School of Psychology and Speech Pathology
Faculty of Health Sciences

The Impact of An Antenatal Resilience and Optimism Workshop on Postnatal Depressive Symptoms

Josephine Maria Julianti Ratna

This thesis is presented for the Degree of
Doctor of Philosophy
of
Curtin University

March 2015

Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signature: 

Date: 20 March 2015

Acknowledgements

First and foremost, I have to thank God for the opportunity of receiving a scholarship after more than 15 years of clinical psychology practice, to conduct the study and develop an early intervention (during pregnancy) program aimed at reducing postnatal depressive symptoms. I would also like to extend my greatest appreciation, especially to Dr. Shannon Smith who nominated me for the Australian Leadership Awards. Through the Australian Leadership Award (ALA) under the banner of the Australia Awards Scholarship Program, the development of the Antenatal Resilience and Optimism Workshop (AROW) was made possible.

I would also like to thank my research supervisors at the School of Psychology and Speech Pathology, Dr. Robert T Kane (Bob), Associate Professor Clare Rees (Clare) and Associate Professor Clare Roberts for their guidance and dedicated involvements in every step throughout the process of developing the module, planning the implementation of the study, registering the clinical trial and bearing with me throughout the data analysis and finally, the writing up of the thesis itself. And especially I have to thank Bob and Clare for the extra work and time spent in reviewing my thesis to assist me in meeting my deadline. I could not do this without your patience and commitment, especially closer to the deadline where many challenges occurred along the way, including the time when I had to prove my own resilience. A special thank you to Dr Neville Hennessey, Chairperson, and Dr.Trevor Mazzucchelli for providing a final review of this thesis.

This journey is not possible without the involvement of Julie Craig, Sarah Treadgold, Kristen Soon, Chris Kerin, Tracey Cawthorne and their teams from the International Sponsored Student Unit at Curtin University. Your support and attention to many facets of this journey have helped me to cope with difficulties and made living here in Perth more interesting for me. I would also like to mention Maya Brown, Maureen Bell and Lauren Allatt who helped me abundantly in managing my school research funds, from preparation to completion of the journey.

I also extend my great appreciation to Jonathan R.T, Davidson MD and Kathryn M Connor for allowing me to translate the Connor-Davidson Resilience Scale; to Professor Peter Lovibond, PhD for the DASS; Dr Martin Seligman for the Attributional Style Questionnaire into Bahasa Indonesia; and Jean Endicott, PhD for Quality of Life Enjoyment and Satisfaction. I am honoured to have known such great authors.

In the phase of preparing the collaboration with Health Departments in Indonesia, I have relied on advice from Dr. Sri Idaiani, Dr. Eka Viora, Dr. Esty Martiana (Head of Surabaya Health Department where the study took place) and Mr. Haryanto (Assistant to the Head of Surabaya Health Department), to meet administrative regulations and procedures required to obtain the permission and ethical clearance for the research to be conducted in Indonesia. I would also like to acknowledge the support I received from Head of Primary Health Care Clinics "Puskesmas" from where the participants were recruited.

My sincere thanks go to Astrid Wiratna, Cicilia Evi and Dr. Muhammad Ardian for your professional expertise in facilitating the workshop. It was the main goal of contributing to the Millennium Developmental Goals in order to improve maternal health that brought us all to conduct this workshop and investigate its effectiveness. I need to acknowledge Dr. Seger Handoyo, the Dean of Faculty of Psychology Airlangga University who promoted the study and assisted in sourcing final year students as my research assistants; Atika Agustiana, Anglis Ayu Anjarsari, Dwi Nurhartati Adhani, Putri Larasati Ayuningtias, Mirna Wahyu Agustina, and Ratih Widyastuti Permatasari. Their hard work and efforts in recruitment of participants, ensuring participants obtained permission from family to attend the workshop, facilitating group discussions in the workshop and finally pursuing them to complete the study, are tremendously appreciated. Thank you to Dr. Mochammad Thaha for providing academic input and transport during the data collection period.

A special thank you to all the mothers; Aziza, Bianda, Lucia, Yuli and Ririn, who helped me in sharing their opinions on motherhood, parenthood, resilience and optimism. Their input was crucial in setting the foundation of the study and the development of this module. My appreciation also goes to great mothers, especially Joyce, Chingta, Hannah, Adel, Purna S, Fabiola, AK, Lusina, Dedek, Dian, Tita, and Aziza who have shared testimonials/photos related to the challenges and strategies of coping with difficulties during pregnancy and early motherhood. My sincere gratitude goes to all the women and mothers in Surabaya who generously participated in the study from May 2012 to January 2013 and attended the first implementation of AROW. Their enthusiasm to complete the workshop has led to further significant confirmation of the benefits that this workshop has produced.

Special thanks to Marie Grealy and Irene Pingkan Umboh for their confidence in supporting my decision to continue my study. Your kind references assisted me in finding additional financial support to cover my study expenses and allowed me to keep my contributions within Indonesian-Australian education sectors. Thank you Ray Kelly, Scott Sheppard, Sharyn Maskell, Jason Leggatt, Paolina Metzroth, Tze Ay Chuah and all colleagues at QUT International who have become my great work colleagues and have enabled me to keep contributing my passion within International Education whilst completing my PhD. It seems like I am working and studying full time. Your trust and teamwork made this study and work arrangements possible. For QUT Angels in Indonesia (Cicilia, Bella, Salyna, Anita and Jessie), thank you; work and study at the same time were possible with your assistance. A special thanks to Simon Leunig, a colleague and a friend for his continual encouragement for me to complete the journey.

Thank you abundantly to Muhammad Yasier for accepting the challenge and contributing his amazing talents to create customised visual illustrations used in the Facilitator module and workbook. My great appreciation also goes to Mario Tobing in creating fantastic designs for the module and workbook. My sincere gratitude goes to Kate Reitzenstein for her positive encouragement in assisting with proof reading the English version of this module, as well as the important task of back-translating

the questionnaires to ensure their original meanings were maintained. Thank you also to Karen Bailey for her professionalism in proofreading the final thesis.

I have to admit that this PhD journey has been influenced by interesting friendships from the many communities/groups in Perth (ABG, ICYO, Bateman Choir, ICCP, HearingAid East Java, Autism Association of Western Australia and the Indonesian Consulate General in Perth) who all provided support through sincere prayers, advice, laughter, motivation to keep going, and through sharing their real lives as women, mothers and parents. Thank you to my AusAID and Australian Leadership Award friends, in particular, Febri Sidjaja, Randika Anjalie Jayasinghe Pieris, Vishnu Khanal, Rajendra Karkee, Fazeela Waheed and many more whom I cannot mention one by one. The discussions throughout my study, and the encouragement you all have shared, are so meaningful and it will be the next challenge for me to deliver the AROW in one of your countries soon. I would also like to thank Fatim Tahirah Mirza and Linda Khong for sharing overnight shifts and to all my fellow PhD candidates at the HUB Building 603 for sharing interesting discussions about completing the PhD journey and real life.

I would especially extend my appreciation to Dr Hartono Tanto and staff at the Premier Hospital in Surabaya who so generously allowed me to take study leave for 4 years and willingly received my return to serve at the hospital as soon as I finished my studies. Sincere thanks to Cicilia Evi who has been my replacement and provided quality psychology service at the hospital during my study leave.

Last but not least, the development and production of this module and the whole study experience would not have been possible without the support of my parents, sisters and brother for supporting my decision from a distance. My appreciation and thanks to my dearest husband Hengki Setiawan who has been so supportive and committed to accompany me in this journey by giving up his career to start anew. To my boys, Ignasius Krisnanta Setiaputra, Mikael Amadeus Setiaputra, and my little angel Verena Niquitavega, you all are my strengths and inspiration which has made the journey so much more interesting and rewarding. It is amazing to play my role as your mother and your friend, in fact it feels so good to have the same status as students and understand the notion of “lifelong learning”. My own childhood and motherhood experiences, especially when I had to let go of my beautiful daughter have become influential points of reference. Through these experiences I have learnt to acknowledge the variety of individual experiences of motherhood. Thank you for supporting my own resilience and optimism to complete this journey and I proudly present this work to all of you, and to all mothers-to-be.

I perceive the development and implementation of the AROW as a big milestone in my career as a clinical psychologist, and I am honoured to be given an opportunity to contribute towards a better quality of life for future generations. I wish that this initiative will be followed by further study to improve the efficacy of the intervention and be accepted as one of the recommended antenatal programs for mothers-to-be to equip themselves in becoming more resilient and optimistic. Thank you again to all mentioned above and to those whose names and institutions I cannot mention one by one.

TABLE OF CONTENTS

List of Tables

List of Figures

List of Abbreviations

ABC	Antecedent-Belief-Consequence
ACT	Acceptance and Commitment Therapy
ACOG	The American College of Obstetricians and Gynaecologists
ANC	Antenatal Care
AOP	The Aussie Optimism Program
APA	The American Psychological Association
AROW	Antenatal Resilience and Optimism Workshop
CBT	Cognitive Behavioural Therapy
CD-RISC	The Connor-Davidson Resilience Scale
CILS	The Children of Immigrants Longitudinal Study
CRH	Corticotropin-Releasing Hormone
CONSORT	Consolidated Standards of Reporting Trials
DASS	Depression, Anxiety and Stress Scale
DHA	Docosahexaenoic Acid (An Omega-3 Fatty Acid)
DSM-5	Diagnostic and Statistical Manual of Mental Disorders 5th Ed
EPDS	Edinburgh Postnatal Depression Scale
EWEC	Every Woman Every Child
FRIENDS	Feelings-Relax - Inner helpful thoughts - Explore solutions - Now reward yourself - Do it every day - Smile
FOCUS	Family OverComing Under Stress
GLMM	Generalised Linear Mixed Models
IRRP	The International Resilience Research Project
MDG	Millennium Developmental Goal
MITO	Menjadi Ibu Tangguh dan Optimis
MRT	Master Resilience Training
NHMRC	National Health and Medical Research Council
NICHM	The National Institute for Health Care Management
PEEP	Parents Early Education Partnership
PHC	Primary Health Care
PRP	The Penn Resilience Program
PTSD	Post-Traumatic Stress Disorder

Q-LES-Q SF	Quality of Life Enjoyment and Satisfaction Questionnaire – Short Form
READY	Resilience and Activity for every DaY
RCT	Randomised Controlled Trial
RIRO	Reaching IN… Reaching OUT
RSA	The Resilience Scale for Adults
SPSS	Statistical Package for the Social Sciences
UC/PC	Ultrasound Consultation/Personal Coaching
UN	United Nation
UNDP	United Nation Development Program
WD	Women Deliver

"*Choose to be optimistic, it feels better*"

Dalai Lama XIV

Abstract

Being pregnant is considered a major, stressful life event, which automatically carries the potential for developing antenatal and postnatal depression. Postnatal depression (PND) is a commonly reported complication after childbirth. In developing countries, PND is poorly recognised, under-treated and creates ongoing potential problems for the mother, the newborn and the family, such as poor parenting. PND accounts for 45% of the variance in parenting stress, which may potentially harm and limit the physical, intellectual and emotional development of the children. Consequently, this may impact the quality of life and national resilience for future generations.

Previous research suggests that rates of depression during the 2nd (week 10 to 24) and 3rd trimester (week 25 onwards) are substantial and may increase the possibility of PND. The 2-day Antenatal Resilience and Optimism Workshop (AROW), which was specifically developed for this study, aims to enhance mothers' resilience and optimism. It was expected that implementation of AROW would strengthen protective factors (resilience, optimism, life satisfaction) and decrease risk factors (depression, anxiety and stress) during pregnancy thereby reducing PND symptoms.

Eight primary health care clinics in Surabaya (Indonesia) were randomised to the intervention and the waitlist control groups, such that there were four clinics in each group; between-groups, clinics were matched in size, quality of care and proximity. Pregnant women in their 2nd trimester, 52 in the intervention and 59 in the waitlist control, volunteered to complete the Depression Anxiety Stress Scale (DASS), the Attributional Style Questionnaire (ASQ), the Quality of Life Enjoyment and Satisfaction Questionnaire Short Form (Q-LES-Q SF), the Connor Davidson Resilience Scale (CD-RISC) and some screening tests (The Self-Reporting Questionnaire – SRQ and The Mini Mental State – MMS) at baseline. The Edinburgh Postnatal Depression Scale (EPDS) was given to the intervention group to confirm the outcomes.

Generalised linear mixed modelling (GLMM) found significantly greater reductions in depression, anxiety and stress, and significantly greater increases in resilience and life satisfaction for the intervention groups compared to the control group. These effects were maintained up to 6 months post intervention. AROW is

recommended as an antenatal program in Indonesia and possibly in other developing countries.

Chapter 1

1.1. Maternal Depression – Why does it need urgent attention?

Depression is a major worldwide public health problem and is twice as common in women as men, particularly during the period of childbearing, which is a particular risk period for major depression (Dietz et al., 2007). Major depression refers to a diagnosable, clinical condition for which treatment is clearly indicated. However, individuals may experience depressive symptoms that remain undiagnosed and untreated or may have sub-clinical levels of depression that interfere with functioning but are not yet at a diagnosable level (American Psychiatric Association, 2000). Depression may happen during any period of life, including pregnancy.

Being pregnant is supposed to be one of the happiest times in a woman's life, but for many women this is a time of confusion, fear, sadness, stress, and even depression. Gerald F. Joseph, Jr, MD, President of The American College of Obstetricians and Gynaecologists (ACOG) in his keynote speech at the opening ceremony of the ACOG's 58th Annual Clinical Meeting in San Francisco 17 May 2010 stated:

> *"As ob-gyns, if we can focus more of our attention on the emotional and psychological health of our patients during pregnancy and postpartum, I believe our specialty can have a positive and significant impact on the overall health and well-being of women everywhere… In essence, we may be the first to make a diagnosis of depression or to observe depressive symptoms getting worse. It's especially important to identify depression during pregnancy so that we can help prevent the condition from worsening after delivery"*

Depression in the general population has been associated with factors such as personality, a history of anxiety or depressive disorders, poor social support, substance abuse, marital conflict, stressful life events and exposure to traumatic events (Dayan et al., 2010). Being pregnant is considered to be a major stressful life event, which automatically carries the potential for the possibility of depression during and after pregnancy. A systematic review of the published scientific literature on postnatal depression (Pope, 2000) has identified the key biopsychosocial factors related to the occurrence of maternal depression as displayed in Table 1.

Table 1

Biopsychosocial Factors in Maternal Depression

	Predisposing	Precipitating	Maintaining
Biological	• **Family and personal history of depression** • Low IQ	• **Hormonal change following delivery** • **Caesarean section** • **Breastfeeding** • **Extreme fatigue**	• Neurotransmitter imbalance • **Hormonal changes (breastfeeding, menstruation)**
Psychological	• Poor relationship with own parents • Low self-esteem • **Negative cognitive style** • **Anxious, worrier** • Perfectionist personality traits	• **Limited coping strategies** • **Feelings of failure and disappointment** • **Feeling trapped or "out of control"** • **Negative perception of labour and delivery**	• **Poor sense of self** • Dependent personality • **Cognitive vulnerability**
Social	• **Depressed parents during childhood** • Loss or prolonged separation from parents or spouse • **Chronic work or marital difficulties** • **Poor social support** or living in poverty	Stressful life events • **Unemployment or excessive work demands** • **Financial constraints** • Social and geographical isolation • Single parenthood • Marital separation • Recent bereavement	Chronic stressors • Housing • **Finances** • **Employment** • **Relationship** • No confidante

Note: The topics in **bold** were included in the discussion during AROW

Various explanatory models describe no sole causative factor of maternal depression but a combination and interaction of multifactorial aetiology between biological (genetic vulnerability, hormonal changes), socio-cultural, psychological, environmental aspects, and major life events (Hendrick, Altshuler, & Suri, 1998; Ross, Sellers, Gilbert Evans, & Romach, 2004).

The Centre on the Developing Child at Harvard University (2009) defines maternal depression as a term describing depression experienced by women at any stage of their role as caregivers or mothers, but in most studies it is referred to as chronic depression in mothers. The National Institute for Health Care Management

(Santoro & Peabody, 2010) suggests that maternal depression is a comprehensive term for a spectrum of depressive conditions affecting both mothers (up to twelve months postpartum) and mothers-to-be.

Table 2 displays the spectrum including prenatal (antenatal) depression, postnatal depression and postnatal psychosis and a fact sheet commonly used as a guide by health care providers on the types, prevalence, onset and symptoms of maternal depression (New York State Department of Health and Office of Mental Health, 2005; Santoro & Peabody, 2010) and recommended treatment from several studies (Beck, 2003 ; Bennett, 2011; Dennis & Allen, 2008; Dennis, Ross & Grigoriadis, 2007; Freeman, 2007; Lee & Chung, 2007; Santoro & Peabody, 2010; Rapkin, Mikacich & Moatakef-Imani, 2003). The symptoms of maternal depression will vary between women but consist of several symptoms listed below in various severities on each depression type. Women are advised to consult their healthcare provider when symptoms persist for a certain period.

Table 2

Types, Prevalence, Onset, Duration, Symptoms and Treatment of Maternal Depression

Type	Prevalence and Onset	Duration	Symptoms	Treatment
Prenatal/ Antenatal Depression	10-20% of pregnant women Onset: during pregnancy	During pregnancy	• Crying or weepiness • Sleep problems (not due to frequent urination) • Fatigue • Appetite disturbance • Anhedonia (loss of enjoyment of activities) • Anxiety • Poor foetal attachment • Irritability •	Precaution and dilemmas should be taken into consideration as to the risk and benefit for taking antidepressant or to rely on other interventions (psychotherapy, psychosocial or other non-pharmacological treatments)
Baby Blues	As high as 80% of new mothers Onset: begins day 3 or 4 during the first few weeks post delivery	Few minutes to few hours each day and should lessen and disappear within two weeks	• Feeling overwhelmed • Irritability • Frustration • Anxiety • Mood lability (ups and downs - mum is elated one minute, and crying the next) • Feeling weepy and crying • Exhaustion • Trouble falling or staying asleep	No treatment required but need adequate rest, social support, reassurance, encouragement to take time for herself, share feelings and education regarding newborn care

Table 2 (Continued)

Type	Prevalence and Onset	Duration	Symptoms	Treatment
Postnatal/ Postpartum Depression	10-20% of new mothers Onset: May start immediately or within first 4 weeks after delivery	At least 5 or more symptoms for 2 weeks up to 12 months*)	• Frequent episodes of crying or weepiness • Persistent sadness and flat effect (mum won't smile) • Fatigue • Feelings of inadequacy or guilt • Sleep disturbances (not due to baby's night awakenings) • Appetite disturbances • Irritability • Mood instability • Overly intense worries about the baby • Difficulty concentrating or making decisions • Lack of interest in the baby, family or activities • Anxiety may manifest as bizarre thoughts and fears, such as obsessional thoughts of harm to the infant • Poor bonding with baby: No attachment • Feeling overwhelmed • Thoughts of death or suicide • Somatic symptoms, e.g. headaches, chest pains, heart palpitations, numbness and hyperventilation.	Treatment needed: structured psychotherapy; non directive counselling and possibly medication

Table 2 (Continued)

Type	Prevalence and Onset	Duration	Symptoms	Treatment
Puerperal Postpartum/ Postnatal Psychosis	1-2 per 1,000 new mothers (0.1 – 0.2%) Onset: Usually starts within 2 to 4 weeks, but may start as early as 2 to 3 days after delivery. Can also occur anytime in the first year	May last several weeks up to 12 months	• Auditory hallucinations and delusions (often about the baby, and often of a religious nature) • Visual hallucinations(often in the form of seeing or feeling a presence or darkness) • Insomnia • Feeling agitated and angry • Anxiety • Paranoia (a paranoid delusional system may inhibit her from sharing her delusion) • Delirium (appears normal one moment and is floridly psychotic the next) • Confusion • Mania (hyperactivity, elated mood, restlessness) • Suicidal or homicidal thoughts • Bizarre delusions and commands to harm the infant (not just an obsessional thought)	Treatment and hospitalisation usually required

Note.
DSM-5 lists Depression with peripartum onset explaining a diagnosis of depression episode occurring during pregnancy as well as in the four weeks following delivery. The debate prior to the new DSM-5 to extend the time frame for postpartum/postnatal depression from 4 weeks to 6 months was not accepted by the committee and this may potentially exclude mood episodes associated with postnatal/postpartum onset (Segre & Davis, 2013; O'Hara & McCabe, 2013; Sharma & M-azmanian, 2014)

1.1.1. Antenatal Depression

Antenatal or prenatal depression means depression that commences during pregnancy. Between 10-20 percent of pregnant women experience mood swings during pregnancy that last more than two weeks at a time and interfere with normal daily functioning. Depression during pregnancy is a mood disorder. Rates of antenatal depression during the second (week 10 to 24) and third trimester (week 25 onwards) are substantial and may increase the possibility of postnatal depression (Bennett, Einarson, Taddio, Koren, & Einarson, 2004; Lee & Chung, 2007). The increased risk of a preterm birth (Fransson, Ortenstrand, & Hjelmstedt, 2011) and premature babies require serious medical attention, which may add to the existing depression. During pregnancy and postpartum when mothers choose to breastfeed, doctors may be reluctant to prescribe medication due to considerable controversy about the risks and side effects of antidepressants (Freeman, 2007). Therefore, when women experience an antenatal or postnatal psychological imbalance, in most cases, a psychotherapeutic intervention is urgently needed to promote individual resilience and to prevent the depressive symptoms becoming clinical depression (Grote & Bledsoe, 2007). A key challenge is to identify the optimal period to intervene during pregnancy in order to prevent the development of further depressive symptoms. Fortunately, Cowan and Cowan (2000) found that pregnant women are open to making the necessary changes to improve their mental health prior to their baby being born. A study on predicting depressive symptomatology using cognitive-behavioural models with pregnant women in their second trimester provided some evidence for the role of cognitive - behavioural factors and stressful life events in the development of antenatal and postnatal depression. Furthermore, this study found that the best predictor of postnatal depression was the level of depression during pregnancy (O'Hara, Rehm, & Campbell, 1982).

Antenatal depressive episodes may be the response of some women to the condition of being pregnant itself, to the associated health concerns following a challenging pregnancy and to other major life stressors. For example, a pregnant woman may develop depressive symptoms after getting an unfortunate prenatal diagnosis of her foetus condition (Henshaw, 2004). It is important to acknowledge that along with feelings of depression, women may also experience significant amounts of anxiety. As such, consideration of maternal depression should also include anxiety as both clinical disorders have been found to be comorbid. A study

by Reck et al. (2008) confirmed the comorbidity between postnatal depression and anxiety where 18.4% of postpartum women with anxiety disorder were also diagnosed as having depressive disorder and 33.9% of women suffering from postnatal depression also had an anxiety disorder.

Hormonal changes can make pregnant women feel more anxious than usual. Anxiety during pregnancy usually is psychologically related to fears about the future such as labour-related worry, being a mother and the parenting role, miscarriage, preterm birth, congenital and genetic disorders, and poor general knowledge regrading pregnancy and labour, and various uncertainties they will soon face. This situation is sometimes complicated by the individual situation like previous pregnancy loss, marital disharmony with husband and/or mother-in law, unintended pregnancy, financial issues, working conditions, and poor social support (Mohammad, 2007). Women with antenatal anxiety are 2.6 times more likely to develop postnatal depression (Austin, Tully, & Parker, 2007; Heron, O'Connor, Evans, Golding, & Glover, 2004; O'Connor, Heron, Golding, Beveridge, & Glover, 2002). Research on anxiety and depression has found overlapping symptomatology (Zinbarg et al., 1994) and they may also be causally linked where elevated anxiety increases the risk of developing depression (Marra, 2004), in which approximately 10% of women developed depression (Gotlib et al., 1989) and 7% developed anxiety (Levine, Oandasan, Primeau, & Berenson, 2003).

A systematic review conducted by Bennett et al. (2004) concluded that the lower rate of depression estimated in the first trimester (7.4%) must be taken with caution due to the limited number of studies and small number of women participating and seeking assistance for early antenatal care. The same study found a substantial increase in the percentage of pregnant women identified as having depression during the second (12.8%) and third (12%) trimester. The actual prevalence rate of antenatal depression may in fact be higher than reported as there is a tendency for depressed women to discontinue their participation in early antenatal care. Withdrawal of this kind is a typical symptom of depression.

Leigh and Milgrom (2008) confirm that there are seven factors categorised into three groups which play significant roles in 78% of the variance of antenatal depression: antenatal stressors (antenatal anxiety, major life event); personal resources (low self-esteem, negative cognitive style, low social support) and predisposing factors (low income, history of abuse). Consistent findings show

antenatal depression is the strongest risk factor for postnatal depression. Around 40% of women who experience symptoms of depression during pregnancy will go on to experience postnatal depression if they do not receive treatment (Leigh & Milgrom, 2008; O'Hara et al., 1982).

The new DSM-5 (American Psychiatric Association, 2013) represents a significant revision in recognising depression during pregnancy and acknowledges the co-existing anxiety and panic symptoms. However, in contrast there is disappointment that the time frame of postnatal depression is not extended from 4 weeks to 6 months, because restricting the symptoms to a period of 4 weeks postnatal may potentially exclude many mood episodes associated with postnatal onset beyond 4 weeks as in many cases the real postnatal suffering often occurs during the first year (Segre & Davis, 2013; O'Hara & McCabe, 2013; Sharma & Mazmanian, 2014).

1.1.2. Postnatal Depression (Postnatal Mood Disorders)

The childbearing years, particularly the first few weeks after childbirth, is the peak period for the onset of depression in women, as noted in Table 2. Postnatal depression may last up to 12 months following delivery. Some researchers suggest that postnatal depression is better defined as perinatal depression as it often commences during pregnancy (Clayton, 2004).

There are three commonly reported forms of postpartum/postnatal mood disorders which are different in prevalence, onset, clinical presentation and management: the "baby blues" (maternity blues), postpartum/postnatal depression and puerperal postpartum/postnatal psychosis. See the summary in Table 2.

The term "baby blues" usually refers to the symptoms of mood swings, unexplained weeping/tearfulness, sleeping problems, irritability, impatience, generalised anxiety and appetite disturbance which are very much related to the situation and condition after giving birth (Bennett, 2011; Lee & Chung, 2007). The onset of baby blues begins within a few days (day 3 or 4) after delivery and persists up to several days to two weeks. These baby blues symptoms are usually mild and susceptibility to their development is not related to psychiatric history, environmental stressors, or cultural issues, but rather a natural response to the adjustment of becoming a mother, and do not require special treatment other than psychosocial support and reassurance from family and friends. It is considered a normal reaction presumably caused by hormonal changes, post-delivery related stress and symptoms

will usually disappear within days (Lee & Chung, 2007). If the symptoms last for longer than two weeks or worsen, it may have become a postnatal depression.

Postnatal depression is a more severe type of depression than baby blues and more common in women from families with a history of clinical depression. Previous studies confirm that postnatal depression appears to present a similar symptom pattern to depression in any stage of life. One of eight new mothers is likely to suffer from postnatal depression and those who have had a previous history will have 25% recurrence risk (Wisner, Parry & Piontek, 2002). Stressful life events, relationship difficulties or personality patterns may negatively impact on to the mother's coping ability with a newborn baby. As demonstrated in Table 2, women who suffer from postnatal depression may benefit from supportive psychotherapy, counselling and education for the women and their partners that explores possible causes for the depression or anxiety disorder and develops understanding about ways of coping. In some cases, medication will speed up the recovery process, which is crucial especially when there is no available or limited support from immediate and/or extended family to look after the newborn baby and the mother.

The third type of postnatal mood disorder is called puerperal postnatal psychosis. Kendall, Hollon, & Beck (1987) state strongly that women are at increased risk of developing severe psychiatric illness during puerperium - the period following childbirth, lasting approximately six weeks, when the uterus returns to its normal size and shape – and have an increased risk to be admitted to a psychiatric hospital within the first month postpartum than at any other time in their life. It is highly recommended that women, who suffer from this type be hospitalised and immediately treated.

1.1.3. Epidemiological, Biological and Psychosocial Factors

Longitudinal studies of pregnant and postnatal women consistently find that 9% to 12% of mothers show depressive symptoms (Evans, Heron, Franscomb, Oke,& Golding, 2001; Luoma et al., 2001). A similar prevalence of maternal depression of approximately 10 to 20% was reported in 2010 by the National Institute for Health Care Management (Santoso & Peabody, 2010). The prevalence of maternal depression experienced by low-income women ranges from 12-48% (Chung, McCollum, Elo, Lee, & Calhane, 2004 ; Chaudron et al., 2005) and is higher in low and middle income countries and among socially disadvantaged women

(Earls, 2010). For example, 15-28% in Africa and Asia (Husain, Creed, & Tomenson, 2000), 28-57% in Pakistan (Kazi et al., 2006), and 35-50% in Latin America (Wolf, DeAndraca, & Lozoff, 2002). This clearly shows that there are other factors contributing to the severity of maternal depression that are indirectly related to the biological and physical aspects of pregnancy and/or childbirth.

A meta-analysis of 59 studies from North America, Europe, Australia and Japan in the mid-1990s found that approximately 13% of women were suffering from postnatal depression (O'Hara & Swain, 1996). More recent studies found the prevalence of maternal depression in Western countries was between 10 to 26 percent (Grote et al., 2007). It was also reported that a previous history of depression including antenatal depression, was associated with a greater risk of subsequent postnatal depression.

Identifying women at risk of developing postnatal depression is dependent upon the ability of women to become aware of, and able to identify early symptoms and then consult relevant professionals. The American College of Obstetricians and Gynaecologists (ACOG) in 2010 reported a similar prevalence rate for women developing symptoms of depression during pregnancy (antenatal depression) at approximately 14-23%. This percentage is not likely to have included those who are undiagnosed and/or untreated because screening for maternal depression is not standard practice for most health providers (Santoso & Peabody, 2010). The increased prevalence of antenatal depression has prompted The ACOG to develop a program called "Healthy People 2020" in the USA which aims to increase the numbers of pregnant and postpartum women who will be screened early for maternal depression and then receive appropriate therapy. Healthy People 2020 has 12 topics and one of them concerns Maternal, Infant and Child Health. This topic is covered to address the well-being of mothers, infants and children as determinants of next generation health and on the basis of recommendations from previous studies that have demonstrated the need for maternal-related early intervention and/or prevention programs.

Being pregnant and giving birth involves dramatic physiological events which have led researchers to investigate biochemical and hormonal variables as etiological factors for the development of postnatal mood disorders. Various biological factors such as level of estrogens (estradiol, estriol, and estrone) and progesterone, gonadal steroids, pituitary hormones, cortisol, thyroid hormone,

corticotropin-releasing hormone (CRH), inflammatory response system, leptin, and reproductive hormones have been explored by Hendrick et al. (1998) to investigate their correlations with postnatal depression.

Wisner et al. (2002) has proposed that hormonal changes during pregnancy and childbirth are possible causes of postnatal depression. During pregnancy, the placenta produces increased levels of estrogens and progesterone hormones. At delivery and with the removal of the placenta the estrogens and progesterone hormones decline rapidly (Speroff, Glass, & Kase, 1983). The changes in hormone levels have been speculated to contribute to postnatal depressive symptoms as indicated by Sichel, Cohen, Robertson, Ruttenberg, & Rosenbaum (1995) who discovered that estrogen supplementation can significantly reduce postnatal depressive symptoms. This finding was supported by Gregoire et al. (1996) who found that 80% of women using estrogen patches scored lower on the Edinburgh Postnatal Depression Scale after three months of treatment compared to 31% of the placebo-treated group, although nearly half of the estrogen patch-group was also taking antidepressant medication which creates confusion as to the final results. However, several other studies do not clearly support the above findings and even show conflicting results where no significant difference in the magnitude of estrogen hormones were observed from late pregnancy to the postnatal period between depressed and non-depressed women (O'Hara et al., 1991).

Pop et al. (1991) reported that women with thyroid dysfunction show postnatal depressive symptoms and more than a third of these women respond positively with thyroid dysfunction treatment. Based on these results the authors recommended that when there is an indication of hypothyroidism (lethargy, weight gain and cold intolerance), it is important to evaluate women's thyroid functions to anticipate the possibility of postnatal depression.

Robinson and Steward (2001) investigated another biological aspect of postnatal depression and found that plasma corticosteroids reach their peak during labour and within 4 hours postpartum and then decrease significantly within 4 weeks of birth with the thyroid functions returning to the pre-pregnancy level. During the 4 weeks postpartum when gradual recovery of thyroid function takes place, many studies record the onset of postnatal depressive symptoms. This further adds to the proposition that biological aspects of postnatal depression may possibly be influenced by thyroid abnormality after delivery.

When considering the biological basis of postnatal disorders, it should be acknowledged that previous studies experienced methodological difficulties such as problems to accurately examine hormones, blood sampling being done at inappropriate times and other factors like seasonal variations and complexity of endocrine interactions being overlooked (Robinson & Steward, 2001). In addition, some women who suffer from maternal depression also have a family history of mental illness or are under a lot of stress (Hendrick et al., 1998) and there is an increased risk of postnatal depression for women with a family history of psychiatric illness (Johnstone, Boyce, Hickey, Morris-Yatees, & Harris, 2001). As such it is clear that there are multifactorial biological aspects contributing to the development of maternal depression (Sylven, 2012).

Epidemiological studies carried out to date consistently find that major contributors to maternal depression are mostly of a psychosocial nature (O'Hara, 1997). A seemingly healthy pregnant woman can develop depression simply from the stress of day-to-day activities such as the preparation before the baby is born. The occurrence of stressful life events and poor coping skills (Almond, 2009), lack of support from spouse/family/friends can lead to ongoing postnatal fatigue leading to emotional vulnerability (Taylor, 2003). Additionally, financial strain (Segre, O'Hara, & Losch, 2006), unemployment (Andajani-Sutjahjo, Manderson & Astburry, 2007; Cooper & Murray, 1998), marital conflict, and unrealistic expectations of motherhood (Almond, 2009; Craig, Judd, & Hodgins, 2005) have also been associated with an increased risk of developing postnatal depression.

However, because some women are at a greater risk, it is important to evaluate any past history of mental illness or depression in their family. Furthermore, women's previous history of depression and family history of psychiatric illness have been associated with increased risk of developing postpartum depression (Lee, Yip, Leung, & Chung, 2000; Johnstone et al., 2001).

