Journal of Community Psychology, 50*(1-2), 217-228.doi: 10.1007/s10464-012-9494-x

Kennedy, J. E., Davis, R. C., & Taylor, B. G. (1998). Changes in spirituality and well-being among victims of sexual assault. *Journal for the Scientific Study of Religion,* 37(2), 322-328. doi:10.2307/ 1387531

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National

Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593-602. doi:10.1001/archpsyc.62.6.593

Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly, 61*(2), 121-140. https://doi.org/10.2307/2787065

Keyes, C. L.M. (2001). "Definition of Mental Disorders". In C. E. Faupel, & P. M. Roman (Eds.), *The Encyclopedia of Criminology and Deviant Behaviour, Vol.4* (pp. 373-376). Taylor and Francis.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior, 43*(2), 207-222. https://doi.org/10.2307/3090197

Keyes, C. L. (2005a). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology, 73*(3), 539. https://doi.org/10.1037/0022-006X.73.3.539

Keyes, C. L. (2005b). The subjective well-being of America's youth: Toward a comprehensive assessment. *Adolescent & Family Health, 4*(1), 3-11.

Keyes, C. L. M. (2006). Mental health in adolescence: Is America's youth flourishing? *American Journal of Orthopsychiatry, 76*(3), 395-402. 10.1037/0002-9432.76.3.395

Keyes, C. L. M. (2007a). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist, 62*(2), 95-108. https://doi.org/10.1037/0003-066X.62.2.95

Keyes, C. L. M. (2007b). Towards a mentally flourishing society: Mental health promotion, not cure. *Journal of Public Mental Health, 6*(2), 4-7. https://doi.org/10.1108/17465729200700009

Keyes, C. L. M. (2014). Mental health as a complete state: How the salutogenic perspective completes the picture. In G.F. Bauer & O. Hämmig (Eds.), *Bridging occupational, organizational and public health* (pp. 179-192). Springer.

Keyes, C. L. M., Shmotkin, D., & Ryff, C. D. (2002). Optimizing well-being: the empirical encounter of two traditions. *Journal of Personality and Social Psychology, 82*(6), 1007. https://doi.org/10.1037/0022-3514.82.6.1007

Keyes, C. L. M., & Simoes, E. J. (2012). To flourish or not: Positive mental health and all-cause mortality. *American Journal of Public Health, 102*(11), 2164-2172. https://doi.org/10.2105/AJPH.2012.300918

Keyes, C. L. M., & Westerhof, G. J. (2012). Chronological and subjective age differences in flourishing mental health and major depressive episode. *Aging & Mental Health, 16*(1), 67-74. https://doi.org/10.1080/13607863.2011.596811

Keyes, C. L. M., Wissing, M., Potgieter, J. P., Temane, M., Kruger, A., & Van Rooy, S. (2008). Evaluation of the mental health continuum–short form (MHC–SF) in setswana-speaking South Africans. *Clinical Psychology & Psychotherapy, 15*(3), 181-192. https://doi.org/10.1002/cpp.572

Killam, L. (2013). *Research terminology simplified: Paradigms, axiology, ontology, epistemology and methodology*. Laura Killam.

Kindig, D., & Stoddart, G. (2003). What is population health? *American journal of public health*, *93*(3), 380-383.doi: 10.2105/ajph.93.3.380

Kleim, B., & Ehlers, A. (2009). Evidence for a curvilinear relationship between posttraumatic growth and posttrauma depression and PTSD in assault survivors. Journal of Traumatic Stress, 22, 45–52. doi:10.1002/jts.20378

Kline, R. B. (1998). *Principles and practice of structural equation modelling.* Guilford Press.

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. Guilford Publications.

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling*. Guilford Publications.

Kocot, T., & Goodman, L. (2003). The roles of coping and social support in battered women's mental health. *Violence Against Women, 9*(3), 323-346. https://doi.org/10.1177/1077801202250075

Kolbe, V., & Büttner, A. (2020). Domestic Violence Against Men-Prevalence and Risk Factors. *Deutsches Arzteblatt international*, *117*(31-32), 534–541. https://doi.org/10.3238/arztebl.2020.0534

Krauss, L. A., Wilson, C. K., Padrón, E., & Samuelson, K. W. (2016). Maternal trauma and children's functioning: The role of kinship social support. *Journal of Aggression, Maltreatment & Trauma, 25*(4), 421-435. https://doi.org/10.1080/10926771.2016.1145161

Krug, E. G., Dahlberg, L.L., Mercy, J. A., Dahlberg, L. L., Zwi, A. B., & Lozano, R. (2002). *World Report on Violence and Health*. World Health Organization.