1.1.4. Cross-Cultural Comparisons in Prevalence

New mothers in Asian cultures tend to show their depressive symptoms through somatic complaints rather than psychological symptoms and these seem to be more socially acceptable (Kim & Buist, 2005). This unwillingness to report psychological symptoms may be due to the stigma associated with certain illness and the fear of negative social attitudes that the individual and family may face. The role

of extended families in providing support may culturally alleviate the negative impacts of stress and depression. It is often the case that antenatal and postnatal depression remain unrecognised, underreported and therefore untreated or the pregnant women themselves may ignore the symptoms and think of them as just the temporary ups and downs accompanying pregnancy (Andayani-Sutjahyo, Manderson & Astburry, 2007).

The symptoms of postnatal depression are seen as common and normal conditions experienced by women who have recently given birth. A study involving Indonesian women, mostly in rural areas, found that women express their complex emotions at early postpartum often as feelings of self-pity, deep sadness, being overwhelmed, and frustrated and these feelings are reflected through physical complaints such as headaches and fatigue as a way to get attention. However these mixed feelings remain unattended by health professionals, unrecognised and untreated because the women tend to spend their early postpartum period with families and do not see the necessity to get treatment or they choose to remain silent (Andayani-Sutjahyo, Manderson & Astburry, 2007).

Interesting findings emerged from a qualitative transcultural study on postnatal depression (Oates et al., 2004) including some universal commonalities as well as country specific themes with regard to the maternity experience, the psychosocial context of pregnancy and motherhood, and the mother-infant interaction. Common themes in most countries were family conflict, lack of social support, sleep deprivation and problems with the newborn as the causes of postnatal depression. However most European centres mentioned hormonal changes as the cause of postnatal depression but this was not reported by the UK, Asian, Japanese or Ugandan participants (Oates et al., 2004).

Studies conducted in countries where gender equality is highly respected, such as in Sweden, have found that cultural factors related to the gender of the newborn are not as strong as is the case in Asian countries. Lee et al. (2000) and Patel, Rodrigues, & DeSouza (2002) describe that in China and India and some other Asian countries, there is gender expectation which strongly influences the overall psychological well-being of the mother and spouse. Rates of postnatal depression are higher among women who deliver baby girls reflecting a strong cultural gender preference for boys over girls in these countries. In contrast, a study in France by De Tychey (2008) found that mothers of infant boys were more depressed due to the

perception that baby boys are more irritable and more challenging to deal with than girls, as well as the trend of growing narcissism among modern new mothers to expect what they call "mini-me", that is with girls instead of boys. They report that mothers expect raising boys will be more difficult than girls and result in a lower quality of life.

Roomruangwong and Epperson (2011) confirm that the prevalence of perinatal depression in Asian countries is slightly higher (20 - 21.8%) than Western countries due to unique culturally related factors such as premarital pregnancy, conflicts with in-laws and dissatisfaction towards the baby's gender. Of the few published works on maternal depression in Indonesia, two studies conducted by Edwards et al. (2006) and Sari (2009) in Surabaya, the second biggest city in Indonesia, found that approximately 16 - 22% of women experience postnatal depression which differs significantly across employment type, level of education, level of psychosocial stressors and history of previous depression. In a culture where postnatal depression is not discussed openly, Andajani-Sutjahjo et al. (2007) describe four factors that are associated with perinatal depression and are similarly reported in other countries (marital conflict; premarital pregnancy; lack of support from family networks; financial difficulties) and three factors which are typical for the Indonesian population (husband's unemployment; lack of support from husband and illness in the family). Discussion on other cultural aspects and ethnographic study during pregnancy and postpartum related to beliefs, spiritual practices, the power to make decision on nutrition and myths associated with pregnancy and motherhood will be described in section 1.5.

1.1.5. Maternal Depression: Global Public Health Concern

As the preceding discussion highlights, maternal depression is obviously no longer seen as an individual mental health issue but is recognised as a global public health concern. As such, the issue is currently receiving multidisciplinary attention towards responsive antenatal and postnatal care and early childhood policy frameworks to prevent, to anticipate and to combat its negative long-term impacts. In more than two decades, literature reviews on maternal depression indicate definite associations between maternal depression and its negative impact on the future wellbeing of the mother and child. This includes negative impacts on the child's growth and development, disruption to effective parenting, school-related difficulties

and long-term behaviour problems. The literature takes into account wide aspects of biological, sociocultural and socioeconomic backgrounds (Knitzer, Theberge & Johnson, 2008; Leigh & Milgrom, 2008; Murray, 1992; Murray, Fiori-Cowley, Hooper, & Cooper, 1996; Putnam, 2006; Surkan, Kennedy, Hurley, Kristen, & Black, 2011; Sylven, 2012; Wachs, Black, & Engle, 2009). The human costs of maternal depression are substantial as they extend and threaten the next generation, with the risk of affecting children's health, development and behaviour permanently if not seriously prevented and intervened (Santoso & Peabody, 2010).

1.1.6. Maternal Depression and Its Long Term Consequences

Winson (2009) portrays the experience a woman has in giving birth as a major transition to motherhood and emphasises the importance of efforts towards preventing postnatal depression and possibly post-traumatic stress disorder associated with traumatic and stressful birthing event. The pregnancy, childbirth and postnatal period separately and in combination may produce distress that contributes to future problems for the mother, the newborn and the family.

As a spectrum (Santos, Brownell, Ekuma, Mayer, & Sooden, 2012), maternal depression may influence mothers-to-be and mothers (up to twelve months postpartum). Depression in pregnancy may diminish a woman's capacity for self-care including insufficient nutrition, self-neglect in hygiene, and substance abuse which may affect her own physical and mental health as well as negatively impacting the growth and development of the fetus. Depressed mothers-to-be may not have interest and motivation to see the doctor or midwives for regular pregnancy check-ups. Missing regular appointments are indicators leading to suspected antenatal depression (Austin, 2003).

Verdeli et al. (2004) found that parental depression impacts on family functioning, and can influence the development of child depression. In 2009, the Centre on the Developing Child at Harvard University stated the outcome of one study by Oberlander et al. (2008) that depressed pregnant women produced high level of stress chemicals which were indicated by the newborn methylation status of the human glucocorticoid receptor gene and cortisol stress responses which may reduce fetal growth, was associated with higher risk for preterm labour (Fransson et al., 2011) and increased the possibility of postnatal depression (Bennett et al., 2004; Lee & Chung, 2007).

Table 3 lists key findings related to the long-term negative impact of maternal depression on the physical, intellectual and emotional development of children. The rates of depression in children of depressed mothers are four to six times higher than in children whose parents do not have a history of depression (Beardslee, Keller, Layori, Staley, & Sacks, 1993; Weissman et al., 1997; Weissman et al., 2006).

Table 3

Long term Impacts of Maternal Depression on Children

Findings	Studies by
Children raised by affectively ill parents are at increased risks for deviant behaviours or developmental impairments or psychopathology	Beardslee, Versage, & Gladstone (1998); Cummings & Davies (1994); Goodman & Gotlib, (1999); Grigoroiu-Serbanescu et al. (1991) ; Lovejoy, Graczyk, O'Hare, & Newman (2000); NICHD (1999); Radke-Yarrow (1998); Weissman et al. (2006).
Children of depressed mothers are more likely to receive early intervention due to developmental delays compared to children of non-depressed mothers	Feinberg et al. (2010)
Major depression experienced by parents, especially mothers, can impair the child's socio-emotional and cognitive development	Cooper & Murray (1998)
Maternal postnatal depression is associated with poorer cognitive functioning especially in boys during infancy and early childhood, though still unknown for their longer term cognitive development and academic achievement.	Murray et al. (2010) ; Hay et al. (2001)
Reduced bonding and attachment due to chronic maternal depression may frequently lead the infants to insecure, more avoidant or disorganised attachment to their mothers and put them at risk of developing impaired attachment relationship	Campbell et al. (2004); Martins & Gaffin (2000); Lyons-Ruth et al.(1986) ; Teti et al. (1995)
Children of depressed mothers are at risk of internalising and externalising symptoms	Brennan et al. (2000) ; Brennan et al. (2002) ; Murray (1992)
Children of depressed mothers are at heightened risk of developing depression, anxiety disorder and psychosocial impairment.	Beardslee et al. (1998); Beardslee, et al. (1993); Radke-Yarrow et al.(1992); Weissman et al.(2006)

To date the majority of research that was conducted on children of depressed parents-mothers in particular has been based on the belief that later child development and behaviour is highly influenced by early childhood exposures to the quality of parenting (Newport et al., 2002). In general, mothers interact the most with their infants and therefore their well-being is crucial in ensuring ideal bonding, attachment, and parenting for their children. A recent antenatal intervention to reduce depression, anxiety and parenting difficulties is called Toward Parenthood (Milgrom, Schembri, Ericksen, Ross, & Gemmill, 2011) and the study claims that the preparation for parenthood program (through providing workbook and telephone sessions) is effective in reducing symptoms of postnatal depression/anxiety along with a trend towards reduced parenting stress.

A study by Austin et al., (2007) found that women with antenatal anxiety were 2.6 times more likely to develop postnatal depression. They argue that partners, the newborn and existing children in the family (if any) are directly influenced when a parent is anxious or depressed, as anxiety and depression usually go hand in hand. When women experience antenatal depression, have a history of previous depression and experience concurrent parenting stress, they account for 66% of the variance in postnatal depression. Postnatal depression itself accounts for 45% of the variance in parenting stress (Leigh & Milgrom, 2008).

Most of the studies demonstrating long term negative impacts of maternal depression, in particular postnatal depression, recommend the need for further investigations towards risk factors and protective factors, early identification, intervention options (Dietz et al., 2007) and a strong emphasis on antenatal prevention programs.

1.1.7. Protective and Risk Factors for Postnatal Depression

Given the high prevalence of maternal depression in general (10-20% according to Santoro & Peabody, 2010), antenatal depression (14-23% according to ACOG, 2010), postnatal depression (16-22% in Indonesia according to Edwards et al., 2006 and Sari, 2009) and serious consequences to children raised by depressed mothers, efforts have been directed towards identification of the main risk factors to target in early prevention of maternal depressive symptoms. Studies have consistently demonstrated risk factors which then become predictors of postnatal depression. Strong predictors of postnatal depression are antenatal anxiety and depression, previous history of depression, stressful life events, and lack of social supports. Postnatal depression is the strongest predictor for parenting stress (Leigh & Milgrom, 2008).

A study by Lee et al. (2000) demonstrated several significant risk factors for postnatal depression of which most of them are similar to findings from other studies such as substantive poverty (temporary housing, financial difficulties); history of medical and psychological problems (two or more previous induced abortions, past history of depression, past psychiatric history, antenatal depressive syndromes, prolonged postnatal 'blues'), vulnerable personality (neuroticism), and a specific cultural aspect related to spouse dissatisfaction with the gender of the new born.

The risk factors for postnatal depression described above are prevalent in many countries but some play unique roles in Asian cultures. According to a study by Klainin and Arthur (2009), risk factors for postnatal depression can be categorised into five main groups: biological/physical (e.g. history of medical conditions, premenstrual symptoms, poor physical health, low body mass index, low food consumption of riboflavin, DHA, glycemic index); psychological (e.g. stressful life event, low self-esteem, antenatal anxiety, poor self-image, antenatal depression); obstetric/paediatric (e.g. problems during pregnancy, previous abortions, previous loss of a baby, unintended/unplanned/unwanted pregnancy, lack of childcare knowledge, inability to breastfeed, the baby's medical problems); socio-demographic (e.g. economic difficulties, domestic violence, conflict or problems with in-laws, unemployment); and cultural factors (e.g. family support, traditional medicine). For Asian cultures, the socio-demographic and cultural factors play a significant role in daily life.

To be able to fully understand postnatal depression, it is equally important to identify protective factors against postnatal depression. Protective factors are frequently referred to as qualities that estimate future outcomes through their abilities to moderate, mediate, or compensate for the risks.

Garmezy, Masten, and Tellegen (1984) stated that protective factors may operate according to three models: a compensatory model—symptomatic complaints can be counteracted by personal qualities or social supports; or a challenge model—a certain degree of stress can potentially enhance competence; or an immunity model - a conditional relation between stressors and protective factors which influence the quality of adaptation but may not be indicated in non-stressful situations. These protective factors may have a direct effect on a problem, buffer to lower the risks, or act to influence the problem.

Werner (2000) stated that protective factors of individual resilience can be categorised by three conditions: protective factors within the individual across developmental stages (e.g., easy infant temperament, self-help skill, strong achievement motivation, impulse control, positive self-concepts, hobbies, strong religious orientation, faith, etc.); protective factors within the family (e.g., small size family, maternal competence, mother's education, close bond with primary care giver, supportive siblings and grandparents, etc.) and protective factors in the community (e.g., competent and close peer friends, supportive teachers, successful school experience, having mentors, etc.).

Another protective factor is the role of the cognitive attribution style of the woman during pregnancy up to postnatal periods. Often depression is influenced by the way individuals construct the world and relate within the world (Davidson & Strauss, 1992). This suggests that it is important to assess how pregnant women attribute their situations (good and bad events) according to three sets of variables: internal or external (whether women blame themselves or others/look for external explanations for a good/bad situation); stable or unstable (whether women believe the cause of a situation is changeable or unchangeable); and global or specific (whether the cause of a situation will apply in all other situations or only to this particular situation). Seligman (1990) stresses the importance of cognition and emphasised how a depressed person views negative/bad events in an overly pessimistic way (learned helplessness) while a resilient person shows more optimistic thinking (learned optimism).

Amongst earlier studies involving similar populations of women one cross-sectional postnatal study found that postnatal depression significantly affected aspects of quality of life such as general health, vitality, emotional state, mental health and social functioning (De Tychey, 2008). Furthermore, a more recent study involving pregnant women in their 2nd and 3rd trimester suggested that lower self-directedness, higher harm avoidance, lower resilience and lower social supports were predictors of antenatal distress and anxiety. The knowledge of predictors of distress and anxiety would then be important in developing an intervention addressing those predictors and preventing potential clinical anxiety and mood disorders (Roos, Faure, Lochner, Vythilingum, & Stein, 2013).

A study investigating the relationship between positive emotions and resilience by Cohn, Fredrickson, Brown, Mikels, & Conway (2009) found that positive emotions predict increases in resilience as well as increases in life satisfaction. This finding supports research by Endicott, Nee, Harrison, & Blumenthal (1993) indicating that patients with mood disorder frequently experience little enjoyment or satisfaction in many aspects of their life and this significantly influences their ability to function on a day-to-day basis.

1.1.8. Summary

This section describes maternal depression and its type by onset, prevalence, possible causes and its risk and protective factors. It is very clear that the importance of family wellbeing, especially mothers, in producing mentally healthy children has led multidisciplinary researchers—such as psychologists, psychiatrists, general practitioners, paediatricians, and family therapists—to continue investigating issues relating to postnatal depression and its long term impact on mothers, children and family members.

Well documented studies on the long term impact of postnatal depression have further recommended attempts towards the development of prevention, early detection, and harm minimisation programs during pregnancy and/or early postnatal period aiming to prepare women for a successful transition to motherhood and parenthood, and to prevent postnatal mental health problems. It is important to identify and treat maternal depression and anxiety as early as possible as this condition may affect the mother's ability to adequately care for her young child, may interfere with the attachment and bonding process as well as restrict her in

accommodating the baby's basic needs leading to long-term, adverse effects on the child's health and well-being.

Previous studies have demonstrated an urgent need to design an early intervention program aiming to prevent antenatal, perinatal and postnatal depressive symptoms. Such a program will assist pregnant women to anticipate and recognise early symptoms of depression and get appropriate help to inhibit its long-term and potentially damaging impact on future generations.

1.2. Millennium Developmental Goals (MDGs)

The problems faced by women, children and families such as poverty, lack of education and poor health have raised global concerns and attempts towards preventative actions and interventions at national, regional and global levels. Mental health promotion initiatives have become one tool to educate people about particular problems aiming to raise awareness and to improve early identification of potential clinical symptoms. The Millennium Developmental Goals set by the United Nations is one of the many global initiatives that include several health-related goals. Developing countries, including Indonesia, are encouraged to meet the eight goals by 2015 through implementations of relevant programs. Miranda and Patel (2005) strongly state that "there is no health without mental health"(p.e291) and therefore many developed countries have substantially invested funds and actions towards mental health care whilst this is not the case in developing countries.

1.2.1 Mental Health and the MDGs

The MDGs were declared ten years after The United Nation Development Program (UNDP) statement in the first global Human Development Report (1990) that "people are the real wealth of a nation" (p.9). Helen Clark, Administrator of UNDP in her lecture paper "Empowered lives; resilient nations – Why health matters to human development" presented at the Harvard School of Public Health on 31 January 2013 strongly stated that at the most basic level, healthier parents, in particular mothers, play vital roles in producing a better quality (physically, psychologically and socially) generation. Children raised by healthy mothers are usually well nourished and therefore better able to learn, more productive and in the long term will impact positively on their overall well-being. Therefore, investing in people should start as early as possible to ensure pregnant women carrying human beings are healthier, hence shaping a healthier future generation.

One hundred and eighty nine countries signed the United Nation Millennium Declaration in 2000, including Indonesia. The declaration has been translated into eight Millennium Developmental Goals (MDGs): (a) eradicate extreme poverty and hunger, (b) achieve universal primary education, (c) promote gender equality and empower women, (d) reduce child mortality, (e) improve maternal health, (f) combat HIV/AIDS, Malaria and other diseases, (g) ensure environmental sustainability and (h) global partnership for development (Millennium Developmental Goals Indicators, 2013). Three of them (MDG 4, 5 and 6) are directly related to health. Looking at the three health-related MDGs, the current study relates more to supporting the MDG 5 and the intervention in this study will support the MDG 3—empowering women.

Attempts towards placement of skilled birth attendance and accessible antenatal care are crucial to meet the target of MDG5 to reduce the maternal mortality ratio by three quarters and to achieve universal access to reproductive health in 2015. The current study aims to meet indicator 5.5, that is antenatal care coverage—at least one visit (ANC+1) and at least four visits (ANC+4). The term ANC+1 refers to antenatal care provided by skilled health personnel for reasons related to pregnancy at least once during pregnancy. The term ANC+4 means it is recommended for women to attend at least four antenatal care antenatal care provided by any care provider for reasons related to pregnancy. Targets and indicators of MDG 5 achievements are demonstrated in Table 4 (UN Statistics Division, 2008).

Table 4

Millennium Developmental Goal 5, Target and Indicators

Goal 5: Improve Maternal Health			
Targets		Indicators	
5A	Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	5.1	Maternal mortality ratio
		5.2	Proportion of births attended by skilled health personnel
5B	Achieve, by 2015, universal access to reproductive health	5.3	Contraceptive prevalence rate
		5.4	Adolescent birth rate
		5.5	Antenatal care coverage (at least one visit and at least four visits)
		5.6	Unmet need for family planning

1.2.2. Constraints Faced by Health System

The declaration of MDGs to be achieved by 2015 has led to a momentum, especially in health-related fields to propose and implement global health initiatives. Although there are many good initiatives to address health problems, the implementations of these initiatives face big challenges especially in poor and/or developing countries. Four years after the MDGs was declared, Chen et al. (2004) described that many poor and/or developing countries still face a health crisis and have poor health systems incapable of delivering care at the volume and level of quality necessary. Travis et al. (2004) summarise that stronger health systems (e.g., health workforce, drug availability, information system, financial, management) are essential to accomplish the MDGs but not many systems are focussing on strengthening the systems but instead are over-allocating resources towards combating specific diseases and neglecting other least priority areas. These critical constraints have to be addressed by mobilising and strengthening the health workforce, by developing effective country strategies, by better coordination amongst donors and by promoting better information systems to achieve the millennium health goals (Chen, 2004). Efforts towards improving provision of priority services have shifted from a vertical approach (using individual planning, staffing, managing, and financing, separate to other services) to a horizontal

approach (through the health system structure in place) to create an optimal mix of both approaches. One example is The Alma Ata Declaration which emphasises building a bottom-up health system through primary health care (Travis et al., 2004). This Declaration reflects the way health systems work in many developing countries, particularly in countries with big populations and wide service area as in Indonesia, where the present study will take place. The role of a primary health care called "Puskesmas" in Indonesia is crucial in fostering a quality health service especially in promoting maternal health, although not all primary health care centres are equipped with skilled human resources and facilities other than standard requirements.

1.2.3 Attempts towards Achieving the MDGs: Global and Local Initiatives

Of the many initiatives to achieve the MDGs, there are three examples of global and regional attempts that are relevant to this study. Those attempts mostly include women and emphasise development of empowering programs which may have long-term benefits for the individual women, their children and family as well as the wider community and the nations.

Women Deliver (WD)

This is an initiative that is based on a belief that women deliver enormous social and economic benefits for their families, communities and nations. Improving maternal health will save women's lives and is an investment in itself. The *Women Deliver* program is based on the belief that women's well-being determines a country's well-being, therefore efforts towards ensuring women's involvement in many aspects of life such as if women in the workplace are productive and healthy, their income will contribute to food, medicine, education and other family needs.

Responding to health related MDGs, *Women Deliver* believes that maternal health is a human right, maternal and newborn health are closely linked, maternal deaths are preventable and cost-effective solutions should emphasise programs such as family planning, antenatal and postnatal skilled care and access to safe abortion when needed. The focus on these areas is based on the fact that in most developing countries, maternal death and postnatal problems are due to pregnancies and childbirth complications. One of the causes is that nearly half of all pregnant women in developing countries do not receive quality antenatal skilled care (Women Deliver, 2010).

The Mental Health Task Force Women Deliver 2013 conference in Kuala Lumpur, Null (2013) reported that the major conference theme emphasised that women were not just reproducers but they were producers, and underlined the need to evaluate the gap between "what we know works" and "what actually works" within the programs related to maternal health and invest more (or spend more money) in programs that show significant outcomes. Thus, MDG5 actually can be achieved if there are supports and stronger political and financial investments (Women Deliver, 2010).

Every Woman Every Child (EWEC) and #Commit2Deliver

Mr. Ban Ki-moon, – The United Nation (UN) Secretary-General at the United Nations Millennium Development Goals (MDGs) Summit launched a Global Strategy for Women and Children's Health in September 2010, due to concern over insufficient progress having been made on achieving the 2015 target on Millennium Developmental Goal 5 – Improving Maternal Health. The Global Strategy encourages poor countries (low income and lower middle income) listed in the World Bank Classification List 2008 (World Bank, 2009) to intensify coordinated actions to achieve long-term improvements in women's and children's health. Major improvements are anticipated when the actions are combined with innovations in technology, treatment and service delivery to demonstrate better and more effective care, cost efficient and widely accessible (Ki-moon, 2010).

The Every Woman Every Child (EWEC) movement was launched at the same time as the Global Strategy aiming to save the lives of 16 million women and children and improve the lives of millions more by 2015. This initiative has driven on-going activities globally involving governments, private sectors, allied-health professionals, researchers and academia (Ki-moon, 2010). In 2013, there were 49 countries and 293 commitments for actions (The Partnership for Maternal, Newborn and Child Health, 2013). In 2014, there were 70 countries and 300 commitments listed by #Commit2Deliver – an advocacy platform to showcase results, accelerate actions and ensure accountability among these new and existing commitment makers (Every Woman Every Child, 2014).

Indonesia is listed as a lower middle-income country (World Bank, 2009) and committed that by 2015 all birth deliveries will be performed by skilled birth attendants aiming to reduce the maternal mortality ratio more than 50% per 100,000

live births from 2007 to 2015. The commitment to involve skilled attendants has in fact been the agenda since early 2000 under the program called SIAGA described below.

Safe Motherhood Program "SIAGA" in Indonesia

The Maternal and Neonatal Health (MNH) program in Indonesia began in 1999 in collaboration with USAID /Indonesia to support the Safe Motherhood Program. Initially it focused on increasing the numbers of skilled attendants at births and moved towards improving quality in clinical training, improving the policy environment and strengthening community participation. The latter is manifested through a campaign called SIAGA which means Alert/Ready launched as part of Indonesia's Mother-Friendly Movement in the same year.

The SIAGA campaign initially involved husbands – Suami SIAGA (Alert Husband) aiming to promote role awareness and desirable behaviours of husbands in empowering women to prevent delays in getting the care and support they need during pregnancy and childbirth. This SIAGA concept was then expanded to larger community roles and became Bidan SIAGA (Alert Midwives), Warga SIAGA (Alert Community) and Desa SIAGA (Alert Village), all to ensure that women receive the care they need during pregnancy, childbirth and postpartum periods. This national normative behaviour change intervention program has been widely supported by various state and private institutions (including education, commercial, and social institutions) and has received strong national and international media attention. SIAGA demonstrates the power of community mobilisation awareness (Sood, Chandra, Palmer, & Molyneux, 2004).

1.2.4. Challenges, Gaps, and Opportunities to Enhance Actions towards Achieving MDG 5 in Indonesia

To enhance actions toward achieving the MDG 5 in Indonesia, it is crucial to think though the relevant facts and challenges and to consider the gap between actual needs and existing approaches. Simultaneously, finding the best way that works within available resources has always been a challenging process. Clark (2013) reported that progress towards the MDG 5 targets has been very slow and it is important to understand that achieving health related goals is heavily related to

progress on the other MDGs, and barriers to progress cannot be addressed by the health sector alone (Clark, 2013).

Despite the above mentioned national SIAGA movement which has created strong and widespread community awareness of safe motherhood, Indonesia still has one of the highest maternal mortality rates in Asia, with 600 mothers dying for every 100,000 births in 1990 and still 228 mothers dying for every 100,000 births in 2007 (Bainbridge, 2010) and 220 in 2010 (UN Statistics Division, 2013). The MDG 5 target is to reduce by three quarters the maternal mortality ratio from 1990 to 2015, meaning 150 for every 100,000 births. Options to reduce maternal mortality may be based on an approach to anticipate risk factors and deal with them accordingly or to find a different approach to strengthen the existing resources/protective factors, or to create a new intervention to combine both approaches.

Another major cultural hurdle related to pregnancy, mostly in rural areas, is the fact that families often seek help from shaman rather than medical professionals (Bainbridge, 2010). This fact corresponds with the study conducted by Titaley, Hunter, Heywood, & Dibley (2010) which found that antenatal care services in Indonesia have been underutilised due to poor accessibility to health care facilities (particularly in rural areas), lack of media exposure to the need for and importance of antenatal care, and the absence of obstetric complications during pregnancy which creates low needs to utilise the antenatal service.

The latest updated statistic on MDG target 5B indicators on antenatal care showed that *antenatal care at least one visit* improved from 76.3% in 1991 to 93.3% as compared to *at least four visits* from 55.4% in 1991 to 81.5% in 2007 (UN Statistics Division, 2013). This increased number of antenatal care visits reported above is very promising, although reviewing the *Guide to Service for Mothers in a Health Care Facility* published by The Indonesian Ministry of Health (2010), the recommended four antenatal visits during pregnancy focuses more on monitoring the medical conditions and some maternal education emphasising the physical aspects of pregnancy. There is no advice or recommendations for health professionals in relation to maintaining the psychological wellbeing of women, nor how to prevent psychological problems in the antenatal, perinatal and postnatal periods. Similarly, The World Health Organisation (2006) in its *Guide for Essential Practice for Pregnancy, Childbirth, Postpartum and Newborn Care* provides a thorough and

comprehensive guide but again does not cover the provision of psychological supports and the prevention of psychological problems.

Indonesia's commitment to reduce maternal mortality is by ensuring that deliveries will be performed by skilled birth attendants (Every Woman Every Child, 2014), however live birth does not merely depend on the skilled birth attendants at delivery but also to the individual preparation during the antenatal period which may have a greater influence on the quality of care provided to newborns. Therefore, the present study fills a gap in the existing commitments to support efforts towards achieving MDG 5 by developing an innovative antenatal resilience and optimism workshop with its ultimate goal to empower wellbeing of women and improve the quality of future generations raised by physically and mentally healthier mothers.

1.2.5. Summary

All the above considerations, namely: (a) the UNDP statement that healthier future generations are rooted in having healthier parents (b) the attempts to meet health related MDGs in particular MDG 5 to improve maternal health, (c) facts regarding how Indonesia stands and its commitment in achieving the MDGs, (d) the prevalence of mental emotional disorders in Indonesia which clearly show females as a susceptible group for developing clinical problems and, (e) unavailability of comprehensive antenatal care in Indonesia, have laid a strong rationale to conduct an antenatal focussed study. The positive indications of a promising trend in increased awareness to the importance of antenatal care in Indonesia to meet the minimum visits (ANC 1+ and ANC 4+) as target indicators of MDG 5, have provided opportunities to empower mothers in actively participating to meet the MDG 5. The current maternal related programs have further challenged the need to develop a culturally sensitive antenatal program in Indonesia and to measure its effectiveness. In the longer term, the implementation of such antenatal programs may assist pregnant women and mothers to identify earlier risks of potential problems they may encounter, in particular to reduce postnatal depressive symptoms and in the longer term to further reduce maternal mortality, to promote maternal health, and to finally achieve the MDG 5 indicators.

1.3. Resilience and Mental Health

Since the 1970s, many studies have broadly investigated resilience and its associations with positive adaptation by individuals in the face of pain or adversity (Rutter, 1990). The construct of resilience has been critically evaluated mostly due to its ambiguities in definitions and terminology, the variations of risks experienced and competency shown by individuals perceived as resilient (Luthar, Cicchetti, & Becker, 2000), and the lack of unified methodology (Davydov, Steward, Ritchie, & Chadieu, 2010).

For the last decade, researchers have proposed that resilience consists of internal and external factors that interact and influence each other. Internal aspects consist of biopsychological factors, including physical health, temperament, gender, and genetic predisposition, whilst the external aspects refer primarily to family environment, parenting style, relationships with peers and other factors (Ollson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). Contemporary theory construes resilience as a multidimensional construct composed of various factors (Campbell-Sills, Cohen & Stein, 2006) and under certain conditions, resilience is considered to be an attribute explaining the capacity to bounce back and adapt to particular conditions. Despite the many challenges to define the complex construct of resilience, research continues to explore the contribution and relationship of resilience and mental health outcomes.

Studies have found resilience to act as a protective factor against the development of mental health problems (Armstrong, Galligan, & Critchley, 2011) and also that level of resilience can predict mental health problems or psychopathology (Roos et al., 2013). For example, a study by Roy, Carli, & Sarchiapone (2011) found that resilience mitigated the risk of suicidal behaviour associated with childhood trauma supporting result of the earlier study in which resilience may be a key risk factor in the development of depression and suicidal behaviour (Roy et al., 2007).

Few studies have investigated the role of resilience and mental health during pregnancy. These studies have focussed on anxiety and depression as outcomes rather than measuring resilience directly and have broadly concluded that improvements in these symptoms equates to increased “resilience”. For example, one study examined the effect of ultrasound consultation in increasing resilience during

pregnancy and as a way to initiate preventive actions for at-risk pregnancies (pregnant women with diabetes or depression). Eighty five pregnant women of average 24 weeks gestation were recruited during ultrasound screening and randomly allocated to either a standard consultation (SC) group or an ultrasound consultation/personal coaching (UC/PC) group by a trained counsellor. Although no specific resilience scale was administered to compare resilience before and after the intervention between the two groups, results indicated that the effect of UC/PC significantly increased mother-baby attachment, decreased maternal anxiety and improved participants' attitudes towards their health condition during pregnancy (Boukydis, 2006).

A study by Harville et al. (2010) assessed the resilience of pregnant and postnatal women after being exposed to hurricane Katrina. Participants of this study were 222 pregnant women and 292 women who had delivered their babies. The study demonstrated resilience from depression (35% of pregnant women and 34% of postnatal women) and resilience from posttraumatic stress disorder (PTSD; 56% of pregnant women and 49% of postnatal women) assessed using the PTSD checklist. Subjects in this study who did not score high on the Edinburg Postnatal Depression Scale (EPDS) and PTSD checklist were assumed resilient from either or both mental health consequences (depression and PTSD) after experiencing the disaster (Harville et al., 2010).

The recommendations arising from existing studies have been to encourage further exploration of resilience and implementation of resilience-related interventions. This could be in the form of designing interventions for diverse at-risk groups (Luthar et al., 2000; Luthar & Suchman, 2000), incorporating cultural aspects into interventions to increase the efficacy of intervention (Clauss-Ehlers, 2008), and not restricting the study of resilience to the individual level but to also include a variety of group-level factors such as community and cultural factors, including religion (Davydov et al., 2010).

1.3.1 Definition and Models of Resilience

Resilience in general is known as an individual's belief in their ability to control the way they cope with adversities, and has been identified as one of the strongest buffers against mental health problems (Rutter, 2006). Many conceptualisations and terminologies have been used to describe resilience from

various perspectives mainly derived from social and health sciences (Tusaie & Dyer, 2004). Some authors view resilience as an individual trait (Ong, Bergeman, Bisconti, & Wallace, 2006) whilst others view it as a dynamic process, developed over time through adversities, is trainable and not just an innate ability (Gillespie, Chaboyer & Wallis, 2007; Lerner, 2006; Luthar et al., 2000; Margalit, 2004; Masten & Coatsworth, 1998; Masten & Obradovic, 2006; Rutter, 2006). These authors view resilience as a process associated with skills that transform "hardship into challenge, failure into success and helplessness into power" (Reivich and Shatte, 2002, p.4).

Wagnild (2010) has described five characteristics of resilience: (a) having a sense of own meaning/purpose in life; (b) having self-determination and perseverance to keep going despite failures, disappointment, sadness and despair; (c) having self-reliance, a belief in oneself and willingness to admit strengths and weakness; (d) trying to seek balance and harmony (equanimity) which is manifested in being optimistic, humorous and learn from other peoples experiences when responding to problems; (e) coming home to oneself which means that one must feel comfortable in being oneself, self-acceptance. Various studies have identified similar characteristics including self-efficacy (Baron, Eishman, Scuello, Veyzer, & Lieberman, 1996; Humphreys, 2001; Reivich & Shatte, 2002; Valant, 1998), coping (Deveson, 2003; Lazarus & Folkman, 1984; Werner, 1993), and hope (Kashdan et al., 2002; Snyder, 2002).

Similarly, the American Psychological Association (APA) recognises the multifactorial nature of resilience, identifying two main factors. First, is to have a compassionate and supportive relationship that enables a person to grow in a positive environment. Second, a resilient person may cultivate further capacities within themselves such as the ability to develop and carry out plans, being positive and accept own strengths, be able to communicate and find solutions to problems as well as being capable of managing feelings and desires (APA, 2007).

Another way of conceptualising resilience is to consider individual versus group resilience. The multi-causal model of mental resilience assumes that in order to survive psychological adversities, the individual system should have an innate mechanism to recognise and deal with adversities and their related impacts (Davydov et al., 2010), both at the individual and group level. At an individual level, studies have focused on why some individuals, who are directly exposed to known risk factors do not develop mental health problems. For example, a study on aging and

mental health involving 125 participants aged 85-95 years, demonstrated that individual-level resilience, sense of coherence, purpose in life and self-transcendence were found to be the crucial factors for retaining health and coping with adversities (Nyren et al., 2010).

At the group level, studies have focussed on finding external resources (geographical, national, cultural, community or social) that significantly influence specific aspects related to resilience. For example lipid-lowering dietary recommendations to protect against coronary heart disease, which was publicly encouraged in Western countries, had improved resilience (reduced morbidity risk) of some people against adverse emotional and behavioural problems (Troisi, 2009). Certain cultural factors appear also to strongly influence group-level resilience, for example Japanese women experience relatively few somatic and emotional disturbances in the peri-menopausal period (Steiner, Dunn, & Born, 2003). This study suggests that cultural aspects of resilience need to be taken into consideration when interpreting studies and developing interventions. Such findings also support an earlier study indicating combined factors such as biological, genetic and nutritional/dietary (Nagata, Takatsuka, Inaba, Kawakami, & Shimizu,1998) were the factors influencing group-level resilience. Another study called The Children of Immigrants Longitudinal Study (CILS) investigated aspirations, educational performances and psychological adaptation of more than 5,000 teenage youth living in two immigrant areas in the USA. They were interviewed in 1992 and followed up in 1995. The CILS found that regardless of their country of origin, the psychological well-being of immigrant children with higher school achievement, aspirations and self-esteem was strongly enhanced by closeness with parents, social supports from family, friends and teachers, as well as the role of religion (Rumbaut, 2000).

These studies suggest that environmental factors such as dietary intake, culture and religion all have an impact on mental health and well-being. Therefore, understanding resilience and efforts to improve it need to take such factors into account, alongside individual factors.

1.3.2. Measuring Resilience

Whilst a number of studies have attempted to investigate resilience, results are difficult to interpret because of the various ways that resilience has been defined and measured (Gillespie et al., 2007). Of the nineteen resilience measures reviewed

in a study by Windle, Bennet, and Noyes (2011), the Connor-Davidson Resilience Scale, the Resilience Scale for Adults and the Brief Resilience Scale had the best psychometric ratings (Windle et al., 2011).

The Connor-Davidson Resilience Scale (CD-RISC) includes 25 questions and measures five resilience factors: personal competence, trust in own intuition, acceptance of change, personal control and spiritual influences (Connor & Davidson, 2003). It has been widely used for clinical and non-clinical studies in the general population, in primary care, for psychiatric outpatients, and for university students across various cultures (Connor & Davidson, 2003; Gillespie et al, 2007). CD-RISC scores have been shown to increase with interventions aimed at enhancing resilience (Davidson et al., 2005). The Resilience Scale for Adults (RSA) measures intrapersonal and interpersonal protective factors assumed to enable adaptation to psychosocial hardships such as personal competence, social competence, family coherence, social support and personal structure (Friborg, Hjemdal, Rosenyinge, Martinussen, 2003). The Brief Resilience Scale assesses the ability to recover from stress (bounce back) and whether it is related to resilience resources or to health issues. It consists of only 6 items in which the items are equally presented in negative and positive ways (Smith et al., 2008). The current study assessed resilience using the CD-RISC and a detailed explanation of this particular scale will be provided in Chapter 4, section 4.2.5.

1.3.3. General Interventions to Improve Resilience

Researchers believe that improving resilience can significantly protect individuals from various physical and mental health problems, help foster interpersonal relationships with others and develop the ability to perform successfully (Pearson & Hall, 2006). Being resilient may reduce the likelihood of anxiety and depression and help improve the ability to adapt and cope with adversities. There are several available evidence-based resilience training programs aiming to help certain target populations to master skills important to prevent or reduce the likelihood of physical and/or mental health problems. Resilience and/or combined with, optimism training programs have been developed for specific goals and for particular age groups. They are now summarised in turn.

The Penn Resilience Program (PRP) is a skill-based depression prevention program developed by Martin Seligman, Lisa Jaycox, Jane Gilham and Karen

Reivich based on causal attribution theory and explanatory style (Gilham, Reivich, Jaycox, & Seligman, 1995). PRP was originally designed as a school-based training program consisting of 12 sessions, delivered in groups of 8-12 for late childhood and early adolescent students (10-13 years old). The PRP is comprised of cognitive behavioural and social problem-solving sessions covering thinking styles, the link between thoughts and feelings, optimism and pessimism, problem solving, coping skills, relaxation, social skill training, and decision making (Shatte, 1999). A meta-analytic review of 19 controlled studies found that PRP reduced anxiety, depression, adjustment disorders and behavioural problems. Adolescents who received the intervention showed fewer depressive symptoms and behaviour problems than those in the no intervention control group and these improvements were maintained one year post-intervention suggesting that participants gained significant intervention effects (Brunwasser, Gilham, & Kim, 2009; Giovanni & Elena, 2009).

Another resilience training program called *Master Resilience Training (MRT)* combined some key elements of PRP and a parallel program for college students called APEX (Shatte, 1999). MRT is a Train the Trainer program and those who complete the 10-day MRT program are called Master Resilience Trainers. The 10-day MRT program focuses on teaching skills and techniques that build resilience and was designed so that the participants would then be able to train others in the skills necessary to handle adversity, to prevent depression and anxiety, as well as to enhance overall well-being and performance. The initial MRT was specifically tailored for military participants. The crucial element in MRT is the inclusion of Albert Ellis's ABC (Antecedent-Belief-Consequence) model which proposes that an individual's beliefs about events/experiences drives their resultant emotions and behaviours. Participants are taught to identify inaccurate thoughts generated by their explanatory styles towards positive and negative events, then to appraise the accuracy of those thoughts, and furthermore to re-attribute their thoughts to a more accurate underlying belief. The modules of MRT include (a) Resilience (self-awareness, self-regulation, optimism, mental agility, character strength, connection through positive communication, empathy, willingness to ask and offer help); (b) Building mental toughness (ABC; explanatory and thinking traps; iceberg/deeply held beliefs; energy management; problem solving; minimizing catastrophic thinking; fighting back against counterproductive thoughts in real time; cultivate gratitude); (c) Identifying character strengths; and (d) Strengthening relationships.

The four modules are delivered using different methods such as lecture, discussion, demonstration, practising strategies, individual reflection, group assignment and role play (Reivich, Seligman, & McBride, 2011). Individuals who attend MRT then train soldiers to become more resilient and psychologically healthier. Soldiers who attended the Comprehensive Soldier Fitness program delivered by Master Resilience Trainers (MRTs) reported higher levels of resilience and psychological health (Lester, Harms, Herian, Krasikova, & Beal, 2011).

The PRP was recently applied to 312 students recruited from the Third Military Medical University in China and resilience was measured using The Connor-Davidson Resilience Scale (CD-RISC), The Chinese version of the Positive and Negative Affect Scale (Watson, Clark, & Tellegen, 1988) and The Emotion Regulation Scale (Gross & John, 2003). The outcome of PRP intervention in China demonstrated that resilience could be learned and trained; improvements were observed in emotional management, communication skills, interpersonal relationships, optimistic thinking, and self-efficacy and were crucial in strengthening resilience. It was recommended that future studies emphasise the application of PRP to different sample groups and focus on cognitive style changes as it was reported as the key component of the resilience training intervention (Peng et al., 2014).

The *Reaching IN … Reaching OUT (RIRO)* program is another resilience training intervention designed to develop resilience in young children (under 8 years old) (Pearson & Hall, 2006). To achieve this, the program is delivered to adults who then use these skills to help their children to develop resilience. The program aims to help children learn to Reach IN (develop flexible and accurate thinking) and to Reach OUT (connect with others and find opportunities). In the pilot stage, RIRO also adapted the Penn Resilience Program. As it established its own framework, the RIRO aims to lay a strong basis of thinking and coping skills, which in turn will assist resilience in the parents/adults who care for and work with the children. Adults attending RIRO learn how to teach children and other adults caring for the children to help Relax, Reflect and Respond effectively to adversities. The RIRO skills training program consists of 12 hours content which can be delivered in 2 full days, 4 half-days, 6 after-work session, and 10-12 sessions to the adult (Pearson & Hall, 2006). The RIRO training program uses a cognitive-behavioural and social problem-solving approach and teaches seven resilience abilities: (a) emotional regulation, such as keeping calm under pressure, able to reduce intensity and duration of

emotional reaction; (b) impulse control, such as being able to stop/pause before acting, set goals and follow through; (c) Empathy, such as being able to comprehend the feelings and needs of others as well as ability to read nonverbal cues; (d) Causal Analysis, an accurate appraisal of problems to discover the causal root; (e) Realistic optimism shown through reality based and maintaining hope for the future; (f) Self-efficacy, an ability to perceive effectiveness, influence circumstances and persevere; and (8) Reaching Out, an ability to get support when needed (Pearson & Hall, 2006).

The efficacy of RIRO has been evaluated through 6 phases from 2002 up to 2014 using a triangulation of quantitative and qualitative methods including formal questionnaires, structured interview, evaluations from trainer/facilitator, focus groups, and collecting stories from participants in written and video format (Hall, 2014). More than 6,000 service providers and parents have attended RIRO's skill training program. The result from 2002-2013 demonstrated that both adults and children experienced more positive relationships, greater calmness, less stress, increase in level of self-confidence and perseverance, capacity to "re-think" challenging situations before responding, and became more positive and hopeful (Hall, 2014).

The Aussie Optimism Program (AOP) is another mental health promotion program for primary and lower secondary school children who may be at risk of developing depression. This program aims to promote optimistic thinking and build practical competencies and strategies relating to social and emotional wellbeing. The AOP has been found to increase pro-social behaviour, increase recovery from depressive disorders and suicidal ideation and behaviour, reduce mental health difficulties and the likelihood of future drinking and smoking (Roberts et al., 2010).

There are several family resilience training programs that emphasise and promote family strengths to facilitate key processes in prevention and intervention efforts, one of them is called *FOCUS – Family OverComing Under Stress* – a targeted prevention program for high risk families aiming to strengthen family cohesion, support the parent-child relationship, and build emotional regulation and problem-solving skills across family members (Mogil, 2010). FOCUS was initially developed by UCLA-Harvard in the 1990s and had been implemented with many populations, including with US Family military since 2009. There were five key skills that participants had to learn: (a) Emotional regulation—family members learn to understand their own emotions and parents learn skills to help identify their

children's emotional reactions; (b) Communication—family members learn to practice active listening, express feelings, talk to each other; (c) Problem solving—learning how to clearly define problems, recognise/build strengths and implement effective solutions; (d) Goal setting—learning how to set achievable goals and work as a team in parenting; and (e) Managing deployment reminders —family members learn to develop a plan together to effectively deal with deployment reminders (FOCUS, 2014).

The *FOCUS* program has been adapted to provide a short-term resiliency training program for families with children and couples facing hardships such as parental depression and parental medical illness and loss. The 6 to 8 sessions of FOCUS training allow families to establish their own version of their life experience through identifying, managing and discussing emotions; building on family strengths; clarifying misunderstandings and respecting individual opinions; and enhancing the use of family-level problem solving to empower the entire family (Nathanson, 2014).

The FRIENDS program is an evidence-based prevention program developed in the early 1990s by Professor Paula Barrett in Queensland, Australia. The program aims to promote resilience in a multicultural population, increase social and emotional skills, as well as preventing anxiety and depression across the life span using group format cognitive-behavioural techniques. The FRIENDS protocol has been adapted into four developmentally sensitive programs: *Fun FRIENDS* (4-7 years); *FRIENDS for life* (8-11 years); *My FRIENDS youth* (12-15 years); and *Adult Resilience for Life* (>16 years) and has been translated into Chinese, Dutch, Finnish, Japanese, Norwegian, Portugese, Spanish and Swedish. Each version of the program typically consists of 60-75 minutes, 10 weekly sessions and 2 booster sessions held at 1 and 3 month follow-ups. *The FRIENDS program* teaches about *F*eelings—to help individuals to build skills in recognising and responding to own and others' feelings; Remember to *R*elax—to learn about physiological signs of emotions and how to regulate them through breathing exercises, relaxation, mindfulness (for adult program), and imagery; *I*nner helpful thoughts—to teach participants about attention and the cognitive model, so that participants will be able to practice current awareness, focussing on positive things, identifying unhelpful thinking styles (cognitive restructuring), and more proactive behaviour; *E*xplore solutions—learning coping skills, overcoming challenging situations and breaking down goals into

smaller steps; *N*ow reward yourself – to teach the importance of self-rewarding and interpersonal rewards (time and activities with family); *D*o it every day — to encourage daily practice of skills learnt; *S*mile, stay calm—to use the knowledge and skill attained in preventing future problems. Evaluations of the efficacy of the FRIENDS program demonstrated that those who received the program had significant reductions in anxiety, depression, and behavioural avoidance as well as greater improvement in social-emotional strength compared to those in control groups (NREPP, 2014; Stallard et al., 2005).

Another health related resilience training program called *REsilience and Activity for every DaY (READY)* was elaborated to promote psychosocial well-being for heart health and integrating the value of physical activity for adults. READY was piloted (Burton, Pakenham & Brown, 2009) and targeted five key resilience protective factors: (a) positive emotions; (b) cognitive flexibility; (c) life meaning; (d) social support, and (e) active coping strategies (including physical activity). Participants attended 11 modules/sessions of 2 hours over 13 weeks and READY was found to be feasible to be delivered as a group-training program to promote psychosocial well-being in a work setting although the program did not result in significant changes in the physiological measures. READY uses the principle of Acceptance and Commitment Therapy (ACT) in its modules (Burton, Pakenham, & Brown, 2010).

The main common features of various resilience programs include using Cognitive Behavioural Therapy (CBT) as the preferred method (Barrett, Duffy, Dadds, & Rapee, 2001; Shortt, Barrett, & Fox, 2001) and some use CBT in combination with ACT (Burton et al., 2010). Content of training mostly includes the individual's belief system, thinking patterns which may lead to learned optimism or pessimism towards adversities, understanding the concept of resilience, protective and/or risk factors and actions toward accepting changes through promoting their own resilience, problem solving, using effective coping and available supports. *The International Resilience Research Project (IRRP)* proposed the "I am, I have, I can" language of resilience which helps participants to evaluate their own potential (I am), the ability to make use of external resources (I have) and to learn to master their interpersonal skills and problem-solving ability reflected through humour, creativity, communication, and persistency (I can) rather than passively responding to adversities (Grotberg, 1998; Grotberg, 2014).

Most resilience training programs have specific set goals related to their sample populations and include physical exercise (Burton et al., 2010). Some resilience programs include cognitive flexibility, constructive thinking, and even fewer programs consider cultural and spiritual/religious aspects into the training. Few resiliency training programs include activities such as viewing photographs or video (Hall, 2014; Varker & Devilly, 2012), but most will involve a talk or presentation by relevant experts or a well-respected source, thought challenging questions, discussion (Mogil, 2010) and cognitive restructuring (Reivich, Seligman, & McBride, 2011), guided self-dialogue/self-talk, and calming breathing exercise or muscle relaxation (Burton et al., 2010; Luebbert, Dahme, & Hasenbring, 2001; Nathanson, 2014; Neck, Steward, & Manz, 1995; Pearson & Hall, 2006; Roberts et al., 2010).

1.3.4. Antenatal Interventions to Improve Resilience

The resilience programs reviewed mostly target children, adolescents and families to master the skills needed to adapt, cope and handle adversities and mainly focus at postnatal period to help parents to cope, become more resilient and implement positive parenting to provide a healthy environment for the family to grow. Previous studies involving pregnant women primarily measured impacts of various interventions (mindfulness, psychosomatic programming, and yoga) to reduce the level of depression, anxiety and stress (Newham, Wittkowski, Hurley, Aplin, & Westwood, 2014; Ortiz Collado et al., 2014; Roos et al., 2013; Woolhouse, Mercuri, Judd, & Brown, 2014) and trauma (Harville et.al., 2010) and no controlled studies have been conducted that address resilience and optimism during pregnancy.

Australian Government—Department of Health and Ageing with the approval of National Health and Medical Research Council (NHMRC) published the *Clinical Practice Guidelines: Antenatal Care Module 1 in 2012*. This guideline provides comprehensive information on antenatal care with various aspects including medical, cultural, psychosocial, and how to access services. Other antenatal care resources emphasise the importance of preparing the pregnant woman and family to be ready when the baby is born and this is most often addressed during prenatal counselling on a case by case basis, such as the special services offered by the Antenatal and Postnatal Psychology Network (2014). Although many previous researchers have strongly suggested the importance of early intervention to prevent mental health problems in general, the possibility of preventing maternal mental

health problems by intervening in the antenatal period has been largely ignored. One of the few recommendations in this regard has come from Salazar-Pousada et al. (2010) who highly recommended programs oriented at giving adolescents support before, during, and after pregnancy due to the fact that pregnancies in adolescent are increasing world-wide. As pregnant adolescents have shown low levels of resilience they are more likely to develop depression when compared to adult pregnant women, and thus represent an at-risk group.

One available intervention that has just been introduced is called *PEEP (Parents Early Education Partnership) Reflective Parenting (Antenatal) Program*. This 2-day program was developed by Professor Jane Barlow and colleagues at the University of Warwick Medical School in England. The program enhances parent's awareness and ability to secure early attachment and bonding with the baby before and after birth. The PEEP Reflective Parenting is prepared for practitioners working with parents during the antenatal and postnatal period. Participants are trained using cognitive behavioural techniques where they learn skills to support parents in developing the ability to tune in to their baby's feelings and being sensitive in responding to the baby's needs. This way parents may develop a healthier secure attachment with the baby before and after birth and lead to better outcomes for their children's cognitive development as well as building their resilience in the future as life gets challenging. Overall, this training helps the participants to promote parental confidence, self-esteem and social support. The trained practitioners then implement the program by offering one initial home visit, three group sessions during the 3rd trimester and 4 group sessions after delivery. PEEP is a new initiative and consequently there is no study yet reporting the efficacy of PEEP Reflective Antenatal Parenting in improving resilience (PEEP, 2014).

1.3.5. Summary

This section has reviewed the various definitions of resilience and the factors understood to contribute to being resilient. Various perspectives have been put forward to explain resilience, such as it being a trait, a process, or an inner force within the individual. Despite the different definitions of resilience, it is agreed that resilience is an important protective factor against mental health disorders.

Researchers have used different approaches to investigate resilience and its role in promoting mental health, and no unified methods and techniques are used in

promoting resilience. Most resilience training programs are aimed at either developing certain resilience qualities or strengthening existing resilience factors which had been initially identified.

Reviews on many general resilience-training programs stressed the importance of identifying individuals at-risk of developing mental health problems such as anxiety, depression, and trauma and stress related disorders. By identifying at-risk individuals of developing mental health problems, there is opportunity to intervene at earlier stage and minimise potential problems resulting. Women who suffer from postnatal depression may find difficulties in providing quality parenting to the newborn. With regards to how resilience may influence the quality of parenting, there is no controlled study assessing the impact of an antenatal resilience program to prevent the above mentioned mental health problems, in particular postnatal depression.

1.4. Understanding Optimism

Optimism has been targeted in a number of mental health prevention programs and is considered an important construct to target. An old poem by Kahlil Gibran (1951), a Lebanese artist and poet, described that "the optimist sees the rose and not its thorns; the pessimist stares at the thorns, oblivious to the rose." So, what actually is optimism and is it considered a kind of emotion or more a state of mind? Previous research indicated the psychological trait of optimism influences how individuals perceive themselves and their environment, how they process incoming information and also the decision to act based on the information. An anthropologist, Lionel Tiger (1979) defined optimism as a mood or an emotion which is biologically induced. In difficult situations and when the human body is injured, endorphins are released to produce an analgesic effect and feelings of euphoria. Therefore, when humans are facing difficult times and depressed they are biologically adaptive to develop positive emotions rather than negative emotions and optimism is one of the most defining and adaptive characteristics. The mood or attitude is associated with an expectation about the social or material future – one which the evaluator regards as socially desirable, to his or her advantage, or for his or her pleasure. As a consequence, it is what the individual regards as desirable/pleasant which can drive one's optimism and self-motivate himself or herself therefore there is no objective optimism that works for everyone (Peterson, 2000).

In recent years there has been increased in interest in optimism such as to investigate constructs that are associated with optimism, how it is conceptualised and operationalised, its relationship with health and mental health, and how it can be enhanced to benefit a person. In general, optimism is looking at the positive aspects of things and is commonly used to indicate a positive attitude or disposition that good things will happen which is not dependent upon one's ability (Carver, Scheier, & Segerstrom, 2010). Dunavold (1997) describes optimism from the perspective of biological, learned and cognitive components. These components were initially developed to differentiate optimism from hope and happiness. The explanation of each component will clarify the notion of optimism and outline the benefits for oneself and/or others.

Martin Seligman (1990) proposed that the way we explain events and outcomes to ourselves is what differentiates optimistic and pessimistic people, and that optimism is a thinking style that can be learned. Seligman's initial concept of learned helplessness led to the pessimistic explanatory style of explaining events. Individuals who have a pessimistic attributional style are likely to develop learned helplessness shown by self-criticism, gloominess, excessive scepticism, deep feeling of inadequacy and excessive worrying. In a similar way, Seligman believes that it is equally possible to learn to think optimistically which will direct individuals to an optimistic explanatory style. Optimistic explanatory style is not an inherent trait, but rather a trainable skill. Further discussions on explanatory styles can be found in the next section. Daniel Goleman (1995) supported Seligman's theory and stated that optimism is a sign of emotional intelligence in which protects people from falling into hopelessness and depression when facing difficult circumstances, because optimists have a strong expectation that things will be great in life.

Snyder (1994) explained that optimism contains a proactive aspect called *planning* and statements by optimists are usually based on logical and concrete facts that are processed cognitively. Claims made by optimists are evidence-based and can be evaluated in terms of rational and logical criteria, the cognitive aspects of optimism.

1.4.1. Optimism and Individual Psychological Differences

As an individual psychological difference, optimism has been conceptualised and operationalised in three main groups of theories: explanatory style, dispositional optimism and realistic optimism (Morrow, 2012).

Explanatory Style

Seligman (1990) in his book *Learned Optimism* defines optimism using three dimensions of explanatory style: personalisation (internal/external), pervasiveness (global/specific), and permanence (permanent-stable/temporary-unstable), to understand our habitual ways of explaining good and bad events to ourselves. An optimistic explanatory style stops helplessness and on the other hand a pessimistic explanatory style perpetuates and increases helplessness. An optimist takes credit for good events (internal), believes that the positive effects will last (permanent-stable) and that other aspects of his or her life will be affected (global) as well. Conversely, for bad events, an optimist blames other people or outside circumstances (external), has confidence that the negative effect will not last (temporary-unstable) and that it happens only to this particular situation (Peterson & Steen, 2009).

In contrast, a pessimist attributes good events are caused by other people or outside circumstances (external), believes that the positive effect will not last (temporary-unstable) and that life will only be affected to this particular condition (specific). In responding to bad events, a pessimist tends to blame himself or herself (internal), believes that the bad event will last (permanent-stable) and that this situation will affect other aspects of his or her life (global).

For attempts toward switching from a pessimistic to an optimistic explanatory style, Seligman suggests that psychologists need to emphasise the positives, which is to transform learned helplessness to arrive at learned optimism. He argues that pessimistic habitual thoughts can be altered through utilising cognitive skills. The more optimistic a person is, the better his or her outcomes in terms of health and achievement or success.

Dispositional Optimism

Dispositional optimism is the second way to conceptualise and operationalise optimism, which is based on research conducted by Carver et al. (2009). This model suggests that individuals pursue goals that are most important to them including goals that they are confident in achieving. It is a general tendency to expect positive

outcomes (better mental and physical health, motivation, performance and personal relationships), especially when the individuals are in stressful circumstances (Brydon et al., 2009; Forgeard & Seligman, 2012; Morrow, 2012). In practice, researchers interested in assessing dispositional optimism will ask research participants whether they expect and regard events in the future to be favourable or unfavourable, and directly assess individuals' beliefs about the future rather than the past (Schueller & Seligman, 2008). Optimistic people will continue trying their best to achieve the set goals, despite difficult circumstances, while pessimistic people tend to give up.

Dispositional and explanatory style optimism/pessimism are not strongly correlated (Norem, 2013). The attributional optimism/pessimism focuses on explanations of past events rather than expectations about the future. The two constructs are theoretically different and should not be perceived as interchangeable (Carver, Scheier, & Segerstrom, 2010).

Realistic Optimism

Does optimism need to be realistic? Or can it be unrealistic as long as it produces positive feelings? The quote by Winston Churchill "A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty" suggests that it seems easy to differentiate a pessimist from an optimist, just like the common idiom about a glass being considered as either half empty (pessimist) or half-full (optimist).

The third conceptualisation of optimism is called realistic optimism where in general and in most situations, an individual can be very positive in his or her way of thinking, but in particularly challenging and complex situations, the same individual may choose to apply a more conservative perspective and accept ways that work and are useful, involving certain attributes needed to make things happen, such as ability to focus on the most current condition then develop a plan based on the condition and finally, execute the plan. Realistic optimism integrates optimism and uncertainty, together reflecting more accurately the nature of reality (Morrow, 2012). A realistic optimist tends to maintain positive viewpoint and attitude, yet within the limitation of his or her own knowledge and understanding of the world. Being realistic is being able to deal with uncertainty but incorporating goals to achieve, being motivated to attain them and developing realistic positive thinking that perceives a situation as challenging rather than a problem. Realistic optimism incorporates goal orientation

as a motivator of behaviour. A quote by William Arthur Ward, an American writer (1921-1994) describes the characteristic of a realistic optimist "The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails." This means realistic optimism is more likely to result in a person becoming aware of a situation, to show positive thinking and readiness to face the challenging situation by making a decision based on reality checks (Schneider, 2001).

1.4.2. The Benefits of Optimism

A large body of research has shown that there are beneficial consequences for being optimistic and some of them relevant to this study are briefly described below. These have been taken into consideration when developing the intervention.

Optimism and Subjective Well-Being

Scheier, Carver, and Bridges (2001) suggested that optimists enjoy greater levels of subjective well-being than pessimists as they perceive difficult events such as childbirth more positively and are better able to cope with these events (Carver & Gaines, 1987). Furthermore by implementing active coping strategies (Rogers, et al., 2005), optimism employs an indirect influence on the quality of life leading the individual to demonstrate adaptive behaviours and cognitive responses, greater flexibility and problem-solving capabilities and ability to manage and accept negative and unpleasant situations (Conversano et al., 2010). Similarly, optimism associated with displaying "a fighting spirit" in women treated for breast cancer (Schou, Ekeberg, & Ruland, 2005) demonstrating a higher level of subjective well-being in facing difficult conditions.

Optimism and Physical Health

Rasmussen, Scheier, and Greenhouse (2009) in their meta-analytical review on Optimism and Physical Health found that optimism seemed to have a fairly remarkable impact on physical health. Their review on various studies evaluating overall longevity, survival from a disease, heart health, immunity, cancer outcomes, pregnancy outcomes, pain tolerance, explained that those with more optimistic outlook performed better and had a better outcome than those who were pessimistic, thus a significant predictor ($p < .001$) of positive physical health. This finding is also supported by previous studies where optimistic attitudes protected and were associated with a slower progression of a disease, such as carotid atherosclerosis in

healthy middle-aged women (Matthews et al., 2004); better cardiovascular functioning and reduced cardiovascular disease (Kubzansky et al., 2001); as well as optimists manifested significantly greater survival rate a year after diagnosis of head and neck cancer when compared to pessimists (Allison et al., 2003).

In contrast to the accumulated body of research between the positive impacts of optimism; some studies found that optimism had no or even negative effects on physical health (Coyne & Tennen, 2010; Schofield et al., 2004), and possibly the most beneficial effects were during the developing stages of an illness, with less impact in further advanced stages (Seligman, 2011).

Optimism and Mental Health

Mental health is defined as a state of well-being in which individuals recognise their own talent, are able to cope with daily stresses, can work productively, and contribute to the community (WHO, 2014). MacDonald (2004, p. 100) strongly stated that '*It is not what happens to you that affects your mental health, but the way you perceive what happens to you*'. Realising that an optimist may still be showing vulnerability to stress, anxiety and depression at times, being an optimist himself/herself within will assist in fighting back and changing the negative thought patterns quicker.

A recent study conducted on ninety-eight mothers who were assessed at antenatal and postnatal stages, demonstrated that optimism during pregnancy was protective against postnatal depression demonstrating that optimistic mothers would be less susceptible to suffering from depression after giving birth and would develop better mother-infant bonding (Robakis et al., 2014). Reviewing the role of developing optimism in psychotherapy, Giltay et al. (2006) explained that attempts to promote dispositional optimism to the pessimists would assist in developing an efficient strategy to fight depression. Enhancing optimism aiming to enhance sense of control and active coping even in one single cognitive-behavioural therapy would improve the individual well-being rather than to their initial coping strategy of avoiding problems and giving up (Basoglu et al., 2005).

Optimism and Quality of Life

Some researchers have indicated that another benefit of being optimistic is its association with improved quality of life. Wrosch and Scheier (2003) described that optimism and adaptation of purposes were the two variables most influencing quality

of life. Quality of life mainly refers to personal life conditions such as health, wealth and social matters as well as satisfaction towards personal desires. Optimists presented a higher quality of life compared to those with lower levels of optimism or pessimists (Scheier & Carver, 2003). Further studies outlined that for the individual to adapt and to change or modify his or her own goals according to different situations, he or she needed to go through a process of adaptive self-regulation aiming to release himself or herself from unrealistic goals and unrealistic optimism. An individual who managed to successfully pass this process and re-direct his or her goals would have a better quality of life and demonstrated stronger optimistic attitudes towards their future (Rasmussen et al., 2006).

Optimism and Its Cultural Dimension

Studies on optimism and its impact on various outcomes have rarely been investigated across cultures. One study by Moyer et al., (2009) concluded that optimism/pessimism among pregnant women was strongly influenced by their country of origin, the dominant culture which "shaped" them individually. The participants were recruited from 3 countries (China, N=251; Ghana, N=101; U.S., N=311) with a data subset created by matching the pregnant women on three key variables: maternal age, pregnancy by week at time of enrolment and numbers of previous pregnancies. Participants completed two questionnaires: The Life Orientation test — Revised (LOT-R) which assesses Optimism/pessimism about individual's attitude and The Short Form 12, or SF-12 to determine mental and physical functioning across eight domains of Health Related Quality of Life (physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional, and mental health). The study found that Ghanaian pregnant women were the most optimistic and the Chinese were the least optimistic. There is a considerable variation across cultures in the content of optimism, leading to a situation where an individual has a personal view of what is desirable for them, as does the society in a larger scale (what is accepted socially). Optimism at an individual level is known as little optimism and at social/global level is called big optimism (Morrow, 2012). What is desirable and expected about optimism in one culture may not be automatically accepted in a different culture, as there are other dimensions that need to be acknowledged such as social norms, spiritual beliefs and

myths. A clear example on this would be shown by socio-cultural beliefs and myths in section 1.5.

Bandura (1997) stated that when the cultural dimension has been taken into consideration, it would be easier to develop a more accurate understanding of optimism and other beliefs, hence working towards the set goals (increased well-being, improved health, better parenting, and others) and achieve control over the expected results. Culturally bound concepts of optimism, such as how optimistic they are to raise children, may not readily and easily be shared across cultures but is not considered impossible.

Optimism and the Future: Flexible Optimism

Being optimistic is a good thing but it may not be the best strategy to be optimistic in all situations. This means being optimistic beyond reason (unrealistic optimism) may lead to poor outcomes and therefore a little realistic pessimism would be useful to get the unrealistic optimists back on track. Emerging questions related to optimism, pessimism, and the future include how will optimism inform our view of the future?

In reality, optimism and pessimism are actually driving people to be prepared for uncertainties in the future. However, simply having an optimistic or pessimistic view of a desired future event will not necessarily lead the individual to perform actions towards it. It is the ability to identify options and pathways to achieve the goal that is of the main importance (Forgeard & Seligman, 2012).

Seligman (1990) introduced a concept called flexible optimism allowing the individual to choose when to use optimism or pessimism in a specific condition rather than being trapped in constant pessimism or rigid optimism. The concept of managing flexible optimism and defensive pessimism has been suggested as a strategic adaptation for anxious individuals to lowering their expectation about future uncertain situations and preparing themselves for all possible outcomes including anticipating a worst-case scenario (Norem, 2001), whilst for the optimists to willingly practicing realistic pessimism when necessary.

1.4.3. Altering Pessimists into Optimists – Learned Optimism

According to Seligman (1990), we can learn to be more optimistic as research has shown that optimists have a significant advantage compared with pessimists. Some interventions have been successful in facilitating pessimists to become more

optimistic (Carver et al., 2010; Segerstrom, 2006), although it is not easy. One way to start is by switching the individuals' mindsets to have positive thoughts about themselves and others, stop comparing themselves to others competitively and believing that each individual has special abilities to be respected and appreciated.

Changing the way we think and identifying unhelpful/dysfunctional/irrational thinking styles will gradually teach us to adopt more accurate, rational and functional thinking. In his initial experiment, Seligman (1990) determined that pessimistic thinking habit was learned and therefore it would be equally possible to learn to think optimistically (MacDonald, 2004). Based on the Penn Prevention Program, Seligman taught four techniques to facilitate optimistic thinking: (a) thought-catching, to find self-defeating/negative thoughts which automatically appear in the mind when feeling sad, stressed or depressed; (b) thought evaluation, to evaluate negative thoughts and identify inaccurate beliefs and generalisations used; (c) accurate explanation, to replace the negative/inaccurate thoughts with more realistic, rational and positive ones; and (d) de-catastrophising, to focus on solving current problems.