Kulkarni, S., & Ross, T. C. (2016). Exploring employee intimate partner violence (IPV) disclosures in the workplace. *Journal of Workplace Behavioral Health, 31*(4), 204-221. https://doi.org/10.1080/15555240.2016.1213637

Kyegombe, N., Starmann, E., Devries, K. M., Michau, L., Nakuti, J., Musuya, T., Watts, C., & Heise, L. (2014). 'SASA! is the medicine that treats violence'. Qualitative findings on how a community mobilisation intervention to prevent violence against women created change in Kampala, Uganda. *Global Health Action, 7*(1), 25082. doi: 10.3402/gha.v7.25082

Lagdon, S., Armour, C., & Stringer, M. (2014). Adult experience of mental health outcomes as a result of intimate partner violence victimisation: a systematic review. *European Journal of Psychotraumatology, 5*(1), 24794. https://doi.org/10.3402/ejpt.v5.24794

Lamborn, P., Cramer, K. M., & Riberdy, A. (2018). The structural validity and measurement invariance of the mental health continuum–short form (MHC-SF) in a large Canadian sample. *Journal of Well-being Assessment, 2*(1), 1-19. https://doi.org/10.1007/s41543-018-0007-z

Lamers, S. M., Westerhof, G. J., Bohlmeijer, E. T., ten Klooster, P. M., & Keyes, C. L. M. (2011). Evaluating the psychometric properties of the mental health continuum-short form (MHC-SF). *Journal of Clinical Psychology, 67*(1), 99-110. https://doi.org/10.1002/jclp.20741

Landenburger, K. M. (1989). A Process of Entrapment in and Recovery from an Abusive Relationship. *Issues in Mental Health Nursing, 10*(3-4), 209-227. 10.3109/01612848909140846

Landenburger, K. M. (1998). The dynamics of leaving and recovering from an abusive relationship. *Journal of Obstetric, Gynecologic, and Neonatal Nursing : JOGNN / NAACOG, 27*(6), 700-706. 10.1111/j.1552-6909.1998.tb02641.x

Leckenby, D. (2007). Feminist empiricism: Challenging gender bias and "setting the record straight". In S.N. Hesse-Biber & P.L. Leavy (Eds.), *Feminist Research Practice: A Primer* (pp. 27-52). Sage. https://dx.doi.org/10.4135/9781412984270

Lemos, J. (2007). Foot and Aristotle on Virtues and Flourishing. *Philosophia, 35*(1), 43-62. 10.1007/s11406-007-9049-9

Lepore, S. J., & Revenson, T. A. (2006). Resilience and Posttraumatic Growth: Recovery, Resistance, and Reconfiguration. (pp. 24-46). Lawrence Erlbaum Associates Publishers.

Levy, S. T. (1984). Psychoanalytic perspectives on emptiness. *Journal of the American Psychoanalytic Association, 32*(2), 387-404. 10.1177/000306518403200207

Liang, B., Goodman, L., Tummala-Narra, P., & Weintraub, S. (2005). A theoretical framework for understanding help-seeking processes among survivors of intimate partner violence. *American Journal of Community Psychology, 36*(1-2), 71-84. https://doi.org/10.1007/s10464-005-6233-6

Lim, Y. (2014). Psychometric characteristics of the Korean Mental Health Continuum–Short Form in an adolescent sample. *Journal of Psychoeducational Assessment, 32*(4), 356-364. https://doi.org/10.1177/0734282913511431

Lindgren, M.S., & Renck, B. (2008). 'It is still so deep-seated, the fear': psychological stress reactions as consequences of intimate partner violence. *Journal of psychiatric and mental health nursing*, *15*(3), 219-228**.** https://doi.org/10.1111/j.1365-2850.2007.01215.x

Longino, H. E. (1990). *Science as social knowledge: Values and objectivity in scientific inquiry*. Princeton University Press.

Longino, H. E. (2002). *The Fate of Knowledge*. Princeton University Press.

Lugones, M. (2003). *Pilgrimages/peregrinajes: Theorizing coalition against multiple oppressions*. Rowman & Littlefield Publishers.

Luijten, C. C., Kuppens, S., van de Bongardt, D., & Nieboer, A. P. (2019). Evaluating the psychometric properties of the mental health continuum-short form (MHC-SF) in Dutch adolescents. *Health and Quality of Life Outcomes, 17*(157)1-10, 157. https://doi.org/10.1186/s12955-019-1221-y

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology, 9*(2), 111-131. https://doi.org/10.1037/1089-2680.9.2.111

Machisa, M. T., Christofides, N., & Jewkes, R. (2018). Social support factors associated with psychological resilience among women survivors of intimate partner violence in Gauteng, South Africa. *Global Health Action, 11*, 1491114. 10.1080/16549716.2018.1491114

MacLeod, A. K., & O'Conner, R. C. (2018). Positive future-thinking, well-being, and mental health. In G. Oettingen, A.T. Sevincer & P.M. Gollwitzer (Eds.), *The Psychology of Thinking about the Future* (pp. 199-213). Guilford Publications.

Mair, C., Cunradi, C. B., & Todd, M. (2012). Adverse childhood experiences and intimate partner violence: Testing psychosocial mediational pathways among couples. *Annals of Epidemiology, 22*(12), 832-839. https://doi.org/10.1016/j.annepidem.2012.09.008

Marie, D., Fergusson, D. M., & Boden, J. M. (2008). Ethnic identity and intimate partner violence in a New Zealand birth cohort. *Social Policy Journal of New Zealand, 33*, 126-145.

Marmot, M., Friel, S., Bell, R., Houweling, T. A., & Taylor, S. (2008). Closing the gap in a generation: health equity through action on the social determinants of health. *The Lancet, 372*(9650), 1661-1669. https://doi.org/10.1016/S0140-6736(08)61690-6

Marsh, H. W., Hau, K., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling, 11*(3), 320-341. https://doi.org/10.1207/s15328007sem1103_2

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227. doi:10.1037/0003-066X.56.3.227

Masten, A. S. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychopathology; Dev Psychopathol, 23*(2), 493-506. 10.1017/S0954579411000198

Masten, A. S. (2015). *Ordinary magic: Resilience in development.* Guilford Publications.