Attempts towards transforming pessimists into optimists are possible using a cognitive therapy approach because it changes the explanatory style of the pessimists (seeing bad events as internal, stable and global or seeing good events as external, temporary and specific). Cognitive therapy works because it gives the individuals legitimate power to self-change (Seligman, 1990) and opportunities to explore further their own beliefs about the goals in life. To strengthen the changes, it is suggested that individuals practice thought challenging every day.

1.4.4. Measuring Optimism

Many studies measuring optimism use The Life Orientation Test—Revised (LOT-R). The original LOT was developed to evaluate individual differences in generalised optimism versus pessimism and consisted of 12 items. The LOT-R is a revised version of LOT, and consists of a brief 10-item measure and is regarded as a research instrument and not for clinical application. Of the 10 items LOT-R, 3 items measure optimism, 3 items measure pessimism and 4 items serve as fillers (Scheier, Carver, & Bridges, 1994).

Another instrument that is widely used to analyse participants' optimism versus pessimism is the Attributional Style Questionnaire (ASQ), developed by Peterson et al. (1982). The ASQ measures an individual's explanatory style (positive

versus negative), and consists of 12 hypothetical events (6 good and 6 bad) and each followed by 4 questions: (a) free-response question on cause of the hypothetical event, (b) whether an event has an internal or external cause (about how much respondents believe that they themselves are responsible for the event), (c) whether the event has a stable or unstable cause (about how much respondents believe the cause is present overtime), and (d) whether the event has a global or specific cause (how much respondents believe the cause of the event will happen across many conditions). An optimistic explanatory style will demonstrate:

- Internal + Global + Stable/Permanent (if good event)
- External + Specific + Unstable/Temporary (if bad event)

The current study uses ASQ to determine one's explanatory style and the scale was administered across time (baseline, pre- post, 6-week and 6-month follow-ups).

1.4.5. Summary

This section describes the meaning and previous studies related to optimism including its three components: biological, learned and cognitive. The conceptualisation and operationalisation of optimism are demonstrated by three main theories of optimism. The explanatory style demonstrated three dimensions: personalisation, pervasiveness and permanence in describing how optimists and pessimists are different in perceiving a good and bad event. An optimist believes that a good event happens because he or she deserves to experience it (internal), it will influence his or her whole life (global) and the positive effects will last (permanent/stable). The same set of dimension (internal-global-permanent) applies when a pessimist experiences a bad event. The second is the theory of dispositional optimism indicating that there is a general tendency that in stressful circumstances, individuals aim to achieve goals which are most important to them and they are confident in achieving. The third theory is about realistic optimism in which individuals tend to combine optimism and uncertainty so that in difficult and challenging situations their optimistic thinking is based on certain attributes to make things happen.

A wide array of previous studies demonstrate findings on how optimism benefits physical and mental health, creates a better quality of life, improves subjective well-being, although research also suggests caution should be exercised when generalising these findings across cultures. As much as there are strong

benefits of optimism, it may not be the best strategy to be optimistic in all circumstances which may lead to unrealistic optimism. Some amount of realistic pessimism may be needed to prevent dissatisfaction if things are not happening as expected. The condition where the individual has a choice to apply optimism or pessimism is called flexible optimism. The last part of this section explains what needs to be done to transform pessimists into optimists. Using cognitive therapy, it is possible to develop learned optimism as a habitual learning pathway. However, when transforming the pessimists into optimists is not possible, individuals are encouraged to apply adaptive pessimistic cognitive style.

1.5. Childbirth and Motherhood: The Indonesian context

The role as a mother is influenced by cultural, social and, of course, individual factors. It is strongly related to the perception of family life, what is expected from a family and especially a mother. A family ideally provides mutual structural and emotional support. Traditionally, a family consists of a man (in the role of husband or father) who is socially prescribed a role as primarily the breadwinner, and a woman (in the role of wife or mother) who is seen as dependant on the man. The majority of Indonesian mothers and families still perceive the woman's main role as the housewife and primarily responsible for the upbringing of the children (Squire, 2009).

1.5.1. Traditional Views: Socio-Cultural Belief and Myths

An ethnographic study by Setyowati (2010) revealed that there was a strong influence of socio-cultural beliefs regarding the nutritional intake of pregnant women in which Indonesian pregnant women were strongly required to accept cultural beliefs related to food preparation and restriction (what they can and/or not permitted to consume). Mothers, mothers-in-law and husbands have the ultimate power in deciding and instructing pregnant women on what to eat and drink as well as what they can or cannot do on a daily basis. If the pregnant women fail to comply with the culturally accepted attitudes and behaviours, there are beliefs that suggest negative consequences will happen to them, the babies and the family. For example, in certain parts of Java, pregnant women are not allowed to consume eggs because they believe that eggs may create a difficult delivery process; when women are between eight to nine months into their pregnancy, they are strongly recommended to eat less as this will ease the natural delivery process; drinking ice water will result in bigger babies

so will risk both the mother and the baby; some ethnic groups prohibit pregnant women from eating seafood because they cause salty breast milk; pregnant women are not allowed to be out of the home after 9pm to avoid attacks from supernatural powers; pregnant women are not allowed to attend funeral ceremonies because this may potentially affect the mother and baby negatively; pregnant women are not allowed cut meat, fish, or chicken when preparing food as this may be a risk to the baby developing physical handicaps (see Kuliahbidanonline, 2010, for an elaboration on these and other beliefs).

Being pregnant can create anxiety and can be considered as an adversity to some women. To comply with what is culturally accepted, which has been passed on from generation to generation with little or no scientific explanations, may create feelings of inferiority and helplessness. When women follow all the above myths and unhelpful cultural beliefs, they indicate poor resilience and not taking good care of their pregnancy because their decision to believe the myths may disadvantage themselves and the baby, for example following food restrictions without strong logical reasons. As their anxiety and fears they may be blamed escalate, the risk for antenatal depressive symptoms increases. On the other hand, those who are more educated and resilient may find ways to deal with the myths and still be seen as socially compliant (Setyowati, 2010). The above myths and childbirth beliefs are explained in detail in the Facilitator Module page 15-18 and in the Workbook on pages 13-17 (see Appendix T and U).

1.5.2. Changes and Expectation in This Century

Having a baby in this century is no longer just a post-marital expectation but also an active choice, in most Western cultures, made by the couple or by anyone regardless of their marital status (Bowlby, 2013). It is worth noting that the new "biological" parenthood is now possible including the new reproductive technologies, option on surrogacy, and the choice of using donor or genetic contribution in the reproduction process. Women who achieve pregnancy through these means may view their pregnancy differently to women who achieve pregnancy from a conventional post marital relationship.

The fact that babies continue to be born regardless of the above-mentioned changes, giving birth will always become an important event in any culture. There are changes associated with the concept of childbirth, motherhood and how children

are being raised by parents. In Indonesia, to become parents by new technology has yet to have a major impact in the larger community, mostly because the majority of Indonesians still perceive conventional motherhood as the only way to start a family.

We are also living in a period where related gender equality matters are widely accepted. Women are now striving for higher education qualifications leading to changes of various consequences such as placing career before family, delayed marriage and childbearing, fertility decline and singlehood (Martin, 2002; Nag & Singhal, 2013). Pregnancy in older women places them at an increased risk of complication and adverse outcomes such as gestational diabetes, low birth weight, premature birth, miscarriages, pre-eclampsia, labour problems (e.g. emergency Caesarean and postpartum haemorrhage), genetic abnormalities, and even death (Jolly et al., 2000; London, 2004). For Indonesians, research by Jones and Gubhaju (2008) demonstrated that women in Indonesia are getting married at an older age, although marriage at a younger age (below 18) is also still common practice.

With regards to anxiety and fear towards motherhood and childbirth, the strongest value that has commonly been used in many Asian countries is to relate this experience with spiritual aspects and religious beliefs, in which, to become a complete woman, one has to pass this life challenge of childbearing and motherhood. Consequently, when there are instances of emotional turbulence and difficulties in coping with problems, the woman tends to repress and cope with their available resources. When things are not working as planned, the woman will learn to cope but may not see the difficulties as opportunities to train their resilience skills. Being anxious and uncertain about what the future will bring becomes the normal condition in which to live and undermines any effort to self-help and find ways to empower herself. The woman is expected to deal with the situation. Sharing problems is inappropriate and is considered a weakness, therefore being silent and leaving the psychological problem untreated is seen as the way to handle the situation. The current study will enable women to speak and share with no risk of being ridiculed. To arrive at this level, building trust and rapport become a gateway to working through irrational beliefs.

1.5.3. Decentralisation in Indonesia and The Role of "*Puskesmas*" Primary Health Care Clinic

The Indonesian health care system was highly centralised before 1998 when main financial and policy making were taken care of by respected offices in central government level in Jakarta – the capital city of Indonesia. The term decentralisation refers to transferring authority and responsibility from higher to lower levels of government (Kristiansen & Santoso, 2006). As a result of the decentralisation process in Indonesia from 1999-2004, administrative and operational functions were delegated to officers at second and third layer of the Indonesia five-tier government hierarchy (central, province, district, sub-district, and village). Decentralisation in Indonesia presents advantages such as increased health system responsiveness to local needs, capacity to improve efficiency and quality of care, possibility to develop service delivery innovation, and less bureaucracy (Habsjah, 2009).

Family planning also becomes the responsibility of local governments. The National Family Planning Coordinating Board (NFPCB) in 1998-1999 reformulated its vision from "small families" to "quality families". The implementation of family planning at basic level has been done by "Puskesmas" – the Primary Health Care Clinic or Community Health Centre. The Puskesmas is available in every sub-district and there is a mandatory government health service headed by a doctor, who oversees a midwife, one or more nurses, and various paramedical workers. The emphasis of services at Puskesmas is on environmental and preventive health care, with the main assignments on antenatal and postnatal care, immunisation, family planning, consultations on nutrition and sanitation and dental services (Kristiansen & Santoso, 2006). In some big Puskesmas, childbirth services are offered and antenatal care programs are more related to preparing the mother to face childbirth as the end part of pregnancy and because all pregnant women will eventually experience childbirth, no special attention towards intensive preparation of childbirth are offered. As the population of Indonesia is so large, a group program is preferred over individual therapy. The imbalance ratio of patients and doctors/health professionals at Puskesmas has further demonstrated the need to develop an intervention to be delivered in a group setting but to allow sensitive issues be discussed without fear of being embarrassed and unaccepted. Appendix B demonstrates the latest numbers of total health service providers (primary health care clinics and hospitals) in Indonesia. The current study involved eight Puskesmas located in one city.

1.5.4. Report of the Indonesia Basic Health Research 2007 and 2010

This study is strongly influenced by the findings derived from the *Report of the Indonesia Basic Health Research 2007* (Indonesian Ministry of Health, 2008) evaluating the level of mental emotional disorder nationally. The term mental emotional disorder as used in Indonesia refers to several conditions—anxiety, depression, cognitive problems and somatisation (Idaiani, 2009). Although the survey did not specifically differentiate between mood, anxiety and psychiatric disorder, it revealed that for individuals older than 15 years, 13 of 33 Indonesian provinces had a mental disorder prevalence rate higher than the national level of 11.6% (Appendix A). The prevalence of mental emotional disorders increased with age. The percentages of mental emotional disorders in seven age groups were 8.7% (15-24), 9% (25-34), 9.9% (35-44), 12% (45-54), 15.9% (55-64), 23.2% (65-74) and 33.7% (75+). As indicated earlier in Section 1.2.4, vulnerable groups to develop mental emotional disorders are females (14%), with low education (21.6%), living in rural areas (12.3%), the jobless (19.6%), and those who have the lowest household expenditure (in Quintile 1: 12.1%).

With the current total population in Indonesia of more than 237.6 million according to census 2010 and population growth of 1.49% (Badan Pusat Statistik Indonesia, 2014), the 9,671 primary health care facilities (Indonesian Ministry of Health, 2014) and 2,404 hospitals (Indonesian Ministry of Health, 2015) shown in Appendix B become strong points to share mental health promotion in general as well as to disseminate relevant maternal health-related interventions.

According to the *Guide for Service to Mothers in Health Care Facility* (Indonesian Ministry of Health, 2010), mothers typically bring their newborn babies to neonatal care centres for three visits during the first month postnatal. *The Report of Indonesian Basic Health Research 2010* stated that mothers from West Java were the least likely to do this. There was no discussion of why this might be the case, but there are several possibilities: Perhaps these women see themselves as competent in dealing with the newborn baby and other commitments; perhaps the baby is totally healthy so no extra care is needed; perhaps there are many family members helping the mothers to cope; perhaps mothers have difficulties in managing time and responsibilities; perhaps they are single parents who have to work immediately after giving birth; or perhaps they feel that the visits are unnecessary. This suggests that it may be important to develop an intervention that helps women become more aware

of the potential future challenges, to be more resilient, and to comply with attending existing medical appointments. The *Report of Indonesian Basic Health Research 2010*—especially in the section on women and children, health and welfare —shows that more than 96% of babies are born alive to mothers aged 10 to 59 years old. At least for the first year, there is a good compliance rate of mothers bringing their newborn babies for postnatal care and examinations (Indonesian Ministry of Health, 2010).

1.5.5. Summary

This part of the thesis briefly explains how childbirth and motherhood are being perceived culturally in Indonesia and what are the current changes and social expectations towards motherhood and parenthood. The traditional view, social belief and myths are briefly discussed to portray the situation experienced typically by Indonesian pregnant women, mothers-to-be. This section also describes external factors in relation to the social systems and hierarchy in place that will directly influence how the health system works and how the community benefits from what is being offered to them. *The Report of Indonesian Basic Health Services 2007* and *2010* have thoroughly been considered especially to estimate the needs and challenges on antenatal care programs which can be implemented in the wider community, given the big population in Indonesia and developing countries which may present similar concerns and problems.

1.6. Rationale of Current Study

As outlined in the previous chapters, maternal depression is a significant public health concern and efforts to intervene earlier, aiming to improve the resilience of pregnant women, are urgently needed. Interventions that occur in the antenatal period may have the ability to prevent subsequent depression and anxiety in the mother following the birth of the child and may also help to promote healthier and happier babies.

There are several reasons to conduct the current study:

a. Postnatal depression is an ideal target for prevention strategies (Wisner & Wheeler, 1994). Firstly, the onset of postnatal depression is preceded by a clear marker (birth); there is a defined period of highest risk (the first three months after delivery); high-risk individuals can be identified by referring to their previous

depression history and current social factors. This means it is possible to deliver a postnatal depression prevention program.

b. Previous studies have evaluated impacts of actions or events during the pregnancy period. Boukydis (2006) recommended that by doing an ultrasound check during 18^{th}-22^{nd} week of pregnancy, the mother-baby attachment would be strengthened. Other studies discovered that depression during the second and third trimester are substantial and may increase the possibility of postnatal depression (Bennett et al., 2004; Lee & Chung, 2007) and elevate the risk of preterm birth (Fransson et al., 2011). It would seem that special attention should be given to encourage positive impacts and prevent negative possibilities, thus an intervention in the 2^{nd} trimester would be well timed to address the above concerns.
c. In recent years, more antenatal RCT studies have been conducted and have evaluated various interventions such as mindfulness therapy to reduce depression, anxiety and stress (Woolhouse et al., 2014), hypnosis training and the use of pharmacological analgesia during childbirth (Cyna et al., 2013), antenatal psychosomatic programming to reduce postpartum depression risk (Ortiz Collado et al., 2014), and examining the effect of antenatal yoga on maternal anxiety and depression (Newham et al, 2014). However, no RCT has been conducted with pregnant women that focus on optimism and resilience.
d. For developing countries like Indonesia with a population of more than 237 million people (Pujianto, 2011), there is a crucial need to be actively involved in creating a resilient generation. Ordinary people, in particular mothers, should be empowered and feel that resilience is something in which they can train themselves by controlling their ways of thinking and coping with daily problems. Through this particular study, it is expected that pregnant women will learn the necessary skills to help them be resilient during pregnancy, to anticipate potential risk of postnatal depression and to ensure positive parenting.
e. It is also important to develop an intervention that is based on theory and also one that is based on consultation with the target group and takes into consideration cultural issues. Referring to previous programs where CBT was chosen as a preferred technique (Austin et al., 2008; Barrett et al., 2001; Shortt, Barrett, & Fox, 2001), the current study also used a CBT approach where activities in challenging thoughts and behaviour were delivered in a way that would not risk their pregnancy conditions, enabling adult learning process and facilitating

participants to enjoy the program individually and together as a group. The current study involved the development of a 2-day workshop, called the Antenatal Resilience and Optimism Workshop (AROW) to be conducted in 2 consecutive days for pregnant women in their 2nd trimester as a group. The workshop was designed to be delivered by facilitators (psychologists and gynaecologists) and several assistants who attend a train-the-trainer program.

f. Encouragement to participate in health prevention programs should come not only from the traditional safety net system (i.e., family and friends), but also from government, health industry, media, and education providers, as well as other relevant professionals such as psychologists. The fact that currently in Indonesia, the role of psychologists are more recognised especially in prevention programs for the health sector, the current study received positive interest and facilitation from the national and regional health authorities, especially the Ministry of Health and Surabaya Health Department. If the study reveals the efficacy of the AROW in building more resilient mothers and can assist in preventing postnatal depressive symptoms, it will become a breakthrough initiative for the Indonesian Ministry of Health. Such a program could be offered as part of regular antenatal care at Primary Health Care throughout Indonesia.
g. Pregnant women and recent mothers will still be in contact with their Primary Health Care Clinic and/or doctors for early detection of potential problems which enables prevention program (in antenatal) and follow up evaluation (postnatal) to be implemented. By voluntarily attending antenatal and postnatal medical check-ups, women will have more frequent contact with health professionals than at other times in their lives. Attending the 2-day AROW is one way to ensure that women have at least four antenatal visits as recommended by the *Guide to Service for Mothers in Health Care Facility*.

Chapter 2

Development of The Antenatal Resilience and Optimism Workshop (AROW)

Given the strong theoretical rationale regarding the long-term consequences of maternal depression and recommendations from previous studies about the importance of early intervention to prevent antenatal and postnatal depression, an intervention to address those issues was specifically developed and implemented. The challenges were to identify the approach, to choose relevant content/topics, to use the right techniques to meet the goals of each session, to find the right tools to assess the changes, and to systematically develop the module to help facilitators to deliver the intervention.

This chapter describes the steps undertaken from the development process leading to the delivery of the intervention in Indonesia. The development of the Antenatal Resilience and Optimism Workshop (AROW) requires more than just the content but also relies on the facilitators' skills and competency. Comprehensive and integrated preparations are important in managing group dynamics and the flow of workshop whilst keeping on track to achieve the set goals.

Whilst this study aims to evaluate the efficacy of AROW, pregnant women attending the workshop serve not only as research participants but most importantly they have to experience maximum benefits for themselves as individuals. Due to the fact that the participants are pregnant, it is crucial to consider their medical, psychological and social aspects of pregnancy so to develop the most suitable workshop module for their condition. At the same time, the module itself should be developed in such a way to connect general topics on resilience, optimism, thinking style and errors, cognitive restructuring, and to gradually help them to understand the importance of those aspects to protect them from postnatal depression and its long-term negative consequences.

2.1 Step 1: Gathering Input for Topics from Pregnant Indonesian Women and Mothers

2.1.1. Objectives

This step aimed to gather input and decision on key topics/content areas to be covered in the AROW module and workbook.

2.1.2. Method

This phase used a survey approach, targeting pregnant Indonesian women and mothers to share their thoughts and opinions about general knowledge, as well as individual experience on pregnancy and related issues accompanying the situation.

2.1.3. Recruitment

Pregnant women were recruited by email, suggested by friends who knew their friends who were pregnant at the time. Another recruitment attempt was made through promoting in social media (Facebook) the opportunity to participate in the phase to develop the AROW program. Mothers who were keen to participate were requested to share and email their stories on motherhood experience and coping strategies. Five pregnant Indonesian women responded positively to the requests and agreed to participate by answering twenty structured interview questions.

2.1.4. Participants

There were two subsets of participants in the initial stage prior to the development of AROW. The first was pregnant women who agreed to voluntarily answer twenty structured questions by email. Initially there were 8 pregnant Indonesian women who were keen to participate but only five, with a mean age of 26.8 and averaging in their 21st week of pregnancy, finally volunteered and sent their answers to the 20 questions electronically (by email). The 20 questions are listed in Table 5.

When the topics had been decided, a request was posted in the researcher's Facebook (social media) looking for mothers who would voluntarily agree to share their motherhood experience and coping strategies they had used. In the second subset, there were eleven mothers with a mean age of 36 years old who positively responded and agreed to share their stories through emails. Most shared stories were

about their first pregnancies and unique motherhood experiences. They also gave permission for their stories and photos to be used in the promotion of AROW and other printing or slide presentation materials. The stories were used to confirm the need to address specific topics to be built in the workshop module.

2.1.5. Procedure

Twenty semi-structured interview questions were electronically sent to the eight pregnant women and five were returned with answers.

Table 5.

List of Interview Questions and Some Answers

No	Questions	Answers
1	What is motherhood to you?	• Patience training • Truly a battle of life from conception, week by week development until the baby is born, grows and develops as part of his/her phases in life • Miracle and God's extraordinary blessing for women
2	What is parenthood to you?	• A way to implement the responsibility of caring for the children. Parents should do their best to look after, care for, educate, be a role model and provide a good living experience
3	What do you think brings happiness to women following pregnancy?	• Maybe the feeling of fulfilment of one's destiny as a woman • To know that the child is healthy, to receive more attention from husband and people
4	What do you think creates unhappiness to women during pregnancy?	• Lack of support, or miscarriage • Anxiety and depression during pregnancy
5	What will bring happiness to women after childbirth?	• When the child is healthy and happy • The feeling of becoming a parent
6	What will create unhappiness to women after childbirth?	• Death of the baby • Not as expected or hormonal changes
7	How do you know whether a pregnant woman is unhappy?	• When she says so, when she indicates so • From symptoms such as loss of appetite, complaints about something

Table 5. (Continued)

No	Questions	Answers
8	What do you find helpful during your pregnancy?	• Internet articles, friends' stories and experiences, mum's and sister's stories and experiences • Receiving anxiety-free info from the doctor • Knowledge about pregnancy and beyond
9	Is there any period during your pregnancy that you find the most difficult to handle?	• Tiredness • When facing difficult circumstances
10	Why do you think it is difficult?	• Because my decision will affect not just my life but also the baby's • Create stress and depression
11	How did you manage the difficult period during pregnancy?	• Think for the best for the baby • Think positively • Get enough rest
12	Who are the people that you expect to be there when you need them during the pregnancy?	• I don't expect anyone to be there, but it's nice to have family support. I need my husband but do not expect him to be there if he can't
13	From cultural perspectives, what pregnancy related matters do you believe?	• That I can only announce my pregnancy after the third month • Must not kill animals whilst pregnant
14	What religious aspects do you think matters a lot during your pregnancy period?	• Having faith. Believing life, death, and match are of divine matters. • Need to trust God for having organised a mother-to-be to prepare for natural birth
15	What activities do you find important or do you wish to attend antenatal?	• Pregnancy classes
16	What makes you go to an antenatal care visit?	• The responsibility to provide the best for the baby
17	Who do you think you should seek for advice for antenatal and postnatal care? Why?	• Maternity clinics, hospitals, Obstetrician/Gynaecologist, assumed to have the most updated info
18	Who do you think a resilient person is?	• Someone who is able to withstand or recover quickly from difficult conditions
19	What are the aspects that you find in a resilient individual?	• Aware of the situation, cope well, problem solver, no excuses and positive and unwavering faith
20	What differentiates optimists and pessimists?	• Outlook, attitude, and belief

2.1.6. Results

The content development of AROW was developed by involving 5 pregnant women and 11 mothers who completed the interview questions listed in Table 5 (5 pregnant women) and sending stories of their experience in pregnancies (11 mothers). Common themes from their answers were taken into account in elaborating topics and activities to be covered in the workshop.

2.2. Step 2: Reviewing Existing Antenatal Care Programs in Indonesia

Antenatal care services in Indonesia have been underutilised due to poor accessibility to health care facilities (an issue that has particularly affected rural mothers), lack of media exposure as to the need for, and importance of, antenatal care, and the absence of obstetric complications during pregnancy (Titaley et al., 2010). The *Guide to Service for Mothers in Health Care Facility* refers to The Indonesian Ministry of Health's initiatives towards achieving the Millennium Development Goals in 2015, particularly in reducing child mortality and improving maternal health through several campaigns and actions such as Safe Motherhood, Health for All by the Year 2000, Making Pregnancy Safer, Birth Preparedness and Complication Readiness (Indonesian Ministry of Health, 2010). In Indonesia, four antenatal visits during pregnancy are recommended. These visits focus more on monitoring the medical conditions whilst some maternal education emphasising only the physical aspects of pregnancy is also provided. It is therefore a big challenge to promote preventive actions and the early identification of mental health problems. However, the Research and Development division of the Indonesian Ministry of Health has a strong interest in evaluating programs related to the prevention of mental health problems. The purpose of this study, therefore, is to fill the gap in antenatal mental health care by empowering mothers-to-be to develop resilience and optimism.

Based on the *Guide for Service to Mothers in Health Care Facility* (Indonesian Ministry of Health, 2010) and The World Health Organisation (2006) in its *Guide for Essential Practice for Pregnancy, Childbirth, Postpartum and Newborn Care,* antenatal care has an emphasis on the physical health of pregnant women and the examinations that they need to go through during their pregnancy. There is no advice or recommendations for health professionals in relation to maintaining the psychological wellbeing of the women, and no advice on how to prevent women

developing psychological problems in the antenatal, perinatal and postnatal periods. Health professionals are urged to be aware of the symptoms of postpartum depression, but there is no discussion of the condition.

According to the previously cited *Guide for Service to Mothers in Health Care Facility* (Indonesian Ministry of Health, 2010), mothers typically bring their newborn babies to neonatal care centres for three visits during the first month postnatal. Mothers of newborn babies are routinely given a book to record the growth and development of their babies. Fifty per cent of mothers kept records for the first 12 months postnatal (Indonesia Ministry of Health, 2010). Given the above facts, there are needs and opportunities to develop early intervention programs related to the prevention of mental health problem by encouraging a healthy life style and emphasising the importance of recognising early symptoms, and the best time to do this is within the range of pregnancy period to the first 12 months postnatal when the mothers still place a high priority on the welfare of the baby.

2.3. Step 3: Finding the Most Suitable Title

The workshop itself would act as the intervention, which would then be assessed for its efficacy in decreasing the depressive symptoms. It was therefore necessary to create a workshop title that would drive positive interest and curiosity of pregnant women to participate.

The full title of the intervention was "2-day Antenatal Resilience and Optimism Workshop (AROW)." In Bahasa Indonesia the workshop was called "Menjadi Ibu Tangguh dan Optimis (MITO)" or in English it was translated as "Be A Resilient and Optimistic Mother". Dan Shure (2012) describes that the title of an article or a program is considered effective when it:

- creates curiosity (what is resilience? Am I an optimist?);
- offers benefits (this workshop is aimed at helping participants to become a resilient and optimistic mothers);
- elicits specific emotions (being optimistic is perceived to create happiness and positive emotion);
- is tangible and doable (the length of workshop was two days)
- creates a realistic expectation and is relevant to participants (all participants were pregnant women who were about to be a mother soon, or again)

- appears simple and looks pleasing graphically (the theme colours were green and orange). Green is the colour of balance, harmony, growth and nurturing. As a combination of yellow which embraces optimism and blue which creates emotional calm, the colour green relates to the strength to cope with adversity. The colour orange relates to social communication, warmth, stimulates two-way conversations, gets people to think and talk. Orange offers emotional strength in difficult times and helps to bounce back from despair. It keeps us motivated and helps us to look on the bright side of life (Scott-Kemmis, 2009). Visually, the cover of the workbook and other relevant printed materials integrate positive and relevant images creating a consistent ambience to all participants.

All the above aspects were considered when choosing the title and designing the printed materials of AROW, such as the cover pages of the facilitator module and participants' workbook, the banner, name tags, flyers and posters, as displayed in Section 2.5.

2.4. Step 4: Aligning Draft Topics with Relevant Health Professionals

Choosing the most relevant topics was the most challenging phase during the development of the AROW. Once the topics were decided, the next step was to integrate the topics into a 2-day workshop program. The workshop program was systematically organised in logical sequences to lead the participants to acquire increased insight and awareness about the importance of knowing their own level of resilience and optimism, then gradually promoting self-empowerment to implement necessary changes. This study carefully included relevant pregnancy myths and common socio-cultural beliefs particularly related to nutritional intake on what pregnant women can and cannot take (Setyowati, 2010), as well as what they should not do. Having a discussion which recognised cultural aspects in practice was very useful in getting the participants to feel accepted and understood.

As indicated at the beginning of the study, the main purpose of conducting the workshop was to enable pregnant women to practice resilience and optimistic thinking regularly after the workshop. By doing so, it was expected that positive changes in resilience and its five factors, optimism and quality of life as well as reduced level of depression, anxiety and stress would be maintained at the 6 week and 6-month follow up, especially for the intervention group.

A special meeting between the primary health care clinic superintendents, one obstetric/gynaecologist appointed by the Head of Health Department in Surabaya, one senior psychologist, one junior psychologist and 5 psychology students as research assistants gathered to discuss the topics prioritised for the 2-day training, taking into account the sequence, the duration of sitting and activities involved so to anticipate potential risks and inconvenience (physical and psychological) to the pregnant women. Their input was taken into consideration as well as the dynamic process expected to result from such a workshop model.

The main outcome of this step was to agree upon the 2-day workshop content and to delegate who would deliver specific sessions as well as to schedule the time to deliver the session. Pregnant women and mothers who participated in Step 1 of the development of AROW (section 2.1.) interestingly mentioned the importance of some factors (printed bold) reflecting the biopsychosocial factors in maternal depression displayed in Table 1 (Pope, 2000). The factors printed in bold in Table 1 were included and elaborated in the workshop and AROW facilitators described this multifactorial aetiology as causative factors of maternal depression (Hendrick et al., 1998; Ross et al., 2004). During group discussion, the facilitators also guided participants to identify their own combination of factors potentially responsible for the development of maternal depression. Biological factors of maternal depression were presented by a medical doctor specialising in obstetrics/gynaecology and having the doctor to support this study created a situation where participants were able to express their individual concerns as well as the chances to listen to and learn from other participants' problems and coping strategies. Research assistants involved in this study were then equipped with comprehensive understanding of the purpose of the research and they were requested to commit seriously according to the set steps they need to carry out with the participants including the contingency plan for each period of assessment. Research assistants facilitated group discussions on topics led by the facilitators.

2.5. Step 5: Development of Promotional Information Collaterals

To attract volunteer participation in the workshop and study, simple promotion collaterals were developed in the format of A3 poster and A4 flyer written in Bahasa Indonesia, taking into account relevant meanings of colours - green and Orange – which reflected optimism, resilience, warmth, growth and enhancement of

thinking (Scott-Kemmis, 2009). The poster was displayed on notice boards at all eight primary health care clinics involved in the study and the flyers (mini poster) were available for those interested to participate and were given by the nurse to participants meeting the inclusion criteria to consider participating. Informed consent from people whose photos/images were included in the poster/flyer and other printed matters were received prior to printing the design. See below the design of A3 poster/A4 flyer.

Figure 1 . A3 poster/A4 flyer for Antenatal Resilience and Optimism Workshop.

Designs for other printing materials such as the vinyl backdrop, facilitator module and participant's workbook were developed accordingly.

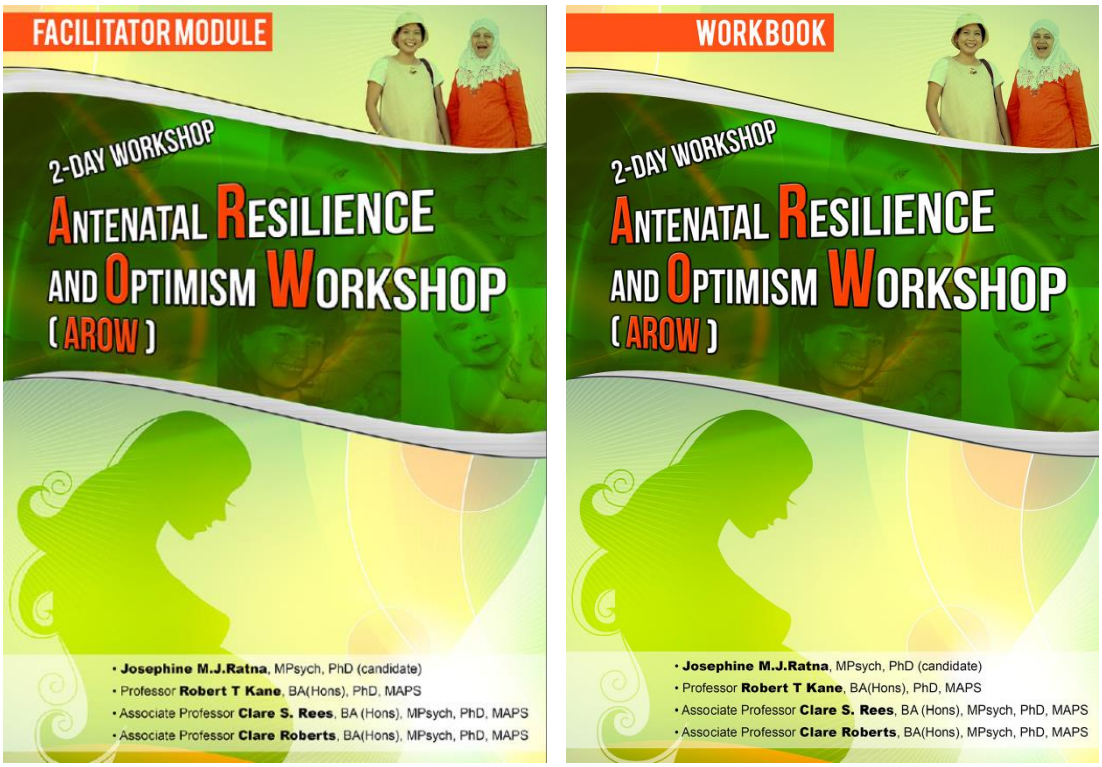

Figure 2. The cover page of Facilitator Module and Participant' workbook for Antenatal Resilience and Optimism Workshop.

Figure 3. The backdrop for Antenatal Resilience and Optimism Workshop.

2.6. Summary

This chapter explains the individual steps and process of gathering information from participants (pregnant women and mothers) on key topics to be included in the workshop module and workbook. The purpose of collecting input

from relevant population to this study is to gain a real understanding of what areas need to be covered and how the topics should be delivered. Simultaneously, a review of existing antenatal care programs in Indonesia as suggested at the national level was completed to evaluate the gap between topics that had been covered and the updated input gathered from participants in this study. When all necessary topics relevant to the main purpose of the study and the most suitable title had been decided, the phase of designing promotion collaterals such as posters and flyers was undertaken to attract pregnant women to participate in the study. Further phases then included designing relevant module and workbook covers as well as the backdrop to be displayed during the workshop.

Chapter 3

Development and Implementation of AROW Facilitator Module and Participant Workbook

3.1. Step 6: Facilitator Module and Participant Handbook

To ensure that the workshop ran systematically, a facilitator module was carefully developed to address important topics and ensure that they were well understood and deeply discussed by all participants, with opportunities to address individual opinions, sharing of experiences and examples within a set allocated time. The sessions of the 2-day workshop are listed in Table 6. A brief example of how the facilitator module is written is displayed in Table 7. The sessions are carefully sequenced, starting with simple neutral and universal discussion topics before moving into pregnancy-specific topics that may provoke anxiety, irrational thinking and emotional responses. The discussion topics and examples highly regard Indonesian cultural values. The module also provided possible responses aiming to assist the group facilitators on how to respond to specific questions including challenging or unexpected situations (Ratna, Roberts, Kane & Rees, 2012).

Table 6.

2-day AROW Program

	DAY 1		**DAY 2**
1	Welcome, opening, and house keeping	1	Welcome again and make new friends
2	Introduction and program overview	2	Brief review
3	Exercise 1: My signature	3	Resilience
4	Exercise 2: Who and what is Important?	4	Exercise 5: Is it heavier?
5	Pregnancy and antenatal care	5	Antenatal and postnatal depression
6	Motherhood and Parenthood	6	Relaxation: breathing exercise
7	Exercise 3: New Skill	7	Exercise 6: Repeat Exercise 1 and 2
8	Pregnancy and childbirth belief	8	Characteristic of resilient people
9	The A-B-C model and thinking traps	9	Tips to improve resilience
10	Attributional style	10	Building/Choosing resilience metaphor
11	Exercise 4 – “What if ?”	11	Video – Testimonial
12	Explanation about homework	12	Feedback: Evaluation of the workshop
13	Closing of day 1 : Prayer	13	Closing of day 2 : Prayer

Table 7.

Example of a Page in the AROW Facilitator Module

Parenthood (20 minutes) – O – L – S – D

O

Brainstorming *participants'opinions to be written on butcher's paper and shared/discussed Participants will be invited to openly express their own* ***beliefs and opinions about parenthood for 5 minutes***

- **What is parenthood?**

Referring to some ***opinions*** *given by participants, the Facilitator leads to* ***what parenthood is*** *according to* ***literature and previous research***.

L

- Usually parenthood refers to **major understanding of roles** of a mother and a father **to their children**
- Refers more to **the role of raising the child** and provides **appropriate supports** in all aspects for the best possible care of the child/children. In playing the role of parents, there are **many social expectations** which are measured by how successful they manage their children and a **good value of life which can be taught** and implemented by their children manifested through attitudes and behaviours.
- Between parents, there is usually **delegation of roles** which often will follow **what is accepted culturally and socially** (so called traditional role of parents) and **improvisation of some roles which are more personal**.
- Baumeister (1991) explains that becoming a parent usually considered the most substantial developmental task/responsibility which relates to a tendency for people to believe that as a grown up person their life will be fulfilled by having children.
- What are **the challenges of parenting**? How **can we implement smart parenting**?

S

Participants are encouraged to ***share*** *their own, family or friend's experience in* ***coping with challenges in parenting and attempts to implement smart parenting*** *in the group.* ***One to maximum of two shared responses*** *is considered sufficient in creating awareness of the experience of parenthood.*

D

- Parents are required to create the best environment for their children to grow and develop their talents, while simultaneously implementing **smart parenting**.

V

Exercise 3: **New Skill** (5 minutes) – V - A

- Participants watch Video: Fold Shirt/T-Shirt in 10 seconds

A

- Participants are encouraged to individually imitate and practice the new skill individually

The workshop contents and activities were delivered in several ways : **A** (Activity); **D** (Discussion); **I** (Individual work/ Reflection); **H** (Homework); **L** (Lecture); **N** (Networking); **O** (Opinion); **Q** (Questionnaire); **S** (Sharing Experience); **T** (Testimonial); **V** (Video).

3.2. Step 7: Development of Activities (Individual and Group) using CBT Principles

The AROW uses the principle of CBT which has been extensively explored in rigorous clinical trials and provided empirical findings, is compatible with other treatments, requires individual active involvement, can be adapted to a wide range of settings and most importantly it fosters skills learned to solve future problems. The use of CBT during pregnancy is likely to be chosen in preference to medication as a consequence of risk benefit ratio (Freeman, 2007) and an antenatal CBT intervention can be an effective preventive treatment for postnatal depression (Cho, Kwon, & Lee, 2008).

The Australian Association of Cognitive Behaviour Therapy (AACBT) comprehensively describes that a typical CBT requires up to 20 sessions but in some cases, improvement can be seen in a shorter period (AACBT, 2015). Brief CBT is a shorter CBT of 4 to 8 sessions, limited to focus on a smaller number of client's problems. It is expected that facilitators in a brief CBT adhere to a flexible and adaptive approach when applying CBT (Cully & Teten, 2008). The implementation of CBT commonly takes one to one and a half hours per session. For a brief CBT, this is equivalent to 6 to 12 hours. The term brief here refers to the time needed to deliver the therapy. An innovative way to shorten the period of delivering CBT is similar to an intensive CBT in individual therapy (Storch, 2008). The current 2-day AROW includes a structured 7 hours/day session, inclusive of 90 minutes break for morning tea, lunch and afternoon tea. In total, the AROW can be categorised as a brief group CBT implemented intensively in 2 consecutive days.

CBT delivered in a group format received less attention than an individual one-to-one CBT. To name a few, there were studies demonstrating disadvantages towards delivering CBT in groups, such as poor equality in terms of attention and time given to individual participants, higher drop-out rates, and difficulty in controlling individuals who were dominating or monopolising the session (Morisson,

2001; Semple, 2006; Sharp, Power, & Swanson, 2004). With regards to cost effectiveness, Tucker and Oei (2007) recommended that more solid studies were needed to conclude that group CBT is more cost-effective than individual CBT.

However, early studies also found advantages in delivering CBT in groups. For example, that members of a group had the opportunity to experience vicarious learning in which they learned from experiences and homework from other group members which provided positive outcomes (Lewinsohn, 1999); and meeting others with the same problems would "normalise" and reduce the stigma attached to a problem (Yalom, 1995). Later studies in the 2000s illustrated further benefits of group CBT in which getting people to attend a psychoeducational group in a community setting would create a real public mental health intervention was achieveable (Brown, Boardman, & Elliott, 2005) and could be recommended for people who had a very specific problem in common, such as postnatal depression (Milgrom, Negri, & Gemmill, 2005). Moreover, a more recent study by Brown et al. (2008) indicated that a very intensive and considered a large-scale of CBT could be effective to produce therapeutic changes over a 2-year period.

A recent study aiming to assess the effectiveness of CBT to treat antenatal depression by the end of pregnancy found that pregnant women who attended individual home-based 12 sessions CBT showed improvement in their depressive moods compared to the control group. By treating antenatal depression by the end of pregnancy, postnatal depression would likely be prevented (Burns et al., 2013). Most recent attention focussing on the well-being of pregnant women was introduced through a program called Coping with Anxiety through Living Mindfully (CALM) Pregnancy, an adaptation of Mindfullness-based CBT designed to reduce anxiety and comorbid symptoms in pregnant women. The CALM Pregnancy intervention was provided in 2 hour eight-weekly sessions in which participants were divided into three groups of six to twelve women. Results of the CALM Pregnancy pilot study showed considerable promise as feasible, acceptable, and effective treatment options for pregnant women with anxiety (Goodman et al., 2014). Two recent studies used CBT found significant reduction in depression and anxiety demonstrating the feasibility and acceptability of this intervention. However, to date have been few randomised controlled studies of CBT group preventive program involving pregnant women to acquire specific skills to protect them against depression and its comorbid symptoms.

When the researcher decided to develop a customised intervention addressing antenatal resilience and optimism to be delivered to pregnant women in a group setting using a CBT approach, the concerns over disadvantages of delivering the program in a group had been seriously considered. According to Morrison (2001), large-group psychoeducational formats consist of 20-25 participants, while a more effective format would be a small group of five. Therefore, the AROW is considered as a large-group psychoeducational format of 27 participants (intervention group) and 28-47 participants (waitlist/treated control group) but each group was divided into small groups of five during the group discussion and activities. This was the attempt to reduce potential disadvantages and boosted the potential benefits further, which confirmed Yalom's curative factors (Yalom, 1995) that group CBT would influence the mechanism of change because it allowed the installation of hope, imitative behaviour, group cohesiveness, opportunity to catharsis and interpersonal learning (ability to modify maladaptive relational patterns by learning from others). In addition, by attending the program, individuals became aware of their crucial intention to solve problems as well as in providing participants (the clients) alternatives to dealing with a difficult situation, a way to maintain individual resilience.

The 2-day AROW was carefully developed as an innovative antenatal care program which considered in detail all steps needed from preparation up to the way the session was delivered within a limited time to achieve the ultimate goal, which is to demonstrate significant therapeutic changes in reducing and/or preventing postnatal depressive symptoms and the changes to be maintained after a certain time period, in this case 6 months. The researcher consulted with several psychologists, obstetricians/gynaecologists and nurses at several primary health care clinics about the 2-day length of AROW and its activities and all approved of the content and its flow.

The AROW involved four facilitators (three Psychologists and one Obstetrician/Gynaecologist) to deliver the contents which had been systematically organised in the Facilitator Module. The three Psychologists were involved in order to deliver the content of workshop equally across the two days and no dominant facilitators affecting the workshop dynamics. In order to deliver AROW not just as a workshop but as an effective intervention, training for facilitators and research

assistants was conducted. In this training for facilitators, all were requested to become familiar with the module and workbook including discussion on anticipatory questions, potential difficult situations and how to solve the problems that may happen on the day. The facilitators were briefed by the researcher that they would have to deliver the AROW to two different groups but were never told which one was the intervention or control group. On the other hand, research assistants without the presence of facilitators were requested to attend fully from baseline data collection, the 2 day workshop, 6-week and 6-month follow ups. During the actual workshops, research assistants were trained to facilitate group discussions and administer the questionnaires after the intervention. Since the beginning, the venue of the workshop had been chosen for its ideal location in the middle of participants' residences and their primary health care clinics. The room was also deliberately chosen to be located on the ground floor to minimise potential risks due to physical limitations of the pregnant women. The facilitator module and participant's workbook can be seen in Appendix T and U.

In developing the individual and group activities, the topics on resilience and optimism were delivered through various methods, ensuring the pregnant women were connected with their current relevant situations. The closer the relevance of the workshop to the participants' situation, the more inclined they are to learn and actively participate as well as to practise what they have learnt in everyday coping. The delivery of this workshop also emphasised the flow of the content itself and the role of trained facilitator in addressing the content of AROW in an interesting and engaging manner.

The workshop used the following tools to integrate the contents and activities: flip chart, video projector, Power Point presentation, games, role-play simulation for folding T-shirt and daily burden, as well as art and craft materials. Attention to cultural barriers and sensitivities was carefully considered throughout the workshop and facilitators were well-trained to respond appropriately to culturally sensitive issues such as values and religious beliefs.

The "What If…?" exercise refers to the fact that pregnant women develop antenatal anxiety which may relate to the risk of developing postnatal depression. Antenatal anxiety refers to the fears following the pregnancy (labour, parenting, miscarriage, etc.), uncertain on how they will be able to cope (Henshaw, 2004). Therefore this exercise was carefully developed using a non-threatening statement

and situation to start with and then gradually touched on more sensitive issues related to pregnancy, motherhood, parenthood and individual emotional conditions.

Another important activity during the AROW is the session on The ABC Model and Thinking Traps. To help participants to understand how the activity should be done, facilitators are encouraged to do the four steps that Seligman has taught based on the Penn Prevention Program (Seligman, 1990):

(a) Thought-catching, to find negative thoughts which automatically appear in mind when feeling sad, disappointed, stressed or depressed;

(b) Thought evaluation, to review the negative thoughts and recognise inaccurate beliefs and generalisations;

(c) Accurate explanation, to replace the negative thoughts and inaccurate beliefs with more realistic, rational and positive ones;

(d) De-catastrophising, to concentrate on solving current problems/difficulties

During the intervention, it was expected that:

1. The participants would learn their own innate resilience and thinking style, learn to understand how they could identify, nurture and use them appropriately.
2. The participants could learn from each other's resilient behaviour and validating the existence of resilience factors within themselves.
3. The participants were able to understand a comprehensive dynamic of pregnancy, social expectation of new roles, risk and protective factors against antenatal and postnatal depression.
4. The participants would gain new skills and become motivated by other participants to become more resilient and optimistic.
5. The participants would be keen to practise interpersonal skills necessary to anticipate unpredictable situations by choosing their own resilience metaphor to cope.
6. The facilitators would be able to systematically follow the instructions written in the module and facilitate the flow of the workshop in an interesting and engaging way.

   In order to maintain the consistent delivery of the workshop, a slide presentation was organised to assist the facilitators in effectively presenting and facilitating the workshop.

3.3. Step 8: The Workshop: Time Management and Implementation

The final step was to implement the complete 2-day AROW program as shown in Table 8. One research assistant acted as a timekeeper assigned to ensure that programs ran as scheduled. Another research assistant was in charge to make sure that all equipment needed was ready and in good condition. The schedule written in Table 8 acted as a guide for the facilitators to see what needed to be done at an allocated time. However, in the facilitator module and participant's workbook, the allocated set time was not displayed to avoid unnecessary discussion and individual opinions with regards to reasons behind why the program was organised in such a way or why certain sessions were longer than others or whether some parts could be skipped for personal reasons (e.g. prefer to finish earlier, participant choice to skip certain parts that may not be of interest and come only on fewer sessions of own choice). Participants were encouraged to attend all sessions in order to gain maximum benefit.

At the beginning of the workshop, none of the twenty seven participants in the intervention groups knew each other or the facilitators. As a group, they were all welcomed by the researcher and were congratulated as the first group to participate in the program. Participants were encouraged to get maximum benefit by attending fully for two days and learning from each other's experience. The fact that participants were all pregnant and in the same 2nd trimester had quickly created a cohesive interaction amongst them and positive rapport with the facilitators even before the workshop started. The facilitator in charge for the first session guided participants to freely disclose their expectations or goals in attending the workshop. This was an important step in setting a realistic individual short-term goal, a typical CBT approach to encourage participants' active involvement in achieving the set goals within a limited time (2 days). To maintain participants' enthusiasm and active involvement to learn new skills, and readiness to change, the AROW was presented using various activities such as a conventional lecturing method, ice breaker, examples, hypothetical situations, psycho-education, group discussion, critical reflection, sharing individual experiences, homework and videos.

To challenge the participants' readiness to change, they were requested to complete a signature exercise using the dominant hand, which at first would be seen as a "too easy" task to do. Then the next instruction was to sign using their non-dominant hand and at that particular moment, their thinking changed from being

optimistic to pessimistic. This simple but fun exercise indicated that changes started from within the individual themselves. Discussion about changes and what made people reluctant or keen to change (using the example of signature exercise) explained the underlying process of change. Participants shared the change process that had occurred within them, such as they immediately lacked the confidence to sign using their non-dominant hand, looked to other participants to see how others performed the task, or even engaging in self-talk such as "*I can't do this, I feel silly*". Interestingly, although many participants commented that the quality of their signatures using the non-dominant hand was very poor, all conveyed that to improve the quality they had to keep training themselves to do so. It was obvious that self-evaluation of change had motivated participants to keep trying and to accept the challenge confirming previous findings that pregnant women are open to making the necessary changes to improve their mental health prior to their baby being born (Cowan & Cowan, 2000).

3.4. Summary

This chapter describes the development of the facilitator module and participant's workbook according to the topics decided in previous chapter. Symbols and relevant illustrations were specially designed to assist facilitators and participants in grasping the workshop contents easily.

Table 8

Rundown of the Antenatal Resilience and Optimism Workshop (Day 1 and Day 2)

DAY ONE								
Time			**Program**	**Activities**	**PIC**	**Mode**	**Symbol**	**Tools/Equipment**
08.30 - 09.00	30		Registration		Research Assistants			
09.00 - 09.05	5	A	Welcome and Opening		Researcher			
09.05 - 09.25	20	B	Introduction and Program Overview	Seating arrangement	Psychologist	Group	L	
				Individual Goal Setting				Bucher paper, marker
				Set agreements				
				Introduce the purpose of AROW				
				The Antenatal Resilience and Optimism Workshop (AROW)				
				Q & A				
09.25 - 09.30	5	C		My Signature (dominant, non-dominant, the dynamic of change process)	Psychologist	Individual	A, O	Worksheet - Space to sign
09.30 - 09.45	15	D	Exercise 2: Who and What's important?	Who and What's important?		Individual Group	A, D	Worksheet - List of Who and What's important
09.45 - 10.45	60	E	Pregnancy and Antenatal Care	Description of pregnancy period and challenges	Gynaecologist		L	
				3 N : Nature - Nurture - Nutrition			L, O	
				Healthy baby - regular pregnancy examination : the benefits			D, L, V	
				Activities during antenatal care				
				Video				
				Q & A				

Table 8 (Continued)

DAY ONE								
Time			**Program**	**Activities**	**PIC**	**Mode**	**Symbol**	**Tools/Equipment**
10.45 - 11.00	15	F	Coffee Break - Morning tea				N	
11.00 - 11.10	10	G	Motherhood and Parenthood	Ice Breaker : What If ? (general then specific about motherhood and parenthood)	Psychologist		I, S, D	Paper
11.10 - 11.30	20			What is motherhood to you?		Panel	O, L	Circle Mum
				Example on how mothers support each other and become smarter				
11.30 -11.50	20			What is parenthood? Roles, Social expectations, Developmental stages, Challenges and Smart Parenting		Panel	O, L, S, D	Butcher paper and marker
11.50 - 11.52	2	H	Watching Video and Activity	Skill Improvement - Fold Shirt and/or T-Shirt			V	Video
11.52 - 12.00	8		Exercise 3 : Fold a T Shirt (New Skill)	Demonstrate the new skill			A	T Shirt and Shirt in each group
12.00 - 12.40	40	I	Pregnancy and Childbirth Belief	Pregnancy and Childbirth - relates with cultural belief and social norms		Panel	O, L, I, D	Butcher paper and marker
				Exercise : Do You Believe? What if not?		Individual & Discussion		

Table 8 (Continued)

DAY ONE								
Time			**Program**	**Activities**	**PIC**	**Mode**	**Symbol**	**Tools/Equipment**
12.40 - 13.40	60	J	Lunch				N	
13.40 - 13.50	10	K	Ice Breaker : What do you see?	Ice Breaker "What do you see?"	Psychologist	Individual	A, L	Projector
13.50 - 14.35	45	L	The ABC Model and Thinking Traps	The ABC Model and Exercise		Individual	L,O,D,S	White board, markers
				Thinking Traps		Discussion	I, L	List of Thinking Traps
14.35 - 14.50	15	M	Coffee Break - Afternoon tea				N	
14.50 - 15.25	35	N	Attributional Style	Optimism vs Pessimism	Psychologist	Panel	L,I,S	
15.25 - 15.30	5		Resilience and Optimism Movement					
15.30 - 15.45	15	O	Exercise 4 What If?	"What If?"		Individual	I, S	Numbers, Workbook
15.45 - 15.55	10	P	Explanation about Homework	Answer the rest of "What If?" questions		Individual	I	Workbook
				Individual Reflection "What did I learn today?"				Workbook
				Read the poem "If I Can Choose…."				Workbook
15.55 - 16.00	5	Q	CLOSING Day 1	Thank all participants; Remind all participants to come on time tomorrow	Research Assistants			

Table 8 (Continued)

DAY TWO								
Time			**Program**	**Activities**	**PIC**	**Mode**	**Symbol**	**Tools/Equipment**
08.45 - 08.55	10	A	Welcome again and Make New Friends	Free seating arrangement but to sit next to at least one new friend	Psychologist	All	A	
				"I met new friends yesterday, they are …… and……"				
08.55 - 09.15	10	B	Brief Review	Two key words that participants remember from yesterday's program; Continue the sentence activity "I believe that…" ; "I am sure that …"; "To be resilient, I have to …"		All		
			Homework evaluation	Someone to read the poem. What does the poem mean to you?		All	I, O	
09.15 - 10.15	60	C	Resilience	Definition		All	L	White board, markers
				How resilience is developed?				Bucher paper, marker
				Factors influencing resiliency : Personal Competence; Trust Own Intuition; Acceptance on Change; Personal Control ; Spiritual Influences				
				Why resilience is important and how it relates with anxiety, depression and life satisfaction?				

Table 8 (Continued)

DAY TWO								
Time			**Program**	**Activities**	**PIC**	**Mode**	**Symbol**	**Tools/Equipment**
				Sharing example of resilient person	Research Assistants	Group	S, D	
				Video - testimonial (TP)	Psychologist	All	V, T	
10.15 - 10.25	10	D	Exercise 5: Is it heavier?	Is it heavier? Can I hold and lift it a bit longer?		Individual	A, I, O	Plastic cup of water, marker
10.25 - 10.40	15	E	Coffee Break - Morning tea				N	
10.40 - 11.40	60	F	Antenatal and Postnatal Depression	Video - testimonial (AB1)	Psychologist	All	V, T	
				Protective and Risk Factors		All	L	
				Listen to a story read by Facilitator : discuss what are the subject's protective and risk factors		Group	D	
11.40 - 12.00	35	G	Relaxation - Breathing Exercise	Breathing exercise		All	A	
12.00 - 13.00	60	H	Lunch				N	
13.00 - 13.10	10	I	Exercise 6: Repeat Exercise 1 and 3	Repeat Exercise 1: My signature	Psychologist	All	A	T Shirt
				Repeat Exercise 3: Fold shirt and/or T-Shirt				
13.10 - 13.40	30	J	Characteristic of Resilience People	Flexibility: Toughness; Hopefulness; Positive Feelings; Positive Thoughts		All	L	

Table 8 (Continued)

DAY TWO								
Time			**Program**	**Activities**	**PIC**	**Mode**	**Symbol**	**Tools/Equipment**
13.40 - 14.00	20	K	Tips to Improve Resilience	I have…… ; I am ……. ; I can…… and Some Examples	Psychologist	All	A, L	Card written I HAVE, I AM, I CAN
14.00 - 14.10	10	L	Building Resilience Metaphor	Participants to hear 3 resilience metaphors read by Research Assistance in each group		All		
14.10 - 14.20	10	M	Video Testimonial	To motivate participants to believe in themselves		Group	V	
14.20 - 14.35	15	N	Coffee Break - Afternoon tea				N	
14.35 - 14.45	10	O	Building/Choosing Resilience Metaphor	Participants to choose their favourite resilience metaphors and write the title at the back of the "I have, I am, I can card"	Psychologist	Individual	V	The title of metaphor chosen will be attached behind the Card
14.45 - 14.55	10	P	Feedback - Evaluation of the workshop	Have you achieved the individual goal set on Day 1?		Individual	Q	
14.55 - 15.00	5	Q	CLOSING Day 2 and Prayer	Thank all participants and hope that they learn something new on how they can be a more resilient and optimistic mother		All		
15.55 - 16.20	25	R	Post-test assessment			Individual	Q	
16.20 - 16.30	10	S	Farewell and reminder for follow-up session		Research Assistants			

Chapter 4

Methodology

4.1. Research Questions and Hypotheses

This chapter will begin by building on key points derived from Chapter 1 as a rationale for developing resilience training targeted at pregnant women. The process of developing the Antenatal Resilience and Optimism Workshop (AROW) facilitator's module and participant's workbook was inspired by previous resilience training programmes in combination with relevant input gathered from Indonesian mothers. Following this, a discussion will be provided to explore the most appropriate methodological design for evaluating the effectiveness of AROW in preventing postnatal depressive symptoms. The discussion will highlight the value of conducting an RCT to assess outcome variables at pre-intervention (AROW), post-intervention, 6-weeks and 6-months following the intervention. Discussion of study objectives and the formulation of research questions and hypotheses will then be provided as well as the rationale for the research design and hypothesis-testing procedures.

4.1.1. Objectives

The main objective of this study was to determine the efficacy of the 2-day Antenatal Resilience and Optimism Workshop (AROW) using a cognitive behavioural therapy approach by evaluating its impact on postnatal depressive symptoms. Both protective (resilience, optimism, life satisfaction) and risk factors (level of depression, anxiety and stress) were evaluated at pre-test, post-test, 6-week (both intervention and waitlist control groups) and 6-month follow-ups (only for the intervention group).

4.1.2. Research Questions

There are three research questions that are relevant to the current study:

1. Will the intervention group show significantly greater therapeutic pre-post changes on outcome variables (depression, anxiety, stress, resilience, life satisfaction and optimism) compared to the waitlist control group?
2. Will the intervention group maintain these changes at the 6-week follow-up?
3. Will the intervention group maintain these changes at the 6-month follow-up?

4.1.3. Hypotheses

The intervention hypotheses listed below are for the primary outcome variables (depression, anxiety, stress, resilience, optimism, and quality of life enjoyment and satisfaction):

H1: The intervention group will show significantly greater pre-post (T1 – T2) therapeutic changes in outcome variables compared to the waitlist control group.

H2: The intervention group will maintain these changes at the 6-week follow-up (T3).

H3: The intervention group will maintain these changes at the 6-month follow-up ($T4_{int}$).

H4: The treated control group will also show pre-post ($T3 – T4_{cont}$) therapeutic changes in outcome variables.

H5: The treated control group will maintain these changes at the 6-week follow-up (T5).

4.2. Randomised Controlled Trial of the Antenatal Resilience and Optimism Workshop

4.2.1. Research Design

Randomised Controlled Trials (RCTs)

This study was a randomised controlled trial (RCT). The use of RCTs has increased in psychological, health, social and educational sciences as they are ideally suited to establishing a causal link between intervention and outcomes (West et al., 2008). On the downside, RCTs can be expensive and time consuming, and generalisability to the wider population may sometimes be limited (Barratt & Kirwan, 2009). Although the primary purpose of conducting an RCT is to test for intervention effects, a secondary purpose is to identify factors that influence the intervention effect (West & Spring, 2010).

The defining feature of the RCT is randomisation of participants to intervention and control groups. The intervention group receives the intervention while the control receives no intervention or a placebo condition (Kendall, 2003). For ethical reasons, the control group is generally a waitlist control group that eventually receives the intervention after a set period. Unfortunately, it is very

common for participants in the waitlist control group to withdraw before they receive the intervention. In anticipation of this, the current study used key persons in the primary health care clinics to motivate those in the waitlist control group as well as sending a text message reminder of the imminent intervention and assessment. Another relevant ethical issue is informed consent. It is essential that all individuals participating in the RCT provide their consent after being informed of the aims, method, potential benefits and risks of joining the trial. It is also essential to ensure that ethics approval from all relevant parties is obtained prior to carrying out the data collection. The current study addressed the above ethical concerns by preparing clear information sheets and consent forms outlining the purpose of study, methodology, benefits and risks of joining and by obtaining the approval of the relevant ethics committee in Australia and Indonesia.

It is common for RCTs to measure outcomes pre- and post-intervention (Shadish, Cook, & Campbell, 2002), as well as measuring them at follow-up assessments in order to determine the maintenance of the intervention effects over time (Ellis, 1999). Previous RCTs of cognitive behavioural therapy have used a 6-week and 6-month follow-up time frame (Austin, 2003; Brown et al., 2011; Day, Kane, & Roberts, 2003). Because the participants in the current study were pregnant women, the longest time possible to conduct the follow-up was six months post-intervention, which would allow sufficient time for the development of postnatal depressive symptoms.

The Current RCT

One of the variations of the RCT is the community or cluster-randomised controlled trial that involves randomly allocating socially intact groups of participants (such as schools, therapy groups, prisons, hospitals, clinics) to intervention and control conditions. This design is appropriate for the current study where the participants (namely, pregnant women) were attending a variety of different clinics.

Eight primary health care clinics in Surabaya—East Java (Indonesia) were sampled. Four pairs of clinics were created such that, for each pair, clinics were matched in terms of size (average number of pregnant women seeking health services), quality of care (number of health professionals and staff at each clinic), proximity from the Health Department Office (by kilometres and travel time) and

opening hours (weekly length of service to public). One clinic from each matched pair was then randomly allocated to the intervention or control condition, and the matched clinic was allocated to the other condition. Contamination between participants was controlled as participants from each clinic would only go to one clinic and not likely to move to other clinics.

Outcomes were assessed at pre-test, post-test, and at 6-week and 6-month follow-ups. The 6-month follow-up was completed only by women in the intervention group in order to evaluate potential postnatal depressive symptoms as these commonly commence within four weeks post-delivery. The wait-list control group received the workshop six weeks after the intervention group completed the workshop, and were thus referred to as the treated control group thereafter. The treated control group was not evaluated at the 6-month follow-up because participants in this group would already have delivered their baby, and, in any case, they were no longer a control for the intervention group.

Pregnant women in their second trimester (10-24 weeks), 52 in the intervention and 59 in the waitlist control, volunteered to complete the Depression Anxiety Stress Scale 21 (DASS 21), the Attributional Style Questionnaire (ASQ), the Quality of Life Enjoyment and Satisfaction Questionnaire Short Form (Q-LES-Q SF), and the Connor-Davidson Resilience Scale (CD-RISC) at all assessments (pre-test, post-test, 6-week, and 6-month follow-ups). The Self-Reporting Questionnaire (SRQ) and the Modified Mini Screen (MMS) were only given at pre-test to screen for clinical depression, anxiety and psychosis symptoms; those presenting symptoms were excluded from the study. The Edinburgh Postnatal Depression Scale (EPDS) was administered only to the intervention group at the 6-month follow- up.

4.2.2. Inclusion/Exclusion Criteria

Participation in the study was voluntary. The obstetrician, gynaecologist, or nurse identified pregnant women who met the inclusion criteria of being in their 2nd trimester of pregnancy (10-24 weeks), non-high risk pregnancy and attended antenatal care and regular medical check-ups at one of the eight primary health care centres in Surabaya—East Java (Indonesia). The criteria were developed in discussion with an independent obstetrician/gynaecologist to ensure that participants with high-risk pregnancies would be exempted from the study as they might have already developed anxiety and/or depression due to their conditions. The definition

of high risk pregnancies was also based on current medical conditions like bleeding, gestational diabetes, pregnancy-induced hypertension, and a history of previous miscarriages, preterm labour, premature delivery, congenital abnormalities, and stillbirth abortion (DiLeo, 2014), as well as other case-by-case physical and psychological conditions determined by the doctors.

Screening for clinical depression, anxiety or psychosis symptoms was conducted during pre-testing, using the Self-Reporting Questionnaire (SRQ) and the Modified Mini Screen (MMS) and those who showed a strong possibility of clinical diagnosis were referred to a psychiatrist for further help and withdrawn from the study.

4.2.3. Recruitment

Participant recruitment began in early May 2012 and continued for two weeks only because the study would include only pregnant women who were at a similar period of pregnancy (2^{nd} trimester), met inclusion criteria, and agreed to participate in the group intervention (the Antenatal Resilience and Optimism Workshop—AROW) within a set period. The recruitment period was challenging as there were women who met the inclusion criteria but were either not interested or not permitted to attend by their families, and there were women who were very keen to participate in the study but did not meet inclusion criteria.

Recruitment of pregnant women was facilitated by head nurses and administrative teams in each clinic by providing information about the study to eligible participants entering or in their second trimester. Posters and flyers explaining the nature of the study and how to participate were placed on the clinics' notice boards and also directly distributed by the nurses to eligible patients.

Research assistants were present at all clinics during the two weeks recruitment period to answer participants' inquiries and to help them complete the Bahasa Indonesia version of informed consent form (see Appendix R) and book dates for the workshop. Since the workshop was free of charge, it was not difficult to get them interested at the beginning but the challenges were from the family who were not sure about the benefit of joining the workshop. However, after the pre-test assessment was conducted, some declined to participate. For those who agreed to continue, the research assistants needed to motivate and remind participants to attend the actual workshop (for the intervention group) and the preparation for workshop

(for the waitlist control group) at the agreed date and time. The role of clinic managers, doctors and nurses in encouraging them to attend the workshop significantly improved the final numbers attending the sessions. Participants who agreed to participate and provide their informed consent were told that they had the right to withdraw at any time from the study.

For the purpose of follow up actions, the participants' names, mobile numbers and email addresses were recorded. The data collection for the 6-week and 6-month follow-ups in each of the eight clinics was coordinated by research assistants in collaboration with the nurses during their post-intervention antenatal visits. All participants from both groups were reminded to complete the inventories within a certain period by a phone call or a text message using a special phone number that was created for this purpose only. There were no other matters discussed over text messages other than reminding the participants of their agreement to participate. The data collection was completed by the end of January 2013.

The study involved medical doctors (Obstetrician/Gynaecologist, Psychiatrist) and Nurses, who also provided their consent to be involved in the study and/or provided knowledge according to their competence. They were briefed about the purpose of the study and were encouraged to support the study by recommending pregnant women who met the inclusion criteria to participate in the AROW as part of their antenatal care.