Matud, M. P., López-Curbelo, M., & Fortes, D. (2019). Gender and psychological well-being. *International Journal of Environmental Research and Public Health, 16*(19), 3531. https://doi.org/10.3390/ijerph16193531

McDowell, L. (1992). Doing gender: feminism, feminists and research methods in human geography. *Transactions of the Institute of British Geographers, 17*(4), 399-416. https://doi.org/10.2307/622707

McFarland, C., & Alvaro, C. (2000). The impact of motivation on temporal comparisons: Coping with traumatic events by perceiving personal growth. *Journal of Personality and Social Psychology, 79*(3), 327-343. 10.1037/0022-3514.79.3.327

McGinnis, J. M., Williams-Russo, P., & Knickman, J. R. (2002). The case for more active policy attention to health promotion. *Health affairs*, *21*(2), 78-93.doi: 10.1377/hlthaff.21.2.78

McLeod, D. A., Havig, K., Natale, A., & Pharris, A. (2020). Intimate partner violence: Innovations in theory to inform clinical practice, policy, and research. *Social Sciences, 9*(5), 71. doi:10.3390/socsci9050071

McMahan, E. A., & Estes, D. (2011). Hedonic versus eudaimonic conceptions of well-being: Evidence of differential associations with self-reported well-being. *Social Indicators Research, 103*(1), 93-108. doi: 10.1007/s11205-010-9698-0

McNutt, L., & Lee, R. (2000). Intimate partner violence prevalence estimation using telephone surveys: understanding the effect of nonresponse bias. *American Journal of Epidemiology, 152*(5), 438-441. https://doi.org/10.1093/aje/152.5.438

Mechanic, D. (1999). Mental health and mental illness: Definitions and perspectives. In A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 12–28). Cambridge University Press.

Meinck, F., Cosma, A. P., Mikton, C., & Baban, A. (2017). Psychometric properties of the adverse childhood experiences abuse short form (ACE-ASF) among Romanian high school students. *Child Abuse & Neglect, 72*, 326-337. https://doi.org/10.1016/j.chiabu.2017.08.016

Mertin, P., & Mohr, P. B. (2001). A follow-up study of posttraumatic stress disorder, anxiety, and depression in Australian victims of domestic violence. *Violence and Victims*, *16*(6), 645.

Metzger, N., & Woodley, A. (2011). *Report on giving, receiving and seeking help: The campaign for action on family violence.* Ministry of Social Development.

Miller-Graff, L. E. (2022). The multidimensional taxonomy of individual resilience. Trauma, Violence, & Abuse, 23(2), 660-675. doi: 10.1177/1524838020967329

Mills, T. (1985). The assault on the self: Stages in coping with battering husbands. *Qualitative Sociology, 8*(2), 103-123. https://doi.org/10.1007/BF00989467

Ministry of Health. (2016). *Content guide 2015/16: New Zealand Health Survey*. Ministry of Health

Ministry of Health. (2020). *Content Guide 2019/20: New Zealand Health Survey*. Ministry of Health.

Ministry of Justice. (2020). *Māori victimisation in Aotearoa New Zealand Cycle 1 and 2 (March 2018 – September 2019).* Ministry of Justice.

Mishra, A., Patne, S. K., Tiwari, R., Srivastava, D. K., Gour, N., & Bansal, M. (2014). A cross-sectional study to find out the prevalence of different types of domestic violence in Gwalior city and to identify the various risk and protective factors for domestic violence. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine, 39*(1), 21. doi: 10.4103/0970-0218.126348

Mitchell, R. E., & Hodson, C. A. (1983). Coping with domestic violence: Social support and psychological health among battered women. *American Journal of Community Psychology, 11*(6), 629-654. doi: 10.1007/bf00896600

Moeller-Saxone, K., Davis, E., Stewart, D. E., Diaz-Granados, N., & Herrman, H. (2015). Promoting resilience in adults with experience of intimate partner violence or child maltreatment: a narrative synthesis of evidence across settings. *Journal of Public Health, 37*(1), 125-137. https://doi.org/10.1093/pubmed/fdu030

Momtaz, Y. A., Hamid, T. A., Haron, S. A., & Bagat, M. F. (2016). Flourishing in later life. *Archives of Gerontology and Geriatrics, 63*, 85-91. https://doi.org/10.1016/j.archger.2015.11.001

Mookerjee, S., Cerulli, C., Fernandez, I. D., & Chin, N. P. (2015). Do Hispanic and non-Hispanic women survivors of intimate partner violence differ in regards to their help-seeking? A qualitative study. *Journal of Family Violence, 30*(7), 839-851. https://doi.org/10.1007/s10896-015-9734-6

Mullen, P. E., Martin, J. L., Anderson, J. C., Romans, S. E., & Herbison, G. P. (1993). Childhood sexual abuse and mental health in adult life. *The British Journal of Psychiatry*, *163*(6), 721-732. doi: 10.1192/bjp.163.6.721

National Health Committee. (1998). *The social, cultural and economic determinants of health in New Zealand: action to improve health*. National Advisory Committee on Health and Disability.

Nazim, Z. (2005). Julie McMullin, Understanding Social Inequality: Intersections of Class, Age, Gender, Ethnicity, and Race in Canada. *The Canadian Review of Sociology and Anthropology, 42*(1), 120-123.

Nunnally, J. C. (1978). *Psychometric theory.* McGraw-Hill.