4.2.4. Facilitator Modules

The entire 2-day AROW was delivered by a team of psychologists and one gynaecologist. The group activities were facilitated by workshop assistants who had been trained by the researcher to run the activities and to mediate discussion. The AROW was delivered over two consecutive days starting at 08.00 am and finishing at 5.00 pm with one and half hours break for lunch and prayer (1 hour), morning and afternoon tea (15 minutes each).

As discussed in Chapter 3, to ensure that the workshop ran systematically, a user-friendly facilitator module and a participant's workbook were carefully developed to ensure that important topics were well understood and discussed by all participants, allowing them ample opportunities to convey individual opinions, sharing of experiences and examples within a set allocated time.

The sessions were carefully sequenced, starting with simple neutral and universal discussion topics before moving into pregnancy-specific topics that may provoke anxiety, irrational thinking and emotional responses. The discussion topics and examples respected Indonesian cultural values. The module also prepared possible responses aiming to assist the group facilitators on how to respond to specific questions including challenging or unexpected situations (Ratna et al., 2012).

4.2.5. Instruments

Instruments were selected on the basis of their suitability for measuring the research outcomes (resilience, optimism, depressive symptoms and life enjoyment and satisfaction) in the population of interest (women in the antenatal and postnatal periods). To avoid bias and misunderstanding, which could occur as a result of the language barrier/restriction, the procedures used to translate the questionnaires ensured that original meanings were maintained. Author's permission and approval of the translated version were obtained prior to data collection (Appendix D, E, F, G, and K).

Participants of this study completed several instruments to evaluate and screen their level of depression, anxiety, stress, resilience, attribution style, life enjoyment and satisfaction, psychiatric disturbance and postnatal depressive symptoms. Two instruments, the Self-Reporting Questionnaire (SRQ) and the Modified Mini Screen (MMS), were used at pre-test to identify clinical psychopathology and to exclude their participation in the study when they fell into clinical range. Some instruments were translated from English to Bahasa Indonesia and back-translated from the Bahasa Indonesia translated version to English, to compare with its original English ensuring meanings were maintained. Some had the Bahasa Indonesia version ready to use. Table 9 lists the instruments used in each period of assessment.

Table 9

List of Instruments Given to Subjects in Each Period of Assessment

Intervention and Wait-list Control Groups			Intervention Group	Treated Control Group	
T1	T2	T3	$T4_{int}$	$T4_{cont}$	T5
Pre-test	Post-test	6 Weeks	6 Months	Post-test	6 Weeks
ASQ	ASQ	ASQ	ASQ	ASQ	ASQ
DASS 21	DASS 21	DASS 21	DASS 21	DASS 21	DASS 21
CD-RISC	CD-RISC	CD-RISC	CD-RISC	CD-RISC	CD-RISC
Q-LES QSF	Q-LES QSF	Q-LES QSF	Q-LES-QSF	Q-LES-QSF	Q-LES-QSF
SRQ			EPDS		
MMS					

Note: ASQ=Attributional Style Questionnaire; DASS 21= Depression Anxiety and Stress Scale 21; CD-RISC = Connor-Davidson Resilience Scale; Q-LES-Q SF=Quality of Life Enjoyment and Satisfaction Questionnaire Short Form; SRQ = Self-Reporting Questionnaire; MMS=Modified Mini Screen; EPDS=Edinburgh Postnatal Depression Scale

The Attributional Style Questionnaire (ASQ)

The Attributional Style Questionnaire (ASQ; Peterson et al., 1982) is a useful tool for assessing how individuals explain good or bad events that they experience. The ASQ has good construct, criterion, and content validity. This measure is appropriate for individuals who are 15 years of age or older**.**

The ASQ is made up of six hypothetical negative and six hypothetical positive life events. Participants are requested to imagine themselves in each hypothetical situation. Each situation is followed by a series of four questions. The first question investigates the individual's perception on one possible major cause of the situation; the individual is then requested to rate the cause on a 1-7 point scale for each of the following three dimensions: internal versus external (did this event occur because of something about me or other factors?), stable versus unstable (did this event occur because of something that will persist or something that is possible to change?) and global versus specific (will the cause of this event influence many aspects of life or only the currently experienced event?). Responses on the ASQ were interpreted according to Seligman's (1990) Learned Optimism model.

For the purpose of this study, official permission and approval to translate the English version of ASQ into Bahasa Indonesia was received. See Appendix D for the

email correspondence on approval to use the questionnaire as well as the English and Bahasa Indonesia version of the ASQ.

A review of eight studies by Sweeney, Anderson, & Bailey (1986) indicated an average reliability of .69 for the composite measure of positive outcomes, and.73 for the composite measure of negative outcomes. A test-retest reliability of .67 has been reported for both positive and negative events. The current study demonstrated Cronbach's alphas of .82 for the composite measure of positive outcomes and .78 for the composite measure of negative outcomes.

Depression Anxiety and Stress Scale 21 (DASS-21)

Pregnant women in this study completed the 21-item Depression Anxiety and Stress Scale 21 (DASS-21; Lovibond & Lovibond, 1995) at all assessment points. It is a self-report questionnaire with seven items for each of the depression, stress and anxiety subscales; each item is measured on a 4-point rating scale. The participants rated how each statement applied to them over the past week with "0 = did not apply to me at all" to 3 = applied to me very much or most of the time". To calculate comparable scores with full DASS, each subscale score was multiplied by two.

The Depression scale measures depressive symptoms (dysphoria, hopelessness, devaluation of life, self-deprecation, and lack of interest/involvement, anhedonia and inertia). Individuals with high scores on this scale are characterised as self-disapproving, miserable, blue, no energy, pessimistic, difficulty in experiencing enjoyment and satisfaction, slow, lacking of initiative and unable to be interested. The Anxiety scale evaluates situational anxiety, subjective experience of feeling anxious, physiological complaints reflected in autonomic arousal, skeletal and musculature effects. Individuals with high scores on this scale show alarmed and fearful behaviours, worry about performance and losing control, have physical complaints of a dry mouth, breathing difficulties, heart pounding and sweaty palms. The Stress scale assesses inability to relax, nervous arousal, impatience, and irritability. Individuals with high scores on this scale are frequently tense, unable to relax, short-tempered, intolerant of interruption and delay, easily disappointed and sometimes over-aroused. The higher the score, the more severe emotional distress (Lovibond & Lovibond, 1995; Oei, Sawang, Goh, & Mukhtar, 2013).

The English version of the full DASS has been used by many researchers and has excellent internal consistency (Antony, Bieling, Cox, Enns, & Swinson, 1998;

Brown, Chorpita, Korotitsch, & Barlow, 1997; Clara, Cox, & Enns, 2001; Crawford & Henry, 2003). One study reported Cronbach's alphas of .96, .89 and .93 for Depression, Anxiety and Stress respectively (Brown et al., 1997).

The DASS-21 has been translated into many languages, including Bahasa Indonesia, and was found to have an adequate internal consistency reliability (Cronbach's alpha = .98; Damanik, 2006). The current study demonstrated a Cronbach's alpha of .87. See Appendix E and F for permission to use the Bahasa Indonesia version of DASS-21, which was given both by the original author and the translator of the scale.

Connor – Davidson Resilience Scale (CD-RISC)

Participants in the study completed the 25-item of Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) at all assessment points. CD-RISC is a 25-item self-rated measure of resilience (i.e., an individual's ability to cope with stress and adversity). It has sound psychometric properties. It assesses five aspects of resilience: personal competence, trust in own intuition, acceptance of change, personal control and spiritual influences. It has been widely used for clinical and non-clinical studies in the general population, in primary care, for psychiatric outpatients, and for university students across various cultures. It shows strong internal consistency (Cronbach's alphas =.89 to .93), test-retest reliability, and convergent validity with measures of stress and social support (Connor & Davidson, 2003; Gillespie et al., 2007). The current study demonstrated a Cronbach's alpha of .86 for CD-RISC total resilience, indicating good internal consistency.

CD-RISC scores have been shown to increase with interventions aimed at enhancing resilience (Davidson et al., 2005). Respondents rate items on a scale from 0 (''not true at all'') to 4 (''true nearly all the time''). Scores range between 0 and 100, and a high score reflects high levels of resilience. See Appendix G for correspondence with the author and permission to use and to translate the scale.

The Quality of Life Enjoyment and Satisfaction Questionnaire Short Form (Q-LES-Q SF)

The Quality of Life, Enjoyment and Satisfaction Questionnaire (Q-LES-Q; Endicott et al., 1993) is a self-report tool in which responses are scored on a 5-point scale ("not at all or never" to "frequently or all the time"). The original Q-LES-Q consists of 93 items which can be grouped into eight domains: Physical Health,

Subjective Feelings, Work, Household Duties, School/ Coursework, Leisure Time Activities, Social Relationships, and General Activities (Endicott et al., 1993). The Italian version of the Q-LES-Q was validated by Rossi et al. (2005) and internal consistency was reported high in each of the eight areas with Cronbach's alphas > .80. The Q-LES-Q SF has been used in numerous studies; there is therefore ample evidence for its reliability and validity. Satisfactory internal consistency of the Q-LES-QSF is reported in the study by Mick, Farappe, Spencer, Zhang, and Biederman (2008) in which control and ADHD groups show Cronbach's alphas of .84 and .88 respectively. The current study demonstrated a Cronbach's alpha of .87 which indicated good internal consistency.

The 16-item Q-LES-Q Short Form (Q-LES-QSF) has been translated into many languages including Bahasa Indonesia and is widely available for use by clinicians and for research purposes. The Q-LES-QSF is a self-report measure of overall life satisfaction during the past week. The short form is identical to the General Activities section of the full version. Higher scores indicate higher levels of satisfaction. Correspondence with the author and permission to use and to translate the questionnaire can be found in Appendix K.

The Self-Reporting Questionnaire (SRQ)

It was necessary to screen for psychiatric disturbance before the participants commenced the intervention. The Self-Report Questionnaire (SRQ; Beusenberg & Orley, 1994) was originally developed as an instrument to screen for psychiatric disturbance in primary health care settings especially in developing countries (Harding et al., 1980). The WHO User guide indicates the most common use of SRQ is to measure psychological distress (Beusenberg & Orley, 1994).

The SRQ consists of 20 yes/no items in which participants have to indicate whether the symptom described was present during the past month (30 days). The items cover many important areas of psychopathology and are applicable across different cultures and settings. This instrument has been translated in many languages including Bahasa Indonesia and no permission is required. The Cronbach's alpha for SRQ in one study in Indonesia was .85 (Irmansyah, Dharmono, Maramis, & Minas, 2010). The current study demonstrated a Cronbach's alpha of .81 indicating good internal consistency.

Modified Mini Screen (MMS)

The Modified Mini Screen (MMS) is a 22-item scale designed to identify persons in need of further assessment of Mood Disorders, Anxiety Disorders and Psychotic Disorders based on the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revision (DSM-IV-TR; American Psychiatric Association, 2000). While the screen primarily aims to identify individuals with substance use or mental health problems, it gathers more detailed information on the nature and extent of the problem, and provides other information required to develop a treatment plan with the client *(OASAS, 2006)*. Rather than developing treatment plans, however, this study will refer individuals with problems to the relevant medical professionals.

The complete Mini-International Neuropsychiatric Interview (MINI; Sheehan, et al., 1998) has been translated into Bahasa Indonesia and is used by mental health professionals in Indonesia as a diagnostic screening tool. The MMS is derived from the MINI which is divided into three sections and no permission is required to use the tool.

As this study aims to prevent postnatal depressive symptoms, it is essential to ensure that no participant has a clinical diagnosis of depression or related disorders. Scores in the mid-range of 6 to 9 indicate a moderate likelihood of a mental disorder such that the client should be considered for a diagnostic assessment. Scores of 10 or more indicate a high likelihood of a mental disorder, and clients should definitely be referred for a more thorough diagnostic assessment and/or be offered treatment to help them manage the disorder. Participants scoring 10 or more and answering yes to 3 items (Items 4, 14 and 15) were excluded from the study.

Edinburgh Postnatal Depression Scale (EPDS)

The Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987) was developed to assist primary care health professionals to identify mothers who were suffering from postnatal depression. The EPDS was originally administered after giving birth (postnatal). Cox et al. (1987) developed the scale by collecting data from 84 women who had been identified as potentially depressed at about 6 weeks following delivery. The recommended cut-off point was 12 or 13 to indicate depressive illness of varying severity however a threshold of 9 or 10 might be appropriate if the scale was used by primary care workers, and when the

score exceeded the threshold, a reliable clinical assessment interview was therefore recommended. The split-half reliability of the scale was found to be .88 (Cox et al., 1987)

However, a study on validation of EPDS in non-postnatal women found that EPDS was a useful screening instrument for depression in women regardless of their postnatal or non-postnatal conditions and thus EPDS was recommended to be called Edinburgh Depression Scale when administered to non-postnatal population (Cox et al., 1996). Since then, this scale has been widely used and instruction for EPDS varied according to the population to whom the EPDS was administered to, for example:

"As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today" ; "As you have recently had a baby, we would like to know how you are feeling. Please UNDERLINE the answer which comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today" (Cox et al., 1987; Department of Health, Government of Western Australia, 2006).

Some studies used the EPDS to measure antenatal depression and anxiety as these two conditions could happen at any time and were reported as the most common type of mental health problems in perinatal period (beyondblue, 2013). A study by Brouwers, van Baar, and Pop (2001) confirmed the existence of an anxiety scale within the EPDS and both anxiety and depressive symptoms were accurately measured using the total items of EPDS with Cronbach's alpha .80 for the total EPDS, .79 for the depressive symptoms subscale, and .60 for the anxiety subscale (Brouwers et al., 2001). The current study demonstrated a Cronbach's alpha of .85 for the total EPDS indicating good internal consistency.

This study used the Bahasa Indonesia version of EPDS which was compiled by the Department of Health, Government of Western Australia (2006) and administered only at postnatal period because the published Bahasa Indonesia version referred to the original scale which was only intended for evaluating postnatal depressive symptoms. The EPDS was administered at the 6-month follow-up after the women attended the intervention. Moreover, it was only administered to the intervention group because there was no longer a control group at the 6-month follow-up. The assessment of antenatal and postnatal depression, anxiety and stress

was gathered from the DASS scores rather than the EPDS. The decision was supported by the study by Miller, Pallant and Negri (2006) who found that the anxiety and stress subscales of the DASS could be used to evaluate postnatal distress, and is more reliable than just the depression subscale alone. This study therefore used the DASS subscales as a measure of both pre- and post-natal depression.

4.2.6. Procedure

The current study received ethics approval from two separate ethical bodies: Curtin University Human Research Ethics Committee Western Australia Approval Number HR164/2011 (see Appendix K) and the Ministry of Health National Institute of Health Research and Development—Indonesia No. KE.01.02/EC/057/2012 (see Appendix L). All participants were given a clear information sheet and provided written consent in Bahasa Indonesia (see Appendix N and P).

The study has been registered as a clinical trial with the Australian and New Zealand Clinical Trial Registry (ANZCTR) that regulate the standards for the uniform reporting of the minimum registration data set as determined by the World Health Organization and the International Committee of Medical Journal Editors. The ANZCTR registration number is ACTRN12612000222842.

The pre-test (T1) was administered immediately after the participants completed their antenatal examination, agreed to participate and signed the informed consent form. Once the participants completed the pre-test, they were given an A5 piece of paper describing the next programme they needed to attend with clear information of day, date, time, venue and other relevant information such as encouragement to come on time and information on how to get to venue. The pre-test was administered individually for both groups. The information provided was slightly different between participants in the intervention and the wait-list control groups.

The intervention group participated in the 2-day Antenatal Resilience and Optimism Workshop (AROW) which in Bahasa Indonesia was called "*Workshop Ibu Tangguh dan Optimis*" and at the end of Day 2, all participants completed post-test measures in which the order of the measures was slightly changed to minimize carry-over effects from pre-test. Once the post-test (T2) was completed, participants from the intervention group were given a reminder to come and complete the 6-week follow-up assessment to be conducted after their general antenatal check-up. They

were all reminded by telephone or text message one or two days prior to the 6-week follow-up assessment.

On the day the intervention group received their post-test, the wait-list control group completed their second pre-test (T2) and were given general information about pregnancy and instructions to attend the workshop six weeks later. A note was given to each of them as a reminder of day, date, time, and directions to their workshop venue. Each subject received a very minimal public transport allowance of AUD 3.00/day to comply with the regulation involving humans as research participants as advised by the Indonesian Health Department.

The 6-week follow up for the intervention group was conducted at four primary health care clinics and assessment was conducted by research assistants at the agreed day, date and time. Participants from the wait-list control group were given their third pre-test (T3) before joining the workshop. Once the workshop for the wait-list control group was completed, all participants were administered the same instruments but in a different order ($T4_{cont}$); henceforth, the control group was more appropriately referred to as the treated control group.

At the 6-month follow-up, participants from the intervention group were either contacted by phone or text message to organise the final assessment. Some assessments were completed at the primary health care clinic after they attended postnatal medical check-up or at their individual houses for convenience. An additional evaluation form (consisting of open-ended questions) was given at the end of this fourth assessment ($T4_{int}$) to get the participants' feedback regarding the whole experience of participating in the workshop, how useful they found the workshop, and whether they had any interesting experiences to share.

For participants in the treated control group, the 6-week post-workshop assessment (T5) was conducted but some were not able to complete because they were too close to delivery time or had already delivered the baby. Those who completed T5 were also given an evaluation form to provide feedback of the whole experience of participating in the workshop.

4.2.7. Data Analysis

A series of Generalised Linear Mixed Models (GLMMs) were tested in order to determine whether the intervention group reported improvements on the outcome measures relative to the control group. The GLMM represents a special class of

regression model. The GLMM is "generalised" in the sense that it can handle outcome variables with markedly non-normal distributions; the GLMM is "mixed" in the sense that it includes both random and fixed effects. The present GLMM included two nominal random effects (participant and clinic), one nominal fixed effect (group: intervention, control), one ordinal fixed effect (time: pre, post, 6-week follow-up), and the Group x Time interaction. Intra-clinic dependencies were controlled by specifying a GLMM in which time was nested within participants and participants were nested within clinics. The GLMMs were implemented through SPSS's (Version 22) GENLINMIXED procedure.

Statistical Assumptions

For a repeated measures design such as this one, the traditional ANOVA model requires the following assumptions to be satisfied: Normality, homogeneity of variance, sphericity, and independence of observations. The GLMM "robust statistics" option will generally take care of violations of normality and homogeneity of variance. Violations of sphericity can be accommodated by changing the covariance matrix from the default of compound symmetry to autoregressive. Moreover, the GLMM can deal with unequally spaced data collection points, and is robust to unequal group sizes. Finally, by specifying the multilevel nature of the current data (participant nested within clinic) in the GLMM syntax, GLMM can accommodate intra-clinic dependencies in the outcome measures.

Participants: Flow, Attrition, Missing Data and General Demographic Characteristics

When data is collected longitudinally, we have the problem of participant attrition (wave non-response). Wave non-response will normally reduce statistical power. Compared to the traditional statistical procedures for analysing behavioural change (e.g., repeated measures ANOVA), GLMM is less sensitive to participant attrition because it does not rely on participants providing data at every assessment point; the GLMM maximum likelihood procedure is a full information estimation procedure that uses *all* the data present at *each* assessment point. This reduces sampling bias and the need to replace missing data. GLMM is able to use the data present at each assessment point because time (pre, post, 6-week follow-up) is interpreted as a Level 1 variable that is nested within participant at Level 2 (which is itself nested within clinics at Level 3).

Figure 4 shows the participants' flow over the period of the data collection. Participants were pregnant women attending antenatal care at eight primary health care clinics in Surabaya, East Java, Indonesia. Eight primary health care clinics in Surabaya – East Java (Indonesia) were sampled such that four pairs of clinics could be created in which the members of each pair were matched in terms of size (average number of pregnant women seeking health services), quality of care (number of health professionals and staff at each clinic), proximity from the Health Department Office (by kilometres and travel time) and opening hours (weekly length of service to public). One clinic from each matched pair was then randomly allocated to the intervention or control condition, and the matched clinic was allocated to the other condition.

A total of 115 pregnant women from all clinics were assessed during the one-week recruitment. Two of them did not meet the inclusion criteria and two of them withdrew before the baseline test was conducted. Fifty-two pregnant women from the intervention and fifty-nine from the waitlist control groups (total of 111 participants in their 2nd trimester of pregnancy) completed the baseline/pre-test (1st assessment – T1). Twenty seven pregnant women in the intervention group fully attended the 2-day Antenatal Resilience and Optimism Workshop (AROW) and completed the post-test (2nd assessment – T2). Forty seven women in the waitlist control group came on day-2 after the AROW was delivered to the intervention group and they completed their 2nd assessment.

At the six week follow-up, twenty seven women from the intervention group who had attended the workshop completed the 3rd assessment (T3) conducted at each clinic where they attended for their antenatal general check-up. At the same period of time, forty seven pregnant women from the waitlist control group had their 3rd assessment before they received the Day 1 programme of the complete AROW. Once the pregnant women in the waitlist control group attended the workshop, they were no longer considered as control group.

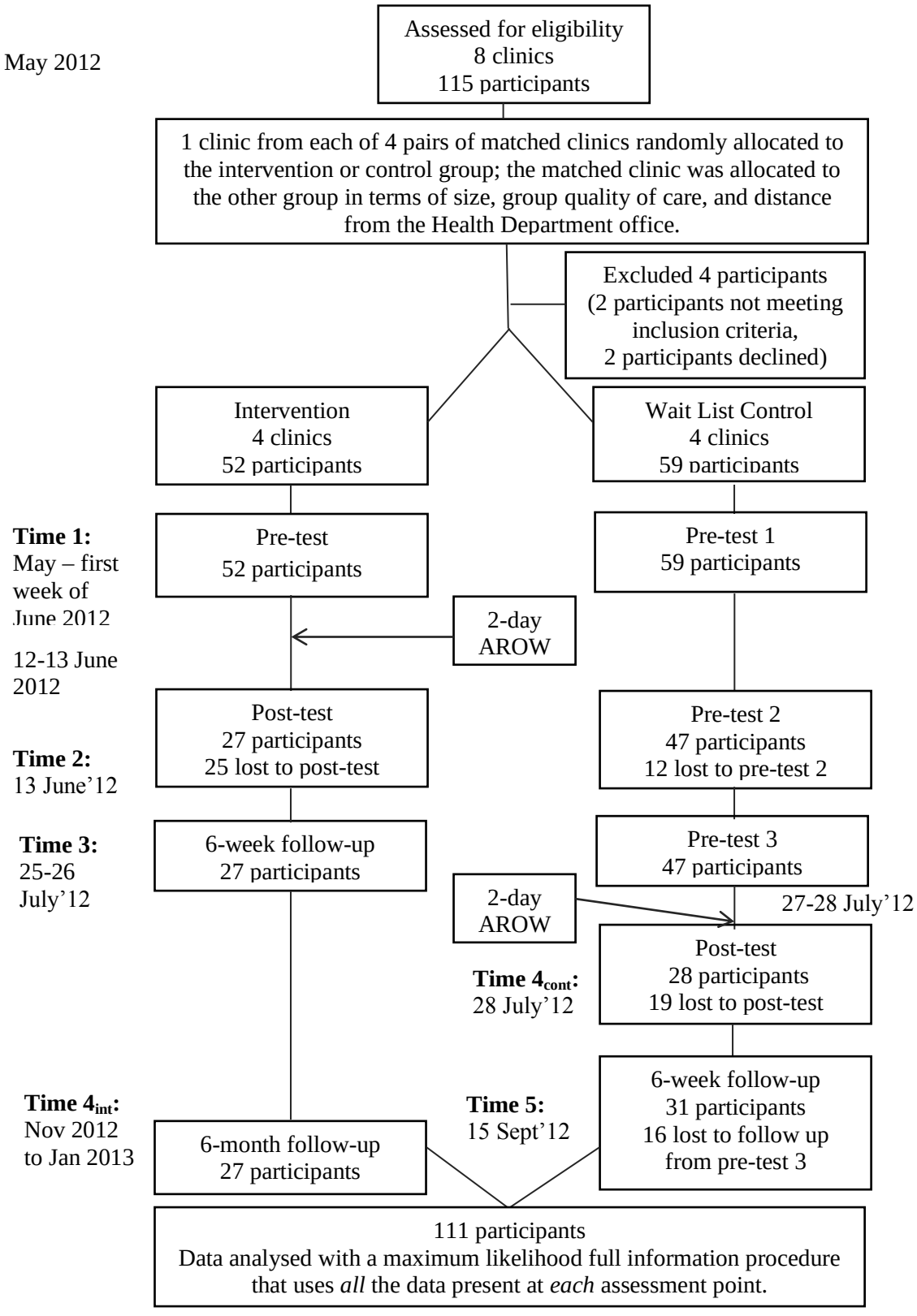

Figure 4 CONSORT Flow diagram of study participation and intervention status, Time 1 to Time 3 (both groups); Time 4_{int} (Intervention group); Time 4_{cont} and Time 5 (Treated Control Group)

Note: AROW = Antenatal Resilience and Optimism Workshop

At the 6-month follow-up for the intervention group, the twenty seven women had given birth and the 4th assessment ($T4_{int}$) was administered approximately one month after they gave birth to adhere to the theory on onset of potential postnatal depression. There was no 4th assessment of the initial waitlist control group as after their 3rd assessment the group received the workshop and thus became the treated control group. However, participants in the treated control group were evaluated after receiving the intervention ($T4_{cont}$) and 6-week follow up (T5).

Of all the participants eligible to participate in the study, seventy four (66.7%) completed all three assessments. There was a zero attrition rate for both the intervention and waitlist control groups from 2nd assessment (post-intervention) to 3rd assessment (6-week follow up).

Table 10 and 11 describes participants' general demographic characteristics of both groups. The intervention and wait-list control groups showed similar means on age (28.37 and 28.31), age when married (22 years old), husband's age (31.33 and 31.03 years) and gestation period at the baseline assessment (approximately 15 weeks). Also similar percentages were observed for religion (100% and 98.3% were Moslem), and education with the majority of participants having completed Year 10-12 (53.8% and 61.0%). Interestingly, 40.4% of participants in the intervention group and 40.7% in the wait-list control group were the first-born child in families.

Controlling for Multiple Statistical Tests

In order to optimise the likelihood of convergence, a separate GLMM analysis was run for each outcome measure. Analysing each outcome independently of the others will of course inflate the family wise error rate. The per-test alpha will therefore need to be corrected to control the inflation. In order to conserve statistical power, the alpha correction was applied *within* groups of conceptually related outcomes rather than *across* the entire set of outcomes.

Statistical Power

Hypothesis 1 predicts a Group x Time interaction for each outcome. Data from previous studies using similar outcomes were not available for estimating the magnitude of these interactions. G*Power (Version 3.1) was therefore used to estimate the number of participants required for an 80% probability of capturing a "small to moderate" interaction (i.e., $f = .175$) between condition (intervention,

control) and time (pre-test, post-test, follow-up) at an alpha-level of .05. G*Power produced an estimate of 54 participants (27 in each group) which is less than the number of participants included in this study. Because the Condition x Time interaction is likely to be smaller than the time effects predicted in H2 and H3 (interaction effects tend to be on the "small" side), 111 participants should also be adequate for capturing these effects. As argued in the previous section, unlike repeated measures ANOVA, GLMM does not rely on participants providing data at every assessment point; GLMM uses all the data present at each assessment point thereby reducing the impact of participant attrition on statistical power.

Table 10

Baseline Characteristics of Study Participants

	Groups	***N***	**Mean**	***SD***	**Min**	**Max**
Subjects' Age (years)	Intervention	52	28.37	5.42	16	38
	Wait-list Control	59	28.31	5.63	19	43
Age when married (years)	Intervention	52	22.77	3.36	15	31
	Wait-list Control	59	22.68	3.29	17	30
Husband's age (years)	Intervention	52	31.33	6.20	20	45
	Wait-list Control	59	31.03	6.02	21	49
Gestation period (week)	Intervention	52	15.56	3.98	10	25
	Wait-list Control	59	15.53	4.63	10	30
Education Background	Intervention	52	2.63	.89	0	4
	Wait-list Control	59	2.86	.73	1	4

Table 11

General Demographic Characteristics

		Intervention (4 clinics; *n* = 52)	%	Waitlist Control (4 clinics; *n* =59)	%	Total	%
Order in the family	1	21	40.4	24	40.7	45	40.5
	2	6	11.5	11	18.6	17	15.3
	3	7	13.5	10	16.9	17	15.3
	4	6	11.5	7	11.9	13	11.7
	5	4	7.7	4	6.8	8	7.2
	6	3	5.8	1	1.7	4	3.6
	7	1	1.9	2	3.4	3	2.7
	8	2	3.8	0	0.0	2	1.8
	9	1	1.9	0	0.0	1	0.9
	10	1	1.9	0	0.0	1	0.9
Number of siblings including subjects	1	1	1.9	0	0.0	1	0.9
	2	10	19.2	11	18.6	21	18.9
	3	10	19.2	14	23.7	24	21.6
	4	10	19.2	14	23.7	24	21.6
	5	7	13.5	8	13.6	15	13.5
	6	4	7.7	7	11.9	11	9.9
	7	1	1.9	1	1.7	2	1.8
	8	2	3.8	2	3.4	4	3.6
	9	3	5.8	2	3.4	5	4.5
	10	2	3.8	0	0.0	2	1.8
	11	0	0.0	0	0.0	0	0.0
	12	2	3.8	0	0.0	2	1.8
Current Employment	No	35	67.3	27	45.8	62	55.9
	Yes	17	32.7	32	54.2	49	44.1
Average Monthly Expenses	≤ $ 60	14	26.9	9	15.2	23	20.7
	$ 61-90	9	17.3	19	32.2	28	25.2
	$ 91-125	17	32.7	17	28.8	34	30.6
	$125-175	9	17.3	9	15.2	18	16.2
	$175-250	2	3.8	3	5.1	5	4.5
	$250-350	1	1.9	2	3.4	3	2.7
Religion	Moslem	52	100	58	98.3	110	99.1
	Christian	0	0	1	1.7	1	0.9

Chapter 5

Results

5.1. Descriptive Statistics

The results reported here are primarily derived from data comparison between the intervention and waitlist-control groups at three assessment periods: baseline (T1), post-intervention (T2) and 6-week follow-up (T3). Results gathered at the 6-month follow-up ($T4_{int}$) are briefly reported to show the maintenance of effects for the intervention group. Once the waitlist-control group received the AROW, it became the treated control group. The treated control group was subsequently assessed at post-intervention ($T4_{cont}$) and at a 6-week follow-up (T5).

Table 12, 13 and 14 below reports the number of participants assessed at each time point, and the means and standard deviations for each outcome variable for the intervention and waitlist/treated control groups. The intervention group shows higher means than the waitlist-control group in all protective factors as well as lower means in all risk factors at post-test, indicating the possibility of intervention effects.

Table 12

Descriptive Statistic for CD-RISC - Total Resilience and Resilience Factors (F1, F2, F3, F4, and F5)

Outcome Variables	Groups	T1			T2			T3			$T4_{int}$ or $T4_{cont}$			T5		
		N	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*
Total Resilience	Intervention	52	73.13	9.03	27	82.48	10.75	27	80.41	13.63	27	78.74	14.29			
	Wait-list Control	59	70.97	10.09	47	70.83	10.51	34	68.56	15.43	28	81.32	11.34	31	80.10	10.14
F1 Personal Competence	Intervention	52	24.02	3.21	27	27.59	3.49	27	26.44	4.61	27	26.56	4.41			
	Wait-list Control	59	23.22	3.64	47	22.98	4.02	34	22.38	5.27	28	27.07	4.30	31	26.29	3.65
F2 Trust own Intuition	Intervention	52	18.63	3.38	27	21.33	3.27	27	21.07	4.26	27	20.48	4.34			
	Wait-list Control	59	17.41	3.99	47	18.47	3.71	34	17.79	4.65	28	21.39	3.33	31	20.81	3.88
F3 Acceptance of Change	Intervention	52	15.06	2.03	27	16.52	2.67	27	15.81	3.51	27	15.48	3.80			
	Wait-list Control	59	14.78	2.47	47	14.34	2.23	34	14.03	3.34	28	16.25	2.17	31	16.32	2.04
F4 Personal Control	Intervention	52	8.96	1.64	27	10.44	1.31	27	10.19	1.36	27	9.78	1.58			
	Wait-list Control	59	8.92	1.41	47	8.62	1.47	34	8.41	1.86	28	9.93	1.54	31	9.77	1.31
F5 Spiritual Influences	Intervention	52	6.46	1.20	27	6.59	1.31	27	6.89	1.25	27	6.44	1.40			
	Wait-list Control	59	6.64	1.03	47	6.43	.97	34	5.94	1.54	28	6.68	1.06	31	6.90	.75

Note. Shaded area refers to treated control group (initially the waitlist-control group which received the intervention after T3

Table 13

Descriptive Statistic for ASQ-CPCN General Attributional Style (Optimism) and Q-LES-Q Quality of Life Enjoyment and Satisfaction

Outcome Variables	Groups	T1			T2			T3			$T4_{int}$ or $T4_{cont}$			T5		
		N	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*
ASQ-CPCN (Optimism)	Intervention	52	1.97	4.92	27	2.52	4.14	27	3.01	5.43	27	3.46	5.79			
	Wait-list Control	59	1.58	2.30	47	.97	4.20	34	.89	3.63	28	.41	4.17	31	1.86	3.44
Q-LES-Q Quality of Life Enjoyment & Satisfaction	Intervention	52	48.00	7.06	27	55.81	9.31	27	51.85	8.73	27	53.22	10.19			
	Wait-list Control	59	49.3	7.27	47	49.72	7.89	34	47.82	11.04	28	54.07	8.65	31	52.32	7.52

Note.
ASQ-CPCN = Attributional Style Questionnaire – Composite Positive and Composite Negative
Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire
Shaded area refers to treated control group (initially the waitlist-control group which received the intervention after T3

Table 14

Descriptive Statistic for DASS (Depression, Anxiety and Stress Scale)

Outcome variables	**Groups**	**T1**			**T2**			**T3**			**$T4_{int}$ or $T4_{cont}$**			**T5**		
		N	***Mean***	***SD***	***N***	***Mean***	***SD***	***N***	***Mean***	***SD***	***N***	***Mean***	***SD***	***N***	***Mean***	***SD***
DASS Depression	Intervention	52	7.73	8.03	27	3.04	2.56	27	2.96	3.06	27	2.96	4.88			
	Wait-list Control	59	5.49	4.53	47	7.87	10.15	34	6.76	9.76	28	3.50	6.00	31	3.29	6.92
DASS Anxiety	Intervention	52	8.85	7.82	27	4.96	4.27	27	4.96	4.38	27	3.11	5.44			
	Wait-list Control	59	6.54	4.31	47	6.26	5.67	34	7.24	5.99	28	4.07	4.34	31	4.39	5.55
DASS Stress	Intervention	52	12.81	8.85	27	5.56	5.27	27	5.41	5.49	27	5.19	7.09			
	Wait-list Control	59	8.92	5.73	47	8.77	7.79	34	8.88	7.44	28	5.00	5.83	31	4.26	5.38

Note.
DASS = Depression, Anxiety and Stress Scale
Shaded area refers to treated control group (initially the waitlist-control group which received the intervention after T3

5.2. Hypotheses Testing

The intervention hypotheses for the primary outcome variables related to resilience, optimism, quality of life enjoyment and satisfaction, depression, anxiety and stress are:

H1: The intervention group will show significantly greater pre-post (T1 – T2) therapeutic changes in outcome variables compared to the waitlist control group.

H2: The intervention group will maintain these changes at the 6-week follow-up (T3).

H3: The intervention group will maintain these changes at the 6-month follow-up ($T4_{int}$).

H4: The treated control group will also show pre-post ($T3 – T4_{cont}$) therapeutic changes in outcome variables.

H5: The treated control group will maintain these changes at the 6-week follow-up (T5).

The testing of H1 and H2 is reported in section 5.2.1; Section 5.2.2 reports the testing of H3; and Section 5.2.3 reports the testing of H4 and H5.

5.2.1. Intervention Effects (T1, T2 to T3)

Statistics for the group and time main effects and the Group x Time interaction for each outcome variable are reported in Table 15. More detailed pairwise comparisons can be found in Table 16 (for Resilience and its factors) and Table 17 (for DASS subscales and Q-LES-Q). Since the Group x Time interaction and the main effect of time was non-significant for Attributional Style (ASQ-CPCN), hypothesis testing for this particular variable was not pursued further. Cohen (1988) as cited by Lakens (2013) has formulated a standard to define small effects ($\eta^2 = 0.01$), medium ($\eta^2 = 0.06$), and large ($\eta^2 = 0.14$) effects, hence the tables below based its interpretation of effect size to this.

Table 15

*Effects of Group, Time and Group*Time on Outcome Variables*

Outcome Variables	Group Effect	Time Effect	Group * Time Effect	Partial eta squared (η_p^2)	Intervention effect
Total Resilience	$F(1,239) = 9.15$**	$F(2,239) = 15.30$***	$F(2,239) = 15.13$***	.060	Small to Moderate
F1 – Personal Competence	$F(1,239) = 20.03$***	$F(2,239) = 37.22$***	$F(2,239) = 49.53$***	.172	Large
F2 – Trust in Own Intuition	$F(1,239) = 5.01$*	$F(2,239) = 14.98$***	$F(2,239) = 2.09$	.009	Small
F3 – Acceptance of Change	$F(1,239) = 10.98$**	$F(2,239) = 4.01$*	$F(2,239) = 12.72$***	.051	Small to Moderate
F4 – Personal Control	$F(1,239) = 13.65$***	$F(2,239) = 109.39$***	$F(2,239) = 164.18$***	.407	Large
F5 – Spiritual Influences	$F(1,239) = 0.8$	$F(2,239) = 0.24$	$F(2,239) = 10.01$***	.040	Small to Moderate
DASS- Depression	$F(1,240) = 1.80$	$F(2,240) = 1.27$	$F(2,240) = 9.34$***	.037	Small to Moderate
DASS - Anxiety	$F(1,240) = 0.20$	$F(2,240) = 9.10$***	$F(2,240) = 7.74$**	.031	Small to Moderate
DASS - Stress	$F(1,240) = 1.58$	$F(2,240) = 9.25$***	$F(2,240) = 8.88$***	.036	Small to Moderate
Q-LES-Q	$F(1,239) = 2.79$	$F(2,239) = 41.76$***	$F(2,239) = 42.53$***	.151	Large
ASQ – CPCN (Optimism)	$F(1,240) = 13.40$***	$F(2,240) = 0.53$	$F(2,240) = 0.21$	.001	Small

Note.

Intervention effect showed by partial eta squared (η_p^2): Small $= \eta_p^2 \leq .01$; Small to Moderate $= .01 < \eta_p^2 \leq .06$; Moderate to Large $= .06 < \eta_p^2 < .15$; Large $= \eta_p^2 \geq .15$

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 16

Adjusted Means and (Standard Errors) of CD-RISC Total Resilience and Resilience Factors (F1, F2, F3, F4, and F5) across Time for the Intervention and Control Conditions, Including Post-Hoc Least Significant Difference Comparisons between Assessments

Outcome Variables	**Groups**	**T1** ***M*(*SE*)**	**T2** ***M*(*SE*)**	***t* (df)**	***p***	**Eta squared η^2**	**T2** ***M*(*SE*)**	**T3** ***M*(*SE*)**	***t* (df)**	***p***	**Eta squared η^2**	**T1** ***M*(*SE*)**	**T3** ***M*(*SE*)**	***t*(df)**	***p***	**Eta squared η^2**
Total Resilience	Intv	72.92 (1.66)	81.56 (1.60)	11.36 (239)	<.001***	.351	81.56 (1.60)	79.51 (1.61)	4.66 (239)	<.001***	.083	72.92 (1.66)	79.51 (1.61)	12.12 (239)	<.001***	.381
	Ctrl	71.18 (2.14)	71.12 (1.65)	0.05 (239)	.964	.000	71.12 (1.65)	71.43 (1.29)	0.31 (239)	.755	.000	71.18 (2.14)	71.43 (1.29)	0.19 (239)	.848	.000
F1 Personal Competence	Intv	24.01 (0.42)	27.30 (0.44)	22.91 (239)	<.001***	.687	27.30 (0.44)	26.15 (0.56)	5.38 (239)	<.001***	.108	24.01 (0.42)	26.15 (0.56)	8.70 (239)	<.001***	.241
	Ctrl	23.26 (0.56)	23.09 (0.42)	0.51 (239)	.613	.001	23.09 (0.42)	23.37 (0.36)	0.59 (239)	.559	.001	23.26 (0.56)	23.37 (0.36)	0.16 (239)	.872	.000
F2 Trust in own Intuition	Intv	18.52 (0.52)	21.05 (0.67)	4.59 (239)	<.001***	.081	21.05 (0.67)	20.81 (0.57)	0.67 (239)	.503	.002	18.52 (0.52)	20.81 (0.57)	5.44 (239)	<.001***	.110
	Ctrl	17.50 (0.79)	18.65 (0.77)	4.59 (239)	<.001***	.081	18.65 (0.77)	18.55 (0.56)	0.67 (239)	.503	.002	17.50 (0.79)	18.55 (0.56)	5.44 (239)	<.001***	.110
F3 Acceptance of Change	Intv	15.03 (0.27)	16.31 (0.20	5.02 (239)	<.001***	.095	16.31 (0.20)	15.62 (0.17)	4.58 (239)	<.001***	.081	15.03 (0.27)	15.62 (0.17)	2.26 (239)	.025*	.021
	Ctrl	14.74 (0.57)	14.26 (0.17)	1.04 (239)	.301	.005	14.26 (0.17)	14.44 (0.26)	1.49 (239)	.137	.009	14.74 (0.57)	14.44 (0.26)	0.69 (239)	.49	.002
F4 Personal Control	Intv	8.93 (0.26)	10.44 (0.12)	9.69 (239)	<.001***	.282	10.44 (0.12)	10.18 (0.25)	1.85 (239)	.065	.014	8.93 (0.26)	10.18 (0.25)	40.51 (239)	<.001***	.873
	Ctrl	8.94 (.15)	8.68 (0.26)	1.83 (239)	.068	.014	8.68 (0.26)	8.82 (0.18)	0.93 (239)	.355	.004	8.94 (0.15)	8.82 (0.18)	1.61 (239)	.109	.011
F5 Spiritual Influences	Intv	6.48 (0.25)	6.59 (0.23)	0.75 (239)	.457	.002	6.59 (0.23)	6.90 (0.09)	2.15 (239)	.033*	.019	6.48 (0.25)	6.90 (0.09)	2.44 (239)	.016*	.024
	Ctrl	6.68 (0.24)	6.49 (0.13)	1.32 (239)	.189	.007	6.49 (0.13)	6.22 (0.14)	15.11 (239)	<.001***	.489	6.68 (0.24)	6.22 (0.14)	2.70 (239)	.007**	.030

Note. CD-RISC = Connor-Davidson Resilience Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* p < .05 ** p < .01 *** p < .001

CD-RISC – Total Resilience (Significant, Small to Moderate Intervention Effect)

The Group x Time interaction was significant (F[2,239] = 15.13, p <.001). LSD (least significant difference) post-hoc contrasts conducted across the simple main effects of time indicated a significant large pre-post increase in overall resilience for the intervention group (t[239] =11.36, p < .001), and a non-significant pre-post decrease for the control group (t[239] = 0.05, p = .964). The intervention group showed a significant post-FU decrease in overall resilience (t[239] = 4.66, p < .001), while the control group showed no significant post-FU change (t[239] = 0.31, p = .755). The significant pre-post increase for the intervention group was maintained at 6-week follow up (t[239] = 12.12, p < .001).

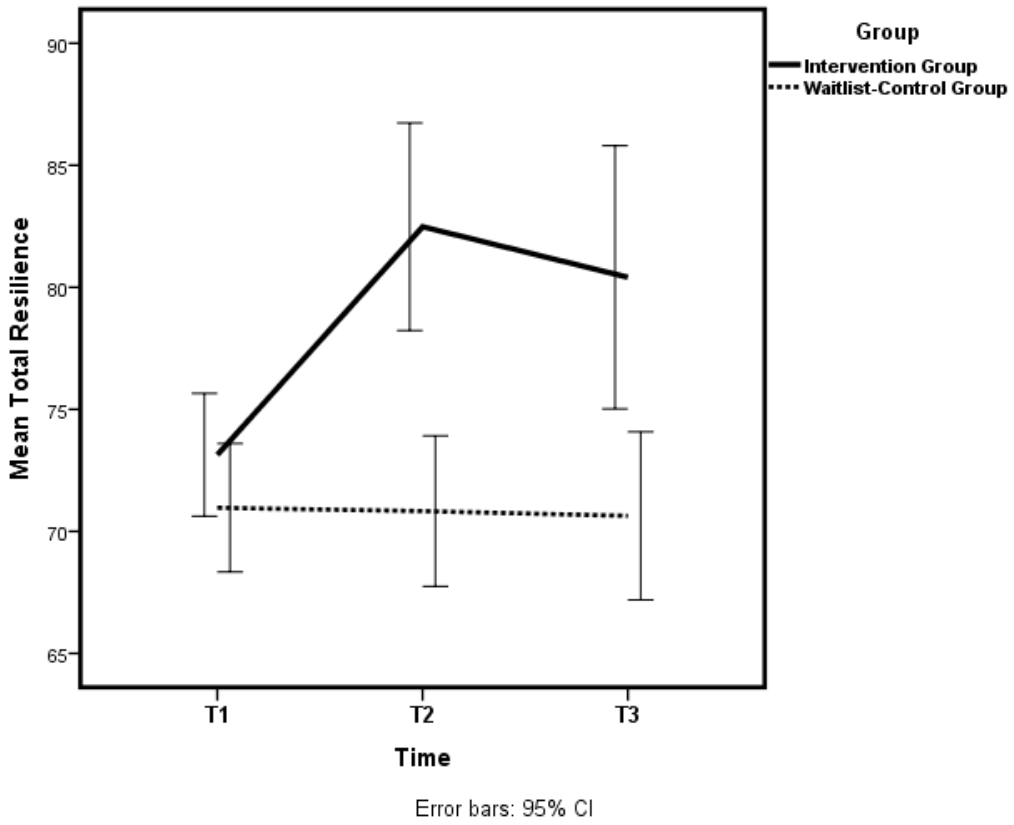

Figure 5. Changes in total resilience across time and condition

CD-RISC – F1 Personal Competence (Significant, Large Intervention Effect)

The Group x Time interaction was significant (F[2,239] = 49.53, p <.001). LSD post-hoc contrasts conducted across the simple main effects of time indicated a significant pre-post increase in personal competence for the intervention group (t[239] =22.91, p < .001), and a non-significant pre-post decrease for the control group (t[239] =0.51, p = .613). The intervention group showed a significant post-FU decrease in personal competence (t[239] = 5.38, p < .001), while the control group showed a non-significant post-FU increase (t[239] = 0.59, p = .559). The significant pre-post increase for the intervention group was maintained at the 6-week follow-up (t[239] = 8.70 , p < .001).

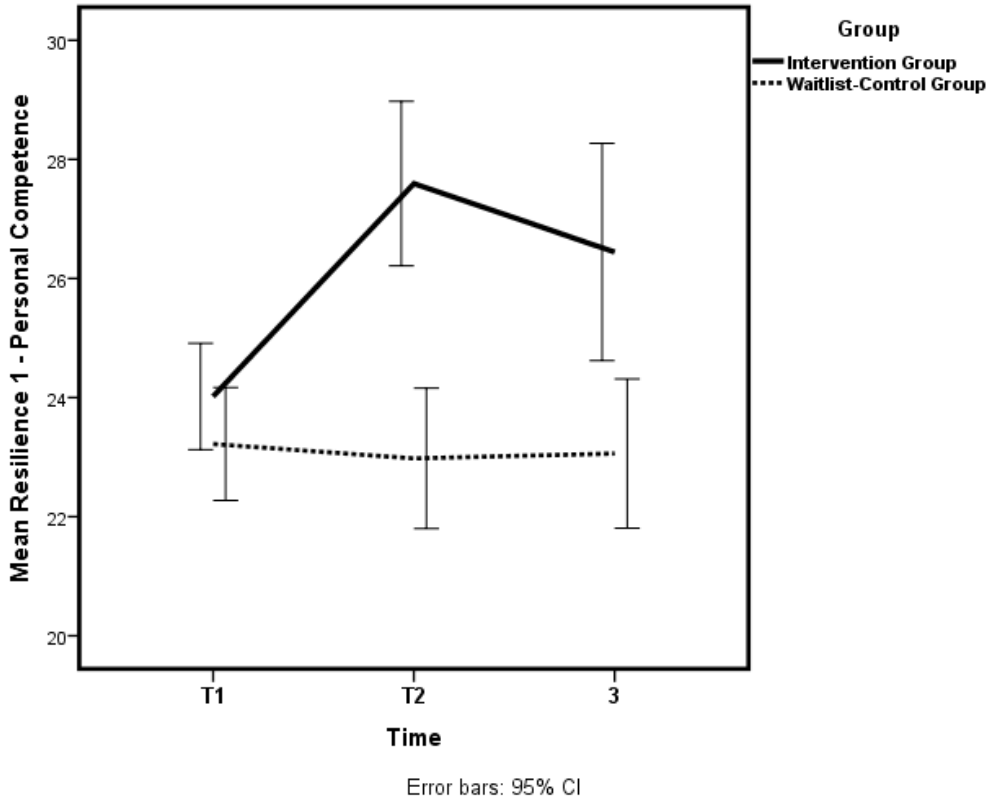

Figure 6. Changes in F1 Personal Competence across time and condition

CD-RISC – F2 Trust in Own Intuition (Non-significant, Small Intervention Effect)

The Group x Time interaction was not significant (F[2,239] = 2.09, p = .126) and therefore each of the two main effects can be interpreted independently of one another. The main effects for group and time were significant (F[1,239] = 5.01, p = .026) and (F[1,229] = 14.98, p < .001 respectively). These indicated that, although the intervention group had significantly higher levels of trust at each assessment compared to the control group, both groups changed significantly over time at the same rate.

LSD post-hoc contrasts conducted across the main effect of time indicated that, for both groups, there was a significant pre-post increase in trust (t[239] = 4.59, p <.001), followed by a non-significant post-FU decrease (t[239] = 0.67, p = .503). The significant pre-post increase was maintained at the 6-week follow-up (t[239] = 5.44, p < .001)

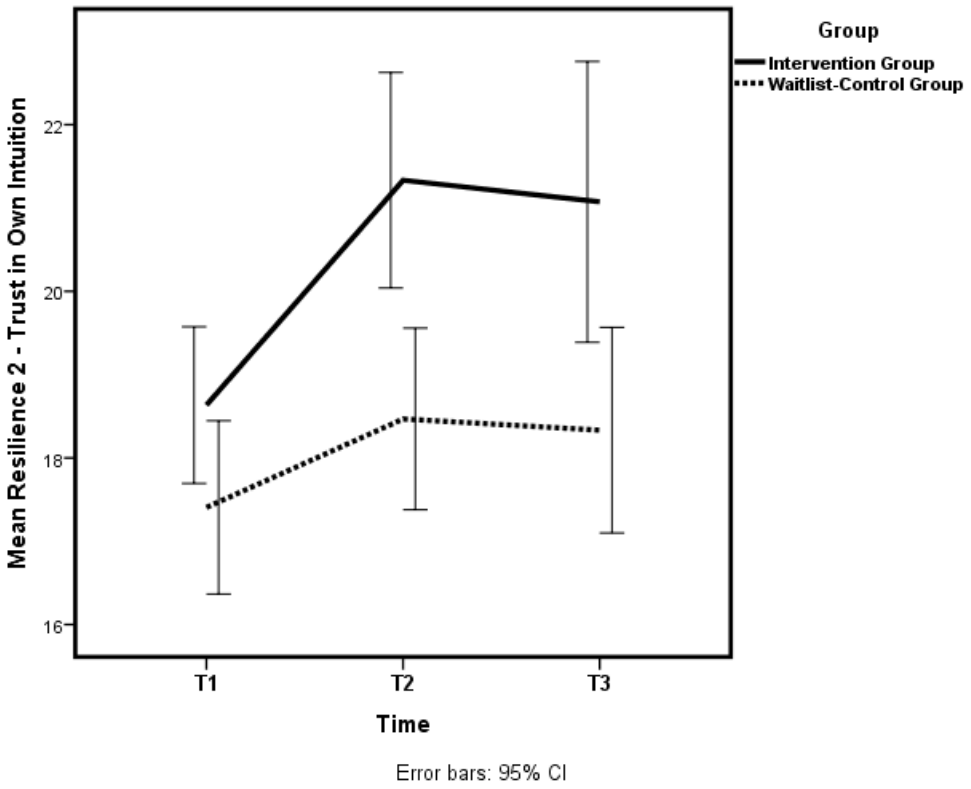

Figure 7. Changes in F2 Trust in Own Intuition across time and condition

CD-RISC – F3 Acceptance of Change (Significant, Small to Moderate Intervention Effect)

The Group x Time interaction was significant (F[2,239] = 12.72, p <.001). LSD post-hoc contrasts conducted across the simple main effects of time indicated a significant pre-post increase in acceptance of change for the intervention group (t[239] =5.02, p < .001), and a non-significant pre-post decrease for the control group (t[239] =1.04, p = .301). The intervention group showed a significant post-FU decrease in acceptance of change (t[239] = 4.58, p < .001), while the control group showed a non-significant post-FU increase (t[239] = 1.49, p = .137). The significant pre-post increase for the intervention group was maintained at the 6-week follow-up (t[239] = 2.26, p = .025).

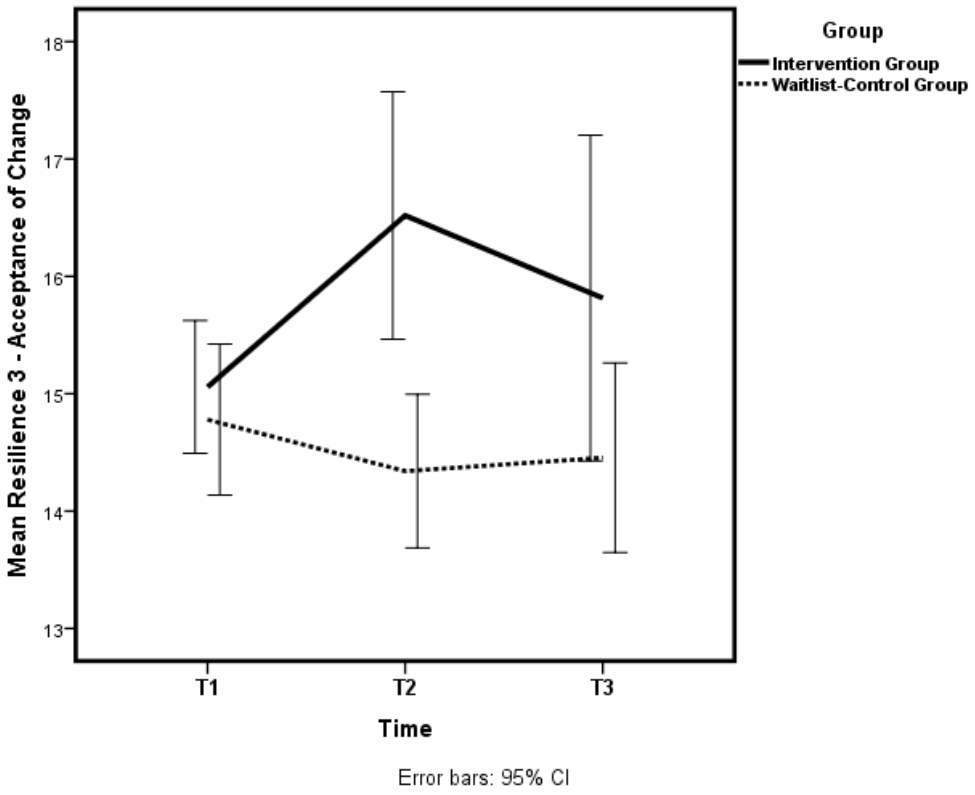

Figure 8. Changes in F3 Acceptance of Change across time and condition

CD-RISC – F4 Personal Control (Significant, Large Intervention Effect)

The Group x Time interaction was significant (F[2,239] = 164.18, p < .001). LSD post-hoc contrasts conducted across the simple main effects of time indicated a significant pre-post increase in personal control for the intervention group (t[239] = 9.69, p < .001), and a non-significant pre-post decrease for the control group (t[239] = 1.83, p = .068). The intervention group showed a non-significant post-FU decrease in personal control (t[239] = 1.85, p = .065), whereas the control group showed a non-significant post-FU increase (t[239] = 0.93, p = .355). The significant pre-post increase for the intervention group was maintained at the 6-week follow-up (t[239] = 40.51, p < .001).

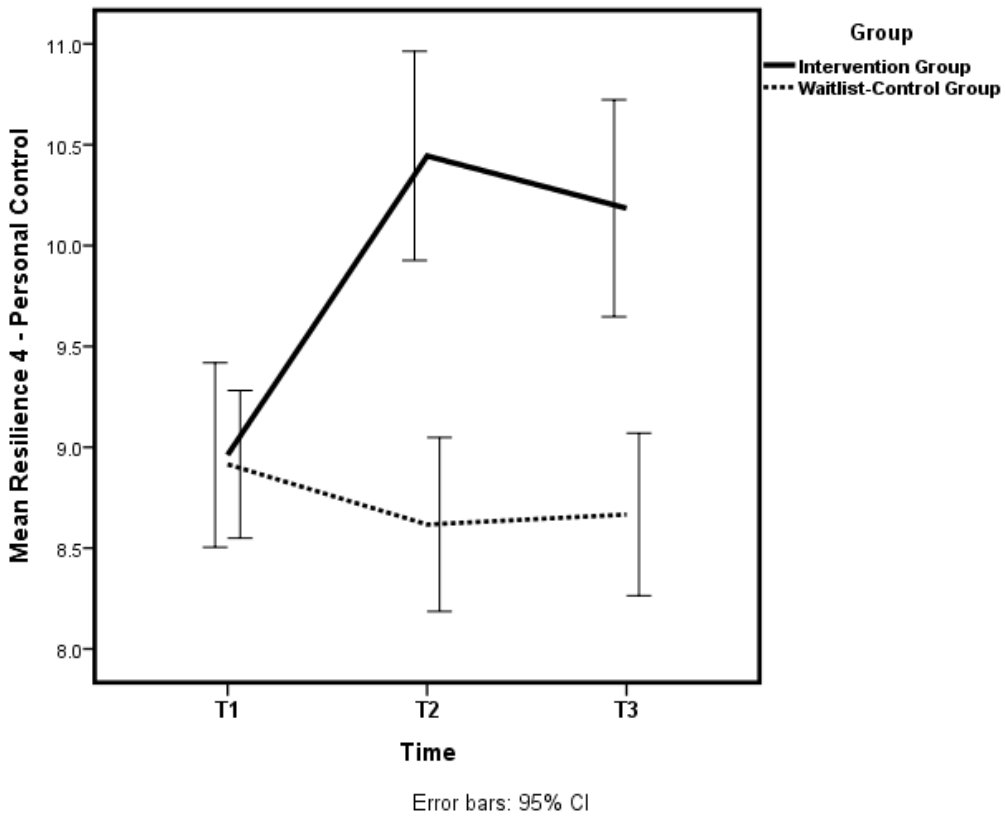

Figure 9. Changes in F4 Personal Control across time and condition

CD-RISC – F5 Spiritual Influences (Significant, Small to Moderate Intervention Effect)

The Group x Time interaction was significant (F[2,239] = 10.01, $p < .001$). LSD post-hoc contrasts conducted across the simple main effects of time indicated a non-significant pre-post increase in spiritual influences for the intervention group (t[239] = 0.75, $p = .457$), and a non-significant pre-post decrease for the control group (t[239] =1.32, $p = .189$). The intervention group showed a significant post-FU increase in spiritual influences (t[239] = 2.15, $p = .033$), while the control group showed a significant post-FU decrease (t[239] =15.11, $p < .001$).

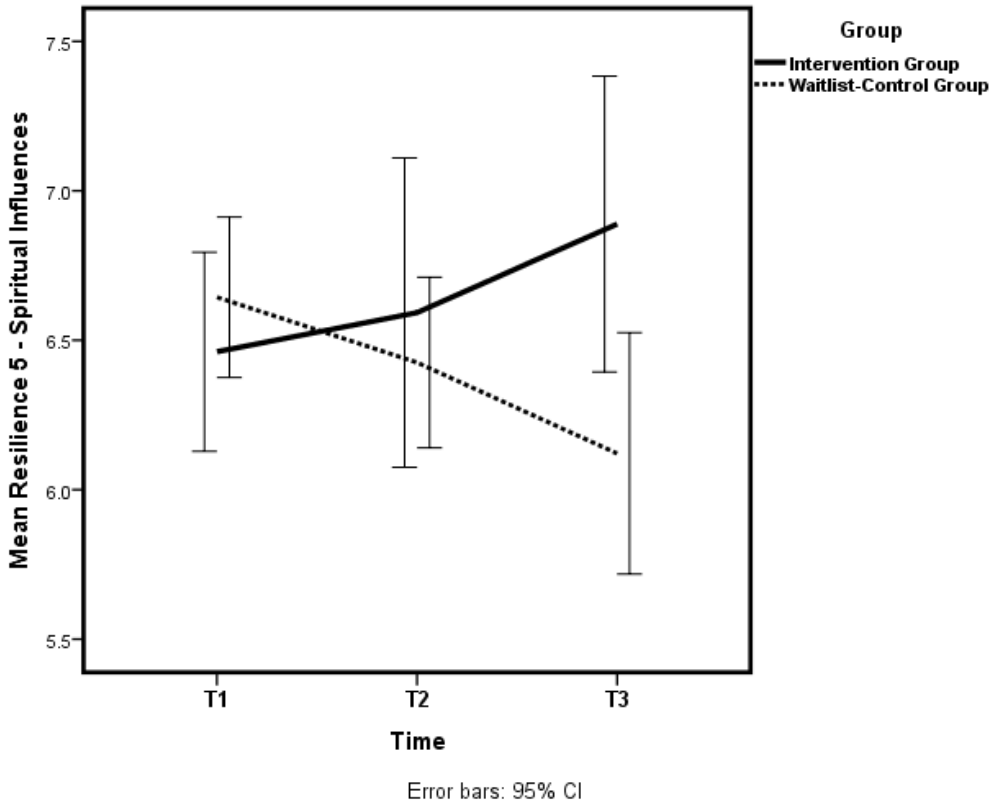

Figure 10. Changes in F5 Spiritual Influences across time and condition

Table 17

Adjusted Means and (Standard Errors) of DASS and Q-LES-Q across Time for the Intervention and Control Conditions, Including Post-Hoc Least Significant Difference Comparisons between Assessments

Outcome Variables	Groups	T1 *M*(*SE*)	T2 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T3 *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
DASS Depression	Intv	7.92 (1.37)	3.71 (0.50)	3.92 (240)	<.001***	.060	3.71 (0.5)	3.61 (0.53)	0.25 (240)	.805	.000	7.92 (1.37)	3.61 (0.53)	2.96 (240)	.003**	.035
	Ctrl	5.37 (0.76)	7.60 (1.44)	2.16 (240)	.032*	.019	7.6 (1.44)	6.77 (1.05)	0.69 (240)	.488	.002	5.37 (0.76)	6.77 (1.05)	1.25 (240)	.211	.006
DASS Anxiety	Intv	8.85 (1.03)	5.26 (0.61)	2.99 (240)	.003**	.036	5.26 (0.61)	5.26 (0.42)	0.004 (240)	.997	.000	8.85 (1.03)	5.26 (0.42)	2.86 (240)	.005**	.033
	Ctrl	6.54 (0.51)	6.29 (0.57)	0.60 (240)	.551	.001	6.29 (0.57)	7.46 (0.66)	10.83 (240)	<.001***	.328	6.54 (0.51)	7.46 (0.66)	2.01 (240)	.045 *	.017
DASS Stress	Intv	12.81 (0.79)	5.63 (0.86)	5.05 (240	<.001***	.096	5.63 (0.86)	5.48 (0.76)	0.63 (240)	.53	.002	12.81 (0.79)	5.48 (0.76)	5.14 (240)	<.001***	.099
	Ctrl	8.92 (0.43)	8.68 (0.88)	0.24 (240)	.812	.000	8.68 (0.88)	8.85 (0.72)	0.5 (240)	.62	.001	8.92 (0.43)	8.85 (0.72)	0.06 (240)	0.95	.000
Q-LES-Q	Intv	48.04 (0.62)	54.96 (1.13)	10.40 (239)	<.001***	.312	54.96 (1.13)	50.99 (0.89)	3.70 (239)	<.001***	.054	48.04 (0.62)	50.99 (0.89)	3.8 (239)	<.001***	.057
	Ctrl	49.31 (0.79)	49.36 (1.30)	0.10 (239)	.92	.000	49.36 (1.30)	49.13 (0.89)	0.38 (239)	.706	.001	49.31 (0.79)	49.13 (0.89)	0.69 (239)	0.49	.002

Note. DASS = Depression, Anxiety and Stress Scale; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* $p < .05$ ** $p < .01$ *** $p < .001$

DASS – Depression Subscale (Significant, Small to Moderate Intervention Effect)

The Group x Time interaction was significant (F[2,240] = 9.34, p < .001) indicating that each main effect can no longer be interpreted independently of the other. LSD post-hoc contrasts conducted across the simple main effects of time indicated a significant pre-post decrease in depressive symptoms for the intervention group (t[240] =3.92, p < .001) in conjunction with a significant pre-post increase for the control group (t[240] = 2.16, p = .032). The intervention group showed a non-significant post-FU decrease (t[240] = 0.25, p = .805), as did the control group (t[240] = 0.69, p = .488). The significant pre-post decrease for the intervention group was maintained at the 6-week follow-up (t[240] = 2.96, p = .003).

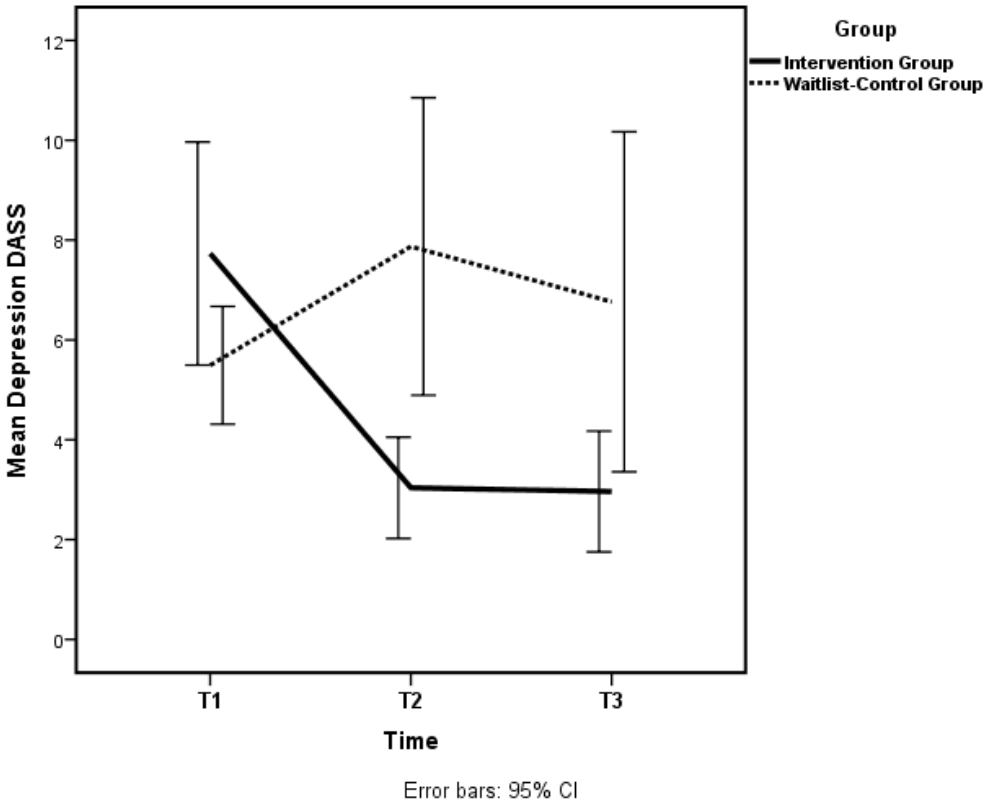

Figure 11. Changes in depressive symptoms across time and condition

DASS – Anxiety Subscale (Significant, Small to Moderate Intervention Effect)

The Group x Time interaction was significant (F[2,240] = 7.74, p = .001). LSD post-hoc contrasts conducted across the simple main effects of time indicated a significant pre-post decrease in anxiety for the intervention group (t[240] =2.99, p = .003) in conjunction with a non-significant pre-post decrease for the control group (t[240] =0.6, p = .055). The intervention group showed a non- significant post-FU anxiety decrease (t[240] = 0.004, p = .997), while the control group showed a significant post-FU anxiety increase (t[240] = 10.83, p < .001). The significant pre-post decrease for the intervention group was maintained at the 6-week follow-up (t[240] = 2.86 , p = .005).