Nussbuam, M. C. (1993). Non-relative virtues: An aristotelian approach. In M.Nussbaum & A. Sen (Eds.), *The quality of life* (pp. 242–269). Oxford University Press.10.1093/0198287976.001.0001

Nussbaum, M. C. (2000). *Women and human development: The capabilities approach*. Cambridge University Press

Nussbaum, M. C. (2006). *Frontiers of justice: Disability, nationality, species membership*. Belknap Press, MA.

OECD. *How's Life? 2013: Measuring Well-being.* OECD Publishing.

Ogbe, E., Harmon, S., Van den Bergh, R., & Degomme, O. (2020). A systematic review of intimate partner violence interventions focused on improving social support and/mental health outcomes of survivors. *PLoS One, 15*(6), e0235177. https://doi.org/10.1371/journal.pone.0235177

Ohrnberger, J., Fichera, E., & Sutton, M. (2017). The relationship between physical and mental health: A mediation analysis. *Social Science & Medicine, 195*(2017), 42-49. https://doi.org/10.1016/j.socscimed.2017.11.008

O'Leary-Kelly, S. W., & Vokurka, R. J. (1998). The empirical assessment of construct validity. *Journal of Operations Management, 16*(4), 387-405. https://doi.org/10.1016/S0272-6963(98)00020-5

Overstreet, N. M., & Quinn, D. M. (2013). The intimate partner violence stigmatization model and barriers to help seeking. *Basic and Applied Social Psychology, 35*(1), 109-122. https://doi.org/10.1080/01973533.2012.746599

Papendick, M., & Bohner, G. (2017). "Passive victim - strong survivor"? Perceived meaning of labels applied to women who were raped. *PLoS ONE, 12*, e0177550. https://doi.org/10.1371/journal.pone.0177550

Paquin, G. W. (1994). A statewide survey of reactions to neighbors' domestic violence. *Journal of Interpersonal Violence, 9*(4), 493-502. https://doi.org/10.1177/088626094009004004

Park, C. L. (1998). Stress-related growth and thriving through coping: The roles of personality and cognitive processes. *Journal of Social Issues, 54*(2), 267-277. https://doi.org/10.1111/j.1540-4560.1998.tb01218.x

Park, C. L., & Lechner, S. C. (2006). Measurement Issues in Assessing Growth Following Stressful Life Experiences. In L.G. Calhoun & R.G. Tedeschi (Eds.), *Handbook of Posttraumatic Growth: Research and Practice* (pp. 47-67). Lawrence Erlbaum Associates Publishers.

Patten, M. L., & Galvan, M. C. (2019). *Proposing empirical research: A guide to the fundamentals*. Routledge.

Pels, T., van Rooij, F. B., & Distelbrink, M. (2015). The Impact of Intimate Partner Violence (IPV) on Parenting by Mothers Within an Ethnically Diverse Population in the Netherlands. *Journal of Family Violence, 30*(8), 1055-1067. 10.1007/s10896-015-9746-2

Perugini, M. L. L., de la Iglesia, G., Solano, A. C., & Keyes, C. L. M. (2017). The mental health continuum–short form (MHC–SF) in the Argentinean context: Confirmatory factor analysis and measurement invariance. *Europe's Journal of Psychology, 13*(1), 93. doi: 10.5964/ejop.v13i1.1163

Pescosolido, B. A. (1992). Beyond rational choice: The social dynamics of how people seek help. *American Journal of Sociology, 97*(4), 1096-1138. https://doi.org/10.1086/229863

Peter, T., Roberts, L. W., & Dengate, J. (2011). Flourishing in life: An empirical test of the dual continua model of mental health and mental illness among Canadian university

students. *International Journal of Mental Health Promotion, 13*(1), 13-22. https://doi.org/10.1080/14623730.2011.9715646

Petrillo, G., Capone, V., Caso, D., & Keyes, C. L. (2015). The Mental Health Continuum–Short Form (MHC–SF) as a measure of well-being in the Italian context. *Social Indicators Research, 121*(1), 291-312. https://doi.org/10.1007/s11205-014-0629-3

Pico-Alfonso, M. A., Garcia-Linares, M. I., Celda-Navarro, N., Blasco-Ros, C., Echeburúa, E., & Martinez, M. (2006). The impact of physical, psychological, and sexual intimate male partner violence on women's mental health: depressive symptoms, posttraumatic stress disorder, state anxiety, and suicide. *Journal of Women's Health, 15*(5), 599-611. https://doi.org/10.1089/jwh.2006.15.599

Plichta, S. B. (2004). Intimate partner violence and physical health consequences: Policy and practice implications. *Journal of Interpersonal Violence, 19*(11), 1296-1323. https://doi.org/10.1177/0886260504269685

Poorman, P. B. (2002). Perceptions of thriving by women who have experienced abuse or status-related oppression. *Psychology of Women Quarterly, 26*(1), 51-62. 10.1111/1471-6402.00043

Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In Search of How People Change. Applications to Addictive Behaviors. *The American Psychologist, 47*(9), 1102-1114. 10.1037//0003-066x.47.9.1102

Rajah, V., & Osborn, M. (2020). Understanding women's resistance to intimate partner violence: A scoping review. *Trauma, Violence, & Abuse*, 1524838019897345. doi:10.1177/1524838019897345

Rape Prevention Education. (2016). *The Body Safe Programme.* https://www.bodysafe.nz/bodysafeprogramme

Rayner-Thomas, M. Fanslow, J., and Dixon, R. (2014). *Intimate partner violence and the workplace.* New Zealand Family Violence Clearinghouse, University of Auckland.

Redelinghuys, K., & Rothmann, S. (2020). Exploring the prevalence of workplace flourishing amongst teachers over time. *SA Journal of Industrial Psychology, 46*(1), 1-7. https://doi.org/10.4102/sajip.v46i0.1764

Reid, J., Taylor-Moore, K., & Varona, G. (2014). Towards a social-structural model for understanding current disparities in Maori health and well-being. *Journal of Loss and Trauma, 19*(6), 514-536. https://doi.org/10.1080/15325024.2013.809295

Richmond, C. A., & Ross, N. A. (2008). Social support, material circumstance and health behaviour: Influences on health in First Nation and Inuit communities of Canada. *Social Science & Medicine, 67*(9), 1423-1433. https://doi.org/10.1016/j.socscimed.2008.06.028

Rodríguez Martínez, P. (2015). An intersectional analysis of intimate partner violence and workplace violence among women working in prostitution. *Revista Española De Investigaciones Sociológicas, 151*, 123-138. DOI:10.5477/cis/reis.151.123

Rogoza, R., Truong Thi, K. H., Różycka-Tran, J., Piotrowski, J., & Żemojtel-Piotrowska, M. (2018). Psychometric properties of the MHC-SF: An integration of the existing measurement approaches. *Journal of Clinical Psychology, 74*(10), 1742-1758. https://doi.org/10.1002/jclp.22626

Rose, G. (2001). Sick individuals and sick populations. *International journal of epidemiology*, *30*(3), 427-432.doi: https://doi.org/10.1093/ije/30.3.427

Roy, B., Riley, C., Sears, L., & Rula, E. Y. (2018). Collective well-being to improve population health outcomes: an actionable conceptual model and review of the literature. *American Journal of Health Promotion*, *32*(8), 1800-1813. https://doi.org/10.1177/0890117118791993

Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences, 1094*(1), 1-12. doi: 10.1196/annals.1376.002

Rutter, M. (2012). Resilience as a dynamic concept. *Development and Psychopathology, 24*(2), 335-344.doi:10.1017/S0954579412000028

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*(1), 141-166. https://doi.org/10.1146/annurev.psych.52.1.141

Ryff, C.D., Morozink Boylan, J., & Kirsch, J.A. (2021). Eudaimonic and Hedonic Well-Being: An Integrative Perspective with Linkages to Sociodemographic Factors and Health. In M.T. Lee, L.D. Kubzansky, & T.J. Vanderweele (Eds.), *Eudaimonic and Hedonic Well- Being* In: *Measuring Well- Being,* pp. 92 – 135. Oxford University Press.

Ryff, C. D., & Singer, B. (2000). Interpersonal flourishing: A positive health agenda for the new millennium. *Personality and Social Psychology Review, 4*(1), 30-44. https://doi.org/10.1207/S15327957PSPR0401_4

Saakvitne, K. W., Tennen, H., & Affleck, G. (1998). Exploring thriving in the context of clinical trauma theory: Constructivist self-development theory. *Journal of Social Issues, 54*(2), 279-299. https://doi.org/10.1111/j.1540-4560.1998.tb01219.x

Salama-Younes, M. (2011). Validation of the mental health continuum short form and subjective vitality scale with Egyptian adolescent athletes. In I. Brdar (Ed.), *The human pursuit of well-being* (pp. 221-234). Springer.

Sánchez, B.,N., Budtz-Jørgensen, E., Ryan, L. M., & Hu, H. (2005). Structural Equation Models. *Journal of the American Statistical Association, 100*(472), 1443-1455. 10.1198/016214505000001005

Sayem, A., Begum, H., & Moneesha, S. (2013). Women's attitudes towards formal and informal support-seeking coping strategies against intimate partner violence. *International Social Work, 58*, 270-286. 10.1177/0020872813482957

Schackner, J. N., Weiss, N. H., Edwards, K. M., & Sullivan, T. P. (2017). Social reactions to IPV disclosure and PTSD symptom severity: Assessing avoidant coping as a mediator. *Journal of Interpersonal Violence, 36*(1-2), 508-526. https://doi.org/10.1177/0886260517727493

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *MPR-Online, 8*, 23-74.

Schotanus-dijkstra, M., Pieterse, M. E., Drossaert, C. H., C., Westerhof, G. J., de Graaf, R., Ten Have, M., Walburg, J. A., & Bohlmeijer, E. T. (2016). What Factors are Associated with Flourishing? Results from a Large Representative National Sample. *Journal of Happiness Studies, 17*(4), 1351-1370. //dx.doi.org.ezproxy.auckland.ac.nz/10.1007/s10902-015-9647-3

Schreiber, J., Nora, A., Stage, F., Barlow, E., & King, J. (2006). Reporting Structural Equation Modeling and Confirmatory Factor Analysis Results: A Review. *Journal of Educational Research - J EDUC RES, 99*(6), 323-338. 10.3200/JOER.99.6.323-338

Schumacker, R. E., & Lomax, R. G. (2004). *A Beginner's Guide to Structural Equation Modeling*. Lawrence Erlbaum Associates.

Schutte, L., & Wissing, M. P. (2017). Clarifying the factor structure of the mental health continuum short form in three languages: A Bifactor exploratory structural equation modeling approach. *Society and Mental Health, 7*(3), 142-158. https://doi.org/10.1177/2156869317707793

Seligman, M. E. (2011). *Flourish: a new understanding of happiness and well-being-and how to achieve them.* Free Press.

Sen, A. (1992). *Inequality reexamined*. Oxford University Press.

Sen, A. (1993). "Capability and Well-being", in M.C. Nussbaum, and A. Sen (eds.), *The Quality of Life* (pp. 30-53). Clarendon Press.

Sen, A. (1999). *Development as freedom*. Oxford University Press.

Shearson, K. M. (2017). Seeking help from police for intimate partner violence: applying a relationship phase framework to the exploration of victims' evolving needs. *Journal of Interpersonal Violence, 36*(3-4), 1745-1771.

Shi, L., Tsai, J., & Kao, S. (2009). Public health, social determinants of health, and public policy. *Journal of Medical Science, 29*(2), 43. doi. 10.6136/JMS.2009.29(2).043

Siegal, S.D, Brooks, M., & Curriero, F.C. (2020). Operationalizing the Population Health Framework: Clinical Characteristics, Social Context, and the Built Environment.

Population Health Management, *00*(00), 1-9. doi: https://doi.org/10.1089/pop.2020.0170

Simmons, L. A., Braun, B., Wright, D. W., & Miller, S. R. (2007). Human capital, social support, and economic well-being among rural, low-income mothers: A latent growth curve analysis. *Journal of Family and Economic Issues, 28*(4), 635-652. https://doi.org/10.1007/s10834-007-9079-2

Simon-Kumar, R. (2019). *Ethnic Perspectives in Family Violence in Aotearoa/New Zealand* (Issues Paper 14). Family Violence Clearinghouse, University of Auckland.

Singer, M. (1977). The experience of emptiness in narcissistic and borderline states: II. The struggle for a sense of self and the potential for suicide. *International Review of Psycho-Analysis, 4*(4), 471-479.

Singer, B., & Ryff, C. D. (1999). Hierarchies of life histories and associated health risks. *Annals of the New York Academy of Sciences, 896*(1), 96-115. https://doi.org/10.1111/j.1749-6632.1999.tb08108.x

Singer, B., Ryff, C. D., Carr, D., & Magee, W. J. (1998). Life histories and mental health: A person-centered strategy. In A. Raftery (Ed.), *Sociological methodology, 1998* (pp. 1–51). American Sociological Association.

Slade, M. (2010). Mental illness and well-being: the central importance of positive psychology and recovery approaches. *BMC Health Services Research, 10*(1), 1-14. https://doi.org/10.1186/1472-6963-10-26

Sofija, E., Harris, N., Sebar, B., & Phung, D. (2021). Who Are the Flourishing Emerging Adults on the Urban East Coast of Australia? *International Journal of Environmental Research and Public Health, 18*(3), 1125. https://doi.org/10.3390/ijerph18031125

Sokoloff, N. J., & Dupont, I. (2005). Domestic violence at the intersections of race, class, and gender: Challenges and contributions to understanding violence against marginalized women in diverse communities. *Violence Against Women, 11*(1), 38-64. https://doi.org/10.1177/1077801204271476

Spalter-Roth, R., & Hartmann, H. (1999). Small happinesses: The feminist struggle to integrate social research with social activism. In S. Hesse-Biber, C. Gilmartin, R. Lydenberg (Eds), *Feminist Approaches to Theory and Methodology* (pp.333-347). Oxford University Press.

Spataro, J., Mullen, P. E., Burgess, P. M., Wells, D. L., & Moss, S. A. (2004). Impact of child sexual abuse on mental health: prospective study in males and females. *The British Journal of Psychiatry*, *184*(5), 416-421. doi: 10.1192/bjp.184.5.416

StataCorp. (2019). Stata Statistical Software: Release 16. [computer software]. College Station, TX: StataCorp LLC.

Straus, M.A. & Smith, C. (1990). Family patterns of primary prevention of family violence. In M.A. Straus MA & R.J Gelles RJ (Eds.), *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families* (pp. 507-526). Transaction.

Sulak, T. N., Saxon, T. F., & Fearon, D. (2014). Applying the Theory of Reasoned Action to Domestic Violence Reporting Behavior: The Role of Sex and Victimization. *Journal of Family Violence, 29*(2), 165-173. 10.1007/s10896-013-9569-y

Sullivan, C. M. (2012). *Support groups for women with abusive partners: A review of the empirical evidence.* National Resource Center on Domestic Violence.

Sylaska, K. M., & Edwards, K. M. (2014). Disclosure of intimate partner violence to informal social support network members: A review of the literature. *Trauma, Violence, & Abuse, 15*(1), 3-21. https://doi.org/10.1177/1524838013496335

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55. doi: 10.5116/ijme.4dfb.8dfd

Taylor, J. Y. (2000). Sisters of the yam: african american women? S healing and self-recovery from intimate male partner violence. *Issues in Mental Health Nursing, 21*(5), 515-531. doi: 10.1080/01612840050044267

Tedeschi, R. G., & Calhoun, L. G. (1995). *Trauma & transformation: Growing in the aftermath of suffering*. Sage Publications, Inc. 10.4135/9781483326931

Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*(3), 455-471. https://doi.org/10.1002/jts.2490090305

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes*, *5*(1), 1-13. https://doi.org/10.1186/1477-7525-5-63

The Backbone Collective. (2020). *Victim-Survivor Perspectives on Longer-Term Support After Experiencing Violence and Abuse.* Ministry of Social Development.

Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior,(extra issue),* 53-79. https://doi.org/10.2307/2626957

Tiwari, S. K., & Wang, J. (2008). Ethnic differences in mental health service use among White, Chinese, South Asian and South East Asian populations living in Canada. *Social Psychiatry and Psychiatric Epidemiology, 43*(11), 866-871. https://doi.org/10.1007/s00127-008-0373-6

Tjaden, P. G., & Thoennes, N. (2000). *Extent, nature, and consequences of intimate partner violence: Findings From the National Violence Against Women Survey.* U.S. Department of Justice Office of Justice Programs.

Trotter, J. L., & Allen, N. E. (2009). The good, the bad, and the ugly: Domestic violence survivors' experiences with their informal social networks. *American Journal of Community Psychology, 43*(3-4), 221-231. https://doi.org/10.1007/s10464-009-9232-1

Ullman, S. E. (2000). Psychometric characteristics of the Social Reactions Questionnaire: A measure of reactions to sexual assault victims. *Psychology of Women Quarterly, 24*(3), 257-271. https://doi.org/10.1111/j.1471-6402.2000.tb00208.x

Ungar, M. (2012). Social ecologies and their contribution to resilience. *The social ecology of resilience* (pp. 13-31). Springer.

Ungar, M. (2021). Modeling Multisystemic Resilience. In M. Ungar (Ed.), *Multisystemic Resilience* (pp. 1-31). Oxford University Press.

Unger, D. G., & Powell, D. R. (1980). Supporting families under stress: The role of social networks. *Family Relations,* 29(4), 566-574. https://doi.org/10.2307/584473

Valdez, C. E., & Lilly, M. M. (2015). Posttraumatic growth in survivors of intimate partner violence: An assumptive world process. *Journal of Interpersonal Violence, 30*(2), 215-231. https://doi.org/10.1177/0886260514533154

Van Zyl, L. E., & Olckers, C. (2019). The mental health continuum-short form in organisational contexts: factorial validity, invariance, and internal consistency. *European Journal of Mental Health, 14*(2), 230-259. https://doi.org/10.5708/EJMH.14.2019.2.2

Varcoe, C., Ford-Gilboe, M., Browne, A. J., Perrin, N., Bungay, V., McKenzie, H., Smye, V., Price, R., Inyallie, J., & Khan, K. (2019). The efficacy of a health promotion

intervention for Indigenous women: reclaiming our spirits. *Journal of Interpersonal Violence, 34*(13-14), NP7086 – NP7116. doi:10.1177/0886260518820818

Varcoe, C., Hankivsky, O., Ford-Gilboe, M., Wuest, J., Wilk, P., Hammerton, J., & Campbell, J. (2011). Attributing selected costs to intimate partner violence in a sample of women who have left abusive partners: A social determinants of health approach. *Canadian Public Policy, 37*(3), 359-380. https://doi.org/10.3138/cpp.37.3.359

VicHealth. (2004). *The health costs of violence Measuring the burden of disease caused by intimate partner violence.* VicHealth: Department of Human Services.

Wald, J., Taylor, S., Asmundson, G. J., Jang, K. L., & Stapleton, J. (2006*). Literature review of concepts: Psychological resiliency*. Defence R&D Canada.

Walsh, K., Blaustein, M., Knight, W. G., Spinazzola, J., & Van Der Kolk, Bessel A. (2007). Resiliency factors in the relation between childhood sexual abuse and adulthood sexual assault in college-age women. *Journal of Child Sexual Abuse, 16*(1), 1-17. https://doi.org/10.1300/J070v16n01_01

Waltermaurer, E. M., Ortega, C. A., & McNutt, L. (2003). Issues in estimating the prevalence of intimate partner violence: Assessing the impact of abuse status on participation bias. *Journal of Interpersonal Violence, 18*(9), 959-974. https://doi.org/10.1177/0886260503255283

Walters, M.L., Chen J., & Breiding, M.J. (2013). T*he National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Findings on Victimization by Sexual Orientation.* National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of Personality and Social Psychology, 64*(4), 678. https://doi.org/10.1037/0022-3514.64.4.678

Waterworth, P., Rosenberg, M., Braham, R., Pescud, M., & Dimmock, J. (2014). The effect of social support on the health of Indigenous Australians in a metropolitan community. *Social Science & Medicine, 119*, 139-146. https://doi.org/10.1016/j.socscimed.2014.08.035

Weaver, T. L., & Clum, G. A. (1995). Psychological distress associated with interpersonal violence: A meta-analysis. *Clinical psychology review*, *15*(2), 115-140. https://doi.org/10.1016/0272-7358(95)00004-9

Weiss, N. H., Johnson, C. D., Contractor, A., Peasant, C., Swan, S. C., & Sullivan, T. P. (2017). Racial/ethnic differences moderate associations of coping strategies and posttraumatic stress disorder symptom clusters among women experiencing partner violence: a multigroup path analysis. *Anxiety, Stress, & Coping*, *30*(3), 347-363. https://doi.org/10.1080/10615806.2016.1228900

West, A., & Wandrei, M. L. (2002). Intimate partner violence: A model for predicting interventions by informal helpers. *Journal of Interpersonal Violence, 17*(9), 972-986. https://doi.org/10.1177/0886260502017009004

Westerhof, G. J., & Keyes, C. L. (2010). Mental illness and mental health: The two continua model across the lifespan. *Journal of Adult Development, 17*(2), 110-119. https://doi.org/10.1007/s10804-009-9082-y

Wills, R., Ritchie, M., & Wilson, M. (2008). Improving detection and quality of assessment of child abuse and partner abuse is achievable with a formal organisational change

approach. *Journal of Paediatrics and Child Health, 44*(3), 92-98. https://doi.org/10.1111/j.1440-1754.2007.01276.x

Wilson, D., Jackson, D., & Herd, R. (2016). Confidence and connectedness: Indigenous Māori women's views on personal safety in the context of intimate partner violence. *Health care for women international*, *37*(7), 707-720. https://doi.org/10.1080/07399332.2015.1107069

Wilson, D., Smith, R., Tolmie, J., & De Haan, I. (2015). Becoming better helpers: rethinking language to move beyond simplistic responses to women experiencing intimate partner violence. *Policy Quarterly, 11*(1), 25-31.

Wilson-Strydom, M., & Walker, M. (2015). A capabilities-friendly conceptualisation of flourishing in and through education. *Journal of Moral Education, 44*(3), 310-324. https://doi-org.ezproxy.auckland.ac.nz/10.1080/03057240.2015.1043878

Woerner, J., Wyatt, J., & Sullivan, T. P. (2019). If You Can't Say Something Nice: A Latent Profile Analysis of Social Reactions to Intimate Partner Violence Disclosure and Associations With Mental Health Symptoms. *Violence Against Women, 25*(10), 1243-1261. https://doi.org/10.1177/1077801218811681

Woodall, A., Morgan, C., Sloan, C., & Howard, L. (2010). Barriers to participation in mental health research: are there specific gender, ethnicity and age related barriers? *BMC Psychiatry, 10*(1), 103. https://doi.org/10.1186/1471-244X-10-103

World Health Organization. (2001a). *Putting women first: ethical and safety recommendations for research on domestic violence against women (No. WHO/FCH/GWH/01.1).* World Health Organization.

World Health Organization. (2001b). *Strengthening mental health promotion. Fact Sheet, 20.* World Health Organization.

World Health Organization. (2004). *Promoting mental health: concepts, emerging evidence, practice: summary report.* World Health Organization.

World Health Organization. (2007). *Violence Against Women.* Retrieved from https://www.who.int/news-room/fact-sheets/detail/violence-against-women

World Health Organization. (2012). *Understanding and addressing violence against women: Intimate partner violence (No. WHO/RHR/12.36).* World Health Organization.

World Health Organization. (2013). *Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence*. World Health Organization.

World Health Organization. (2016). *Violence Against Women: Intimate Partner and Sexual Violence Against Women.* http://www.who.int/mediacentre/factsheets/fs239/en/

Wortman, C. B. (2004). Posttraumatic growth: Progress and problems. *Psychological Inquiry, 15*(1), 81-90.

Wright, C. V., & Johnson, D. M. (2009). Correlates for legal help-seeking: Contextual factors for battered women in shelter. *Violence and Victims, 24*(6), 771-785. doi: 10.1891/0886-6708.24.6.771

Wright, E. M. (2015). The Relationship Between Social Support and Intimate Partner Violence in Neighborhood Context.*Crime & Delinquency, 61*(10), 1333-1359. 10.1177/0011128712466890

Wright, K. D., Asmundson, G. J., McCreary, D. R., Scher, C., Hami, S., & Stein, M. B. (2001). Factorial validity of the Childhood Trauma Questionnaire in men and women. *Depression and anxiety*, *13*(4), 179-183. https://doi.org/10.1002/da.1034

Wuest, J., Ford-Gilboe, M., Merritt-Gray, M., & Varcoe, C. (2013). Building on "grab," attending to "fit," and being prepared to "modify": How grounded theory "works" to guide a health intervention for abused women. In C.T. Beck (Ed.), *Routledge international handbook of qualitative nursing research* (pp. 62-76). Routledge.

Wuest, J., Merritt-Gray, M., Dubé, N., Hodgins, M. J., Malcolm, J., Majerovich, J. A., Scott-Storey, K., Ford-Gilboe, M., & Varcoe, C. (2015). The process, outcomes, and challenges of feasibility studies conducted in partnership with stakeholders: a health intervention for women survivors of intimate partner violence. *Research in Nursing & Health, 38*(1), 82-96. https://doi.org/10.1002/nur.21636

Xia, Y., & Yang, Y. (2019). RMSEA, CFI, and TLI in structural equation modeling with ordered categorical data: The story they tell depends on the estimation methods. *Behavior Research Methods, 51*(1), 409-428. https://doi.org/10.3758/s13428-018-1055-2

Yndo, M. C., Weston, R., & Marshall, L. L. (2019). Social Reactions to Intimate Partner Violence Disclosure Among Low-Income, Ethnically Diverse Community Women. *Violence Against Women, 25*(7), 817-838. 10.1177/1077801218805579

Zhou, D., & Abdullah. (2017). The acceptance of solar water pump technology among rural farmers of northern Pakistan: A structural equation model. *Cogent Food & Agriculture, 3*(1), 1280882. https://doi.org/10.1080/23311932.2017.1280882

Žukauskienė, R., Kaniušonytė, G., Bergman, L. R., Bakaitytė, A., & Truskauskaitė-Kunevičienė, I. (2019). The role of social support in identity processes and posttraumatic growth: A study of victims of intimate partner violence. *Journal of Interpersonal Violence, 36*(15-16), 7599-7624. doi: 10.1177/0886260519836785