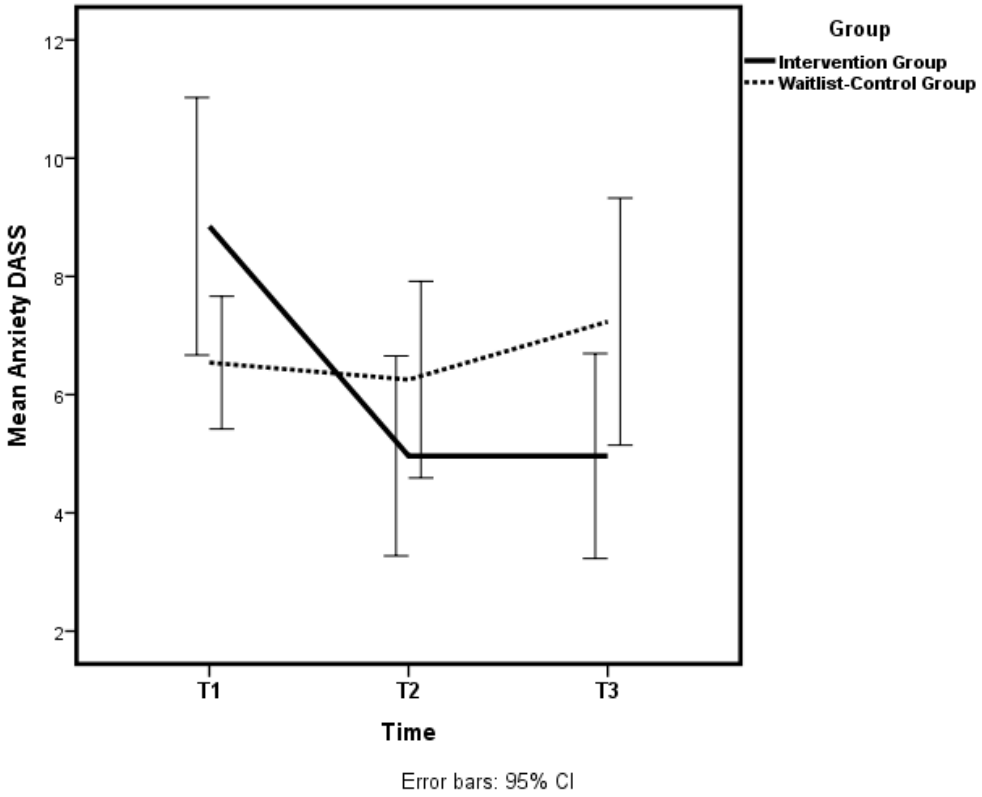

Figure 12. Changes in anxiety symptoms across time and condition

DASS – Stress Subscale (Significant, Small to Moderate Intervention Effect)

The Group x Time interaction was significant (F[2,240] = 8.88, p <.001). LSD post-hoc contrasts conducted across the simple main effects of time indicated a significant pre-post decrease in stress for the intervention group (t[240] =5.05, p < .001) in conjunction with a non-significant pre-post decrease for the control group (t[240] =0.24, p = .812). The intervention group showed a non- significant post-FU decrease in stress (t[240] = 0.63, p = .532), whereas the control group showed a non- significant post-FU increase (t[240] = 0.5, p = .621). The significant pre-post decrease for the intervention group was maintained at the 6-week follow-up (t[240] = 5.14 , p < .001).

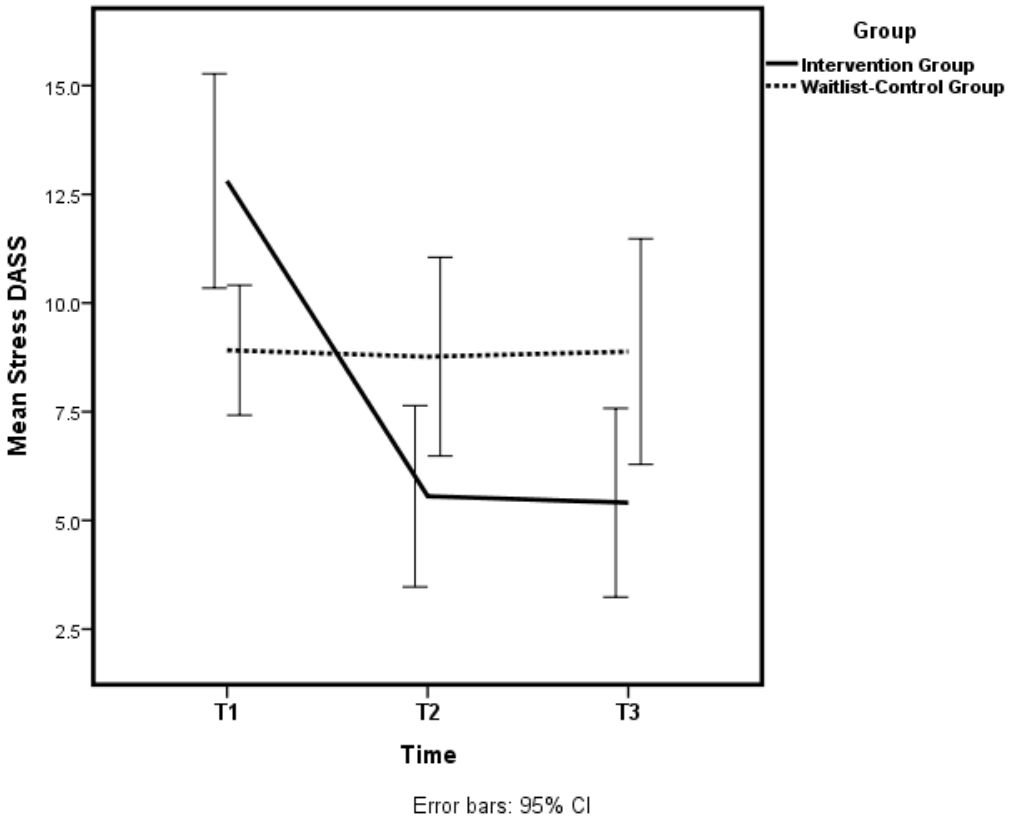

Figure 13. Changes in stress symptoms across time and condition

Q-LES-Q - Quality of Life Enjoyment and Satisfaction (Significant, Large Intervention Effect)

The Group x Time interaction was significant (F[2,239] = 42.53, p <.001). LSD post-hoc contrasts conducted across the simple main effects of time indicated a significant pre-post increase in reported quality of life for the intervention group (t[239] =10.40, p < .001), and a non-significant pre-post increase for the control group (t[239] = 0.1, p = .92). The intervention group showed a significant post-FU decrease in reported quality of life (t[239] = 3.70, p < .001), while the control group showed a non-significant post-FU decrease (t[239] = 0.378, p = .706). The significant pre-post increase for the intervention group was maintained at the 6-week follow-up (t[240] = 3.80, p < .001).

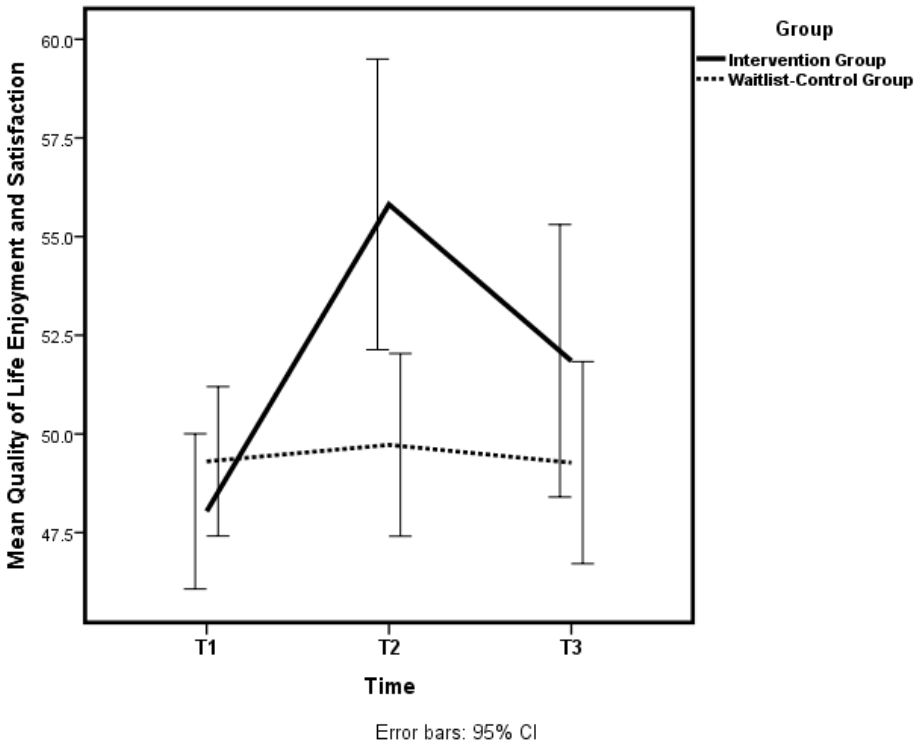

Figure 14. Changes in quality of life enjoyment and satisfaction across time and condition

ASQ – CPCN General Attributional Style (Optimism; Non-significant, Small Interaction Effect)

The Group x Time interaction was not significant (F[2,240] = 0.21, p = .813) and therefore each of the two main effects can be interpreted independently of one another. The main effect for group was significant (F[1,240] = 13.40, p < .001) indicating that the intervention group had significantly higher attribution (optimism) scores than the control group at each of the three assessments. The main effect of time was non-significant (F[2,240] = 0.53, p = .592) indicating that neither group changed significantly over time.

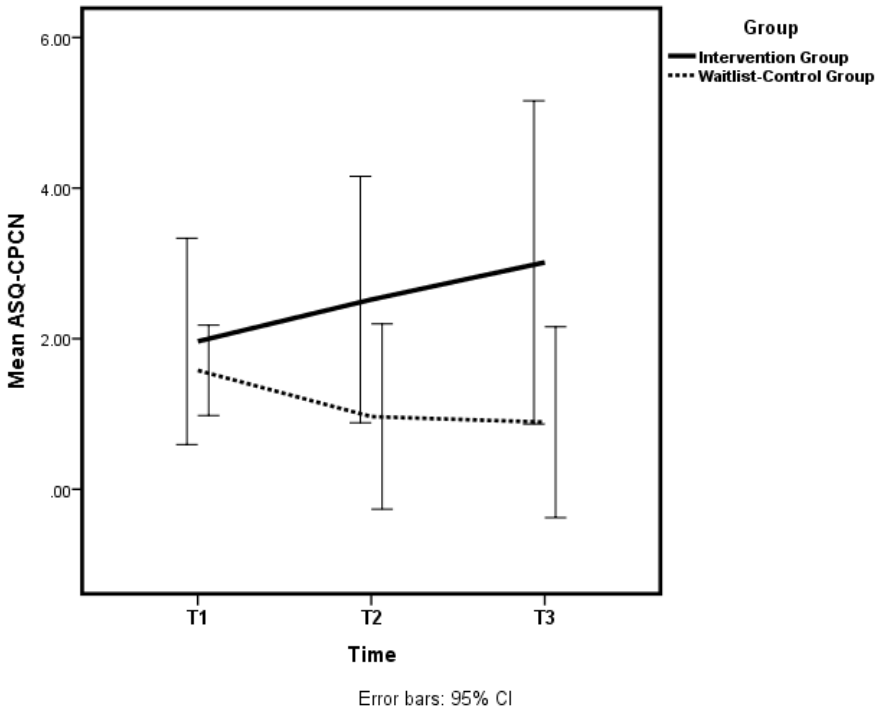

Figure 15. Changes in General Attributional Style (Optimism) across time and condition

Table 18 summarises the findings in terms of which outcome variables support the hypotheses. Hypothesis 1 predicted that the intervention (AROW) would be effective in producing therapeutic changes (increasing total resilience, resilience factors, quality of life enjoyment and satisfaction; reducing in scores on depression, anxiety, and stress) between the pre-test (T1) and the post-test (T2) in comparison to the waitlist-control group. Hypothesis 2 predicted that these changes would be maintained at the 6-week follow-up. The results shown in green support H1; and the results shown in blue support H2. The results shown in orange represent the significant outcomes in the waitlist-control group.

Table 18

Summary of Findings across Pre-Post and 6-week follow-up for the Intervention and Waitlist-control Conditions

Expectation	Outcome Variables	Groups	T1 – T2	T2 – T3	T1 – T3
↑ Sig	Total Resilience	Intv	↑ Sig L	↓ Sig ML	↑ Sig L
		Cont	↓ NSig S	↑ NSig S	↑ NSig S
	F1 Personal Competence	Intv	↑ Sig L	↓ Sig ML	↑ Sig L
		Cont	↓ NSig S	↑ NSig S	↑ NSig S
	F2 Trust in Own Intuition	Intv	↑ Sig ML	↓ NSig S	↑ Sig ML
		Cont	↑ Sig ML	↓ NSig S	↑ Sig ML
	F3 Acceptance of Change	Intv	↑ Sig ML	↓ Sig ML	↑ Sig SM
		Cont	↓ NSig SM	↑ NSig S	↓ NSig SM
	F4 Personal Control	Intv	↑ Sig L	↓ NSig SM	↑ Sig L
		Cont	↓ NSig SM	↑ NSig S	↓ NSig SM
	F5 Spiritual Influences	Intv	↑ NSig S	↑ Sig SM	↑ Sig SM
		Cont	↓ NSig S	↓ Sig L	↓ Sig SM
	Quality of Life Enjoyment and Satisfaction	Intv	↑ Sig L	↓ Sig SM	↑ Sig SM
		Cont	↑ NSig S	↓ NSig S	↓ NSig S
↓ Sig	Depression	Intv	↓ Sig ML	↓ NSig S	↓ Sig SM
		Cont	↑ Sig SM	↓ NSig S	↑ NSig S
	Anxiety	Intv	↓ Sig SM	→ NSig S	↓ Sig SM
		Cont	↓ NSig S	↑ Sig L	↑ Sig SM
	Stress	Intv	↓ Sig ML	↓ NSig S	↓ Sig ML
		Cont	↓ NSig S	↑ NSig S	↓ NSig S

Note.

Intv = Intervention condition; Cont = Waitlist-Control condition; L = Large; ML = Moderate to Large; SM = Small to Moderate; S = Small; Sig = Significant; NSig = Not Significant;

↑ = Increase; ↓ = Decrease

5.2.2. Maintenance Effects: Intervention Group (T1, T2, T3 to $T4_{int}$)

As the study aimed to measure the efficacy of an Antenatal Resilience and Optimism Workshop (AROW), analyses of the main effects of time (pre, post and follow-ups) across all outcome variables were conducted for the intervention group. Pairwise contrasts between T1-T2, T1-T3, T1-$T4_{int}$, T2-T3, T2-$T4_{int}$, and T3-$T4_{int}$ for all outcome variables, and the corresponding means and standard errors can be seen in Table 19 and 20 for Resilience and its factors, Table 21 and 22 for the DASS subscales, and Table 23 and 24 for Q-LES-Q and ASQ-CPCN.

CD-RISC – Total Resilience (all pairwise contrasts between assessments were significant)

The main effect of time was significant (F[3,129] = 71.08, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants in the intervention group showed a relatively large significant pre-post increase in total resilience (t[129] = 10.39, p < .001), then a smaller significant decrease at the 6-week follow-up (t[129] = 4.71, p < .001), and a similar significant decrease at the 6-month follow-up (t[129] = 12.77, p < .001). These results are reported in detail in Table 19, 20 and plotted in Figure 16.

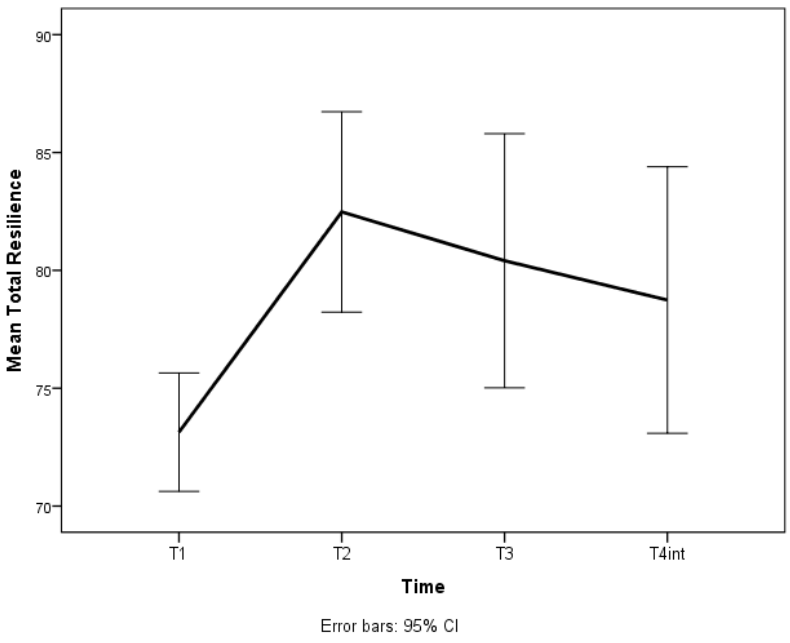

Figure 16. Changes in total resilience across time in the intervention condition

Table 19

Adjusted Means and (Standard Errors) of CD-RISC Total Resilience and Their Factors across Time (T1-T2 ; T1-T3 ; T1-T4 $_{int}$) for the Intervention Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T1 *M*(*SE*)	T2 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T4 $_{int}$ *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
Total Resilience	73.25 (1.47)	82.01 (1.41)	10.39 (129)	<.001***	.456 L	73.25 (1.47)	79.94 (1.39)	10.39 (129)	<.001***	.456 L	73.25 (1.47)	78.17 (1.26)	8.37 (129)	<.001***	.352 L
F1 – Personal Competence	24.06 (0.37)	27.39 (0.38)	23.09 (129)	<.001***	.805 L	24.06 (0.37)	26.24 (0.51)	8.55 (129)	<.001***	.362 L	24.06 (0.37)	26.34 (0.45)	15.75 (129)	<.001***	.658 L
F2 – Trust in Own Intuition	18.66 (0.47)	21.22 (0.60)	5.21 (129)	<.001***	.174 L	18.66 (0.47)	20.96 (0.49)	5.36 (129)	<.001***	.182 L	18.66 (0.47)	20.34 (0.40)	4.19 (129)	<.001***	.120 ML
F3 – Acceptance of Change	15.11 (0.23)	16.37 (0.20)	4.73 (129)	<.001***	.148 ML	15.11 (0.23)	15.67 (0.16)	2.06 (129)	.041**	.032 SM	15.11 (0.23)	15.34 (0.32)	0.94 (129)	.348	.007 S
F4 – Personal Control	8.94 (0.26)	10.45 (0.11)	8.62 (129)	<.001***	.365 L	8.94 (0.26)	10.19 (0.22)	35.02 (129)	<.001***	.905 L	8.94 (0.26)	9.75 (0.13)	6.15 (129)	<.001***	.227 L
F5 – Spiritual Influences	6.49 (0.24)	6.62 (0.21)	0.85 (129)	.396	.006 S	6.49 (0.24)	6.93 (0.08)	2.51 (129)	.013*	.047 SM	6.49 (0.24)	6.50 (0.15)	0.07 (129)	.943	0 S

Note. CD-RISC = Connor Davidson Resilience Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* p < .05 ** p < .01 *** p < .001

Table 20

Adjusted Means and (Standard Errors) of CD-RISC Total Resilience and their Factors across Time (T2-T3 ; T2-T4 $_{int}$; T3-T4 $_{int}$) for the Intervention Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T2 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	T4 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T3 *M*(*SE*)	T4 $_{int}$ *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
Total Resilience	82.01 (1.41)	79.94 (1.39)	4.71 (129)	<.001***	.147 ML	82.01 (1.41)	78.17 (1.26)	8.66 (129)	<.001***	.368 L	79.94 (1.39)	78.17 (1.26)	12.77 (129)	<.001***	.558 L
F1 – Personal Competence	27.39 (0.38)	26.24 (0.51)	5.44 (129)	<.001***	.187 L	27.39 (0.38)	26.34 (0.45)	14.20 (129)	<.001***	.610 L	26.24 (0.51)	26.34 (0.45)	0.47 (129)	.637	.005 S
F2 – Trust in Own Intuition	21.22 (0.60)	20.96 (0.49)	0.79 (129)	.433	.005 S	21.22 (0.60)	20.34 (0.40)	4.23 (129)	.503	.122 ML	20.96 (0.49)	20.34 (0.40)	2.82 (129)	.006**	.058 SM
F3 – Acceptance of Change	16.37 (0.20)	15.67 (0.16)	4.78 (129)	<.001***	.150 L	16.37 (0.20)	15.34 (0.32)	4.83 (129)	<.001***	.153 L	15.67 (0.16)	15.34 (0.32)	1.52 (129)	.130	.018 SM
F4 – Personal Control	10.45 (0.11)	10.19 (0.22)	1.85 (129)	.066	.026 SM	10.45 (0.11)	9.75 (0.13)	13.67 (129)	<.001***	.592 L	10.19 (0.22)	9.75 (0.13)	4.48 (129)	<.001***	.135 ML
F5 – Spiritual Influences	6.62 (0.21)	6.93 (0.08)	2.17 (129)	.032*	.035 SM	6.62 (0.21)	6.50 (0.15)	0.46 (129)	.645	.002 S	6.93 (0.08)	6.50 (0.15)	2.64 (129)	.009**	.051 SM

Note. CD-RISC = Connor-Davidson Resilience Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* p < .05 ** p < .01 *** p < .001

CD-RISC – F1 Personal Competence

The main effect of time was significant (F[3,129] = 204.03, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants in the intervention group showed a relatively large significant pre-post increase in Personal Competence (t[129] = 23.09, p < .001), then a smaller significant decrease at the 6-week follow-up (t[129] = 5.44, p < .001), and a non-significant increase at the 6-month follow-up (t[129] = .473, p = .637). These results are reported in detail in Table 19, 20 and plotted in Figure 17.

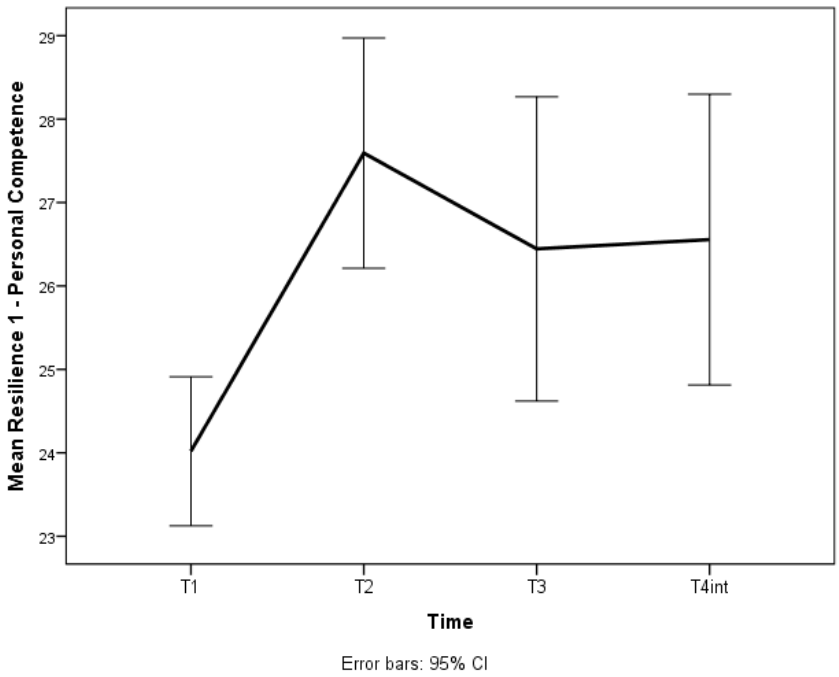

Figure 17. Changes in F1- Personal Competence across time in the intervention condition

CD-RISC – F2 Trust in Own Intuition

The main effect of time was significant (F[3,129] = 15.05, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants in the intervention group showed a relatively large significant pre-post increase in Trust in Own Intuition (t[129] = 5.21, p < .001), then a non-significant decrease at the 6-week follow-up (t[129] = 0.79, p = .433), and a small significant decrease at the 6-month follow-up (t[129] = 2.82, p = .006). These results are reported in detail in Table 19, 20 and plotted in Figure 18.

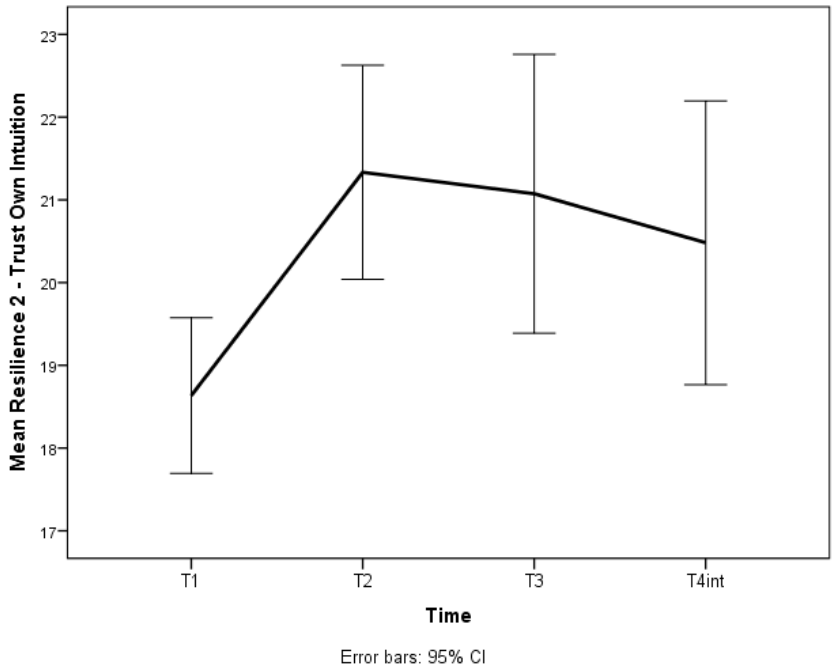

Figure 18. Changes in F2 Trust in Own Intuition across time in the intervention condition

CD-RISC – F3 Acceptance of Change

The main effect of time was significant (F[3,129] = 13.45, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants showed a moderate to large significant pre-post increase in Acceptance of Change (t[129] = 4.73, p < .001), then a smaller significant decrease at the 6-weeks follow-up (t[129] = 4.78, p < .001), and a non-significant decrease at the 6-month follow-up (t[129] = 1.52, p = .130). These results are reported in detail in Table 19, 20 and plotted in Figure 19.

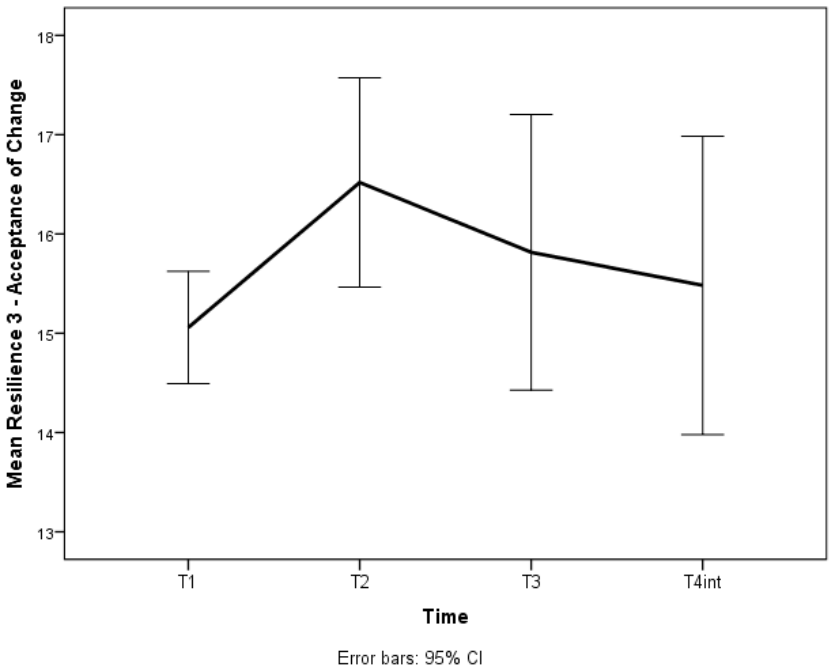

Figure 19. Changes in F3 Acceptance of change across time in the intervention condition

CD-RISC – F4 Personal Control

The main effect of time was significant (F[3,129] = 8,592.52, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants showed a relatively large significant pre-post increase in Personal Control (t[129] = 8.62, p < .001), then a non-significant decrease at the 6-week follow-up (t[129] = 1.85, p = .066), and a relatively small significant decrease at the 6-month follow-up (t[129] = 4.48, p < .001). These results are reported in detail in Table 19, 20 and plotted in Figure 20.

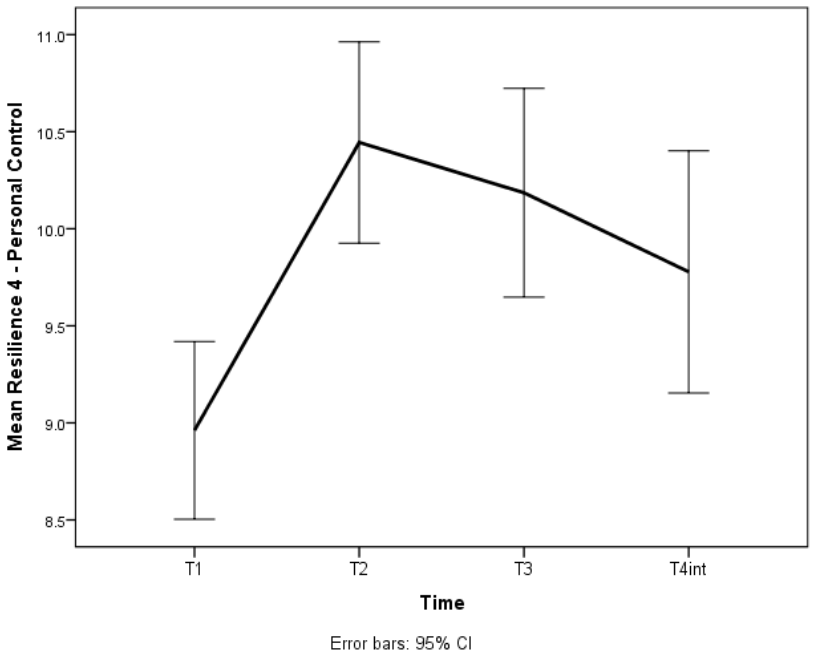

Figure 20. Changes in F4 Personal Control across time in the intervention condition

CD-RISC – F5 Spiritual Influences

The main effect of time was significant (F[3,129] = 6.45, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants showed a non-significant pre-post increase in Spiritual influences (t[129]= 0.85, p = .396), then a relatively small significant increase at the 6-week follow-up (t[129] = 2.17, p = .032), followed by a relatively small significant decrease at the 6 months follow-up (t[129] = 2.64, p = .009) back to the pre-test level. These results are reported in detail in Table 19, 20 and plotted in Figure 21.

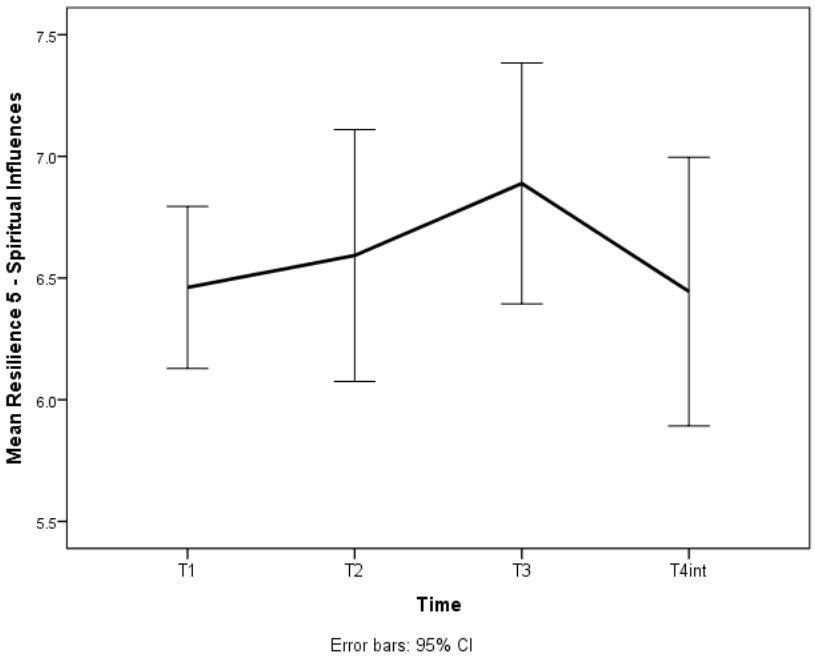

Figure 21. Changes in F5 Spiritual Influences across time in the intervention condition

DASS – Depression Subscale

The main effect of time was significant (F[3,129] = 288.07, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants showed a moderate to large significant pre-post decrease in depression (t[129] = 3.28, p < .001), which was maintained at the follow-ups. These results are reported in detail in Table 21, 22 and plotted in Figure 22.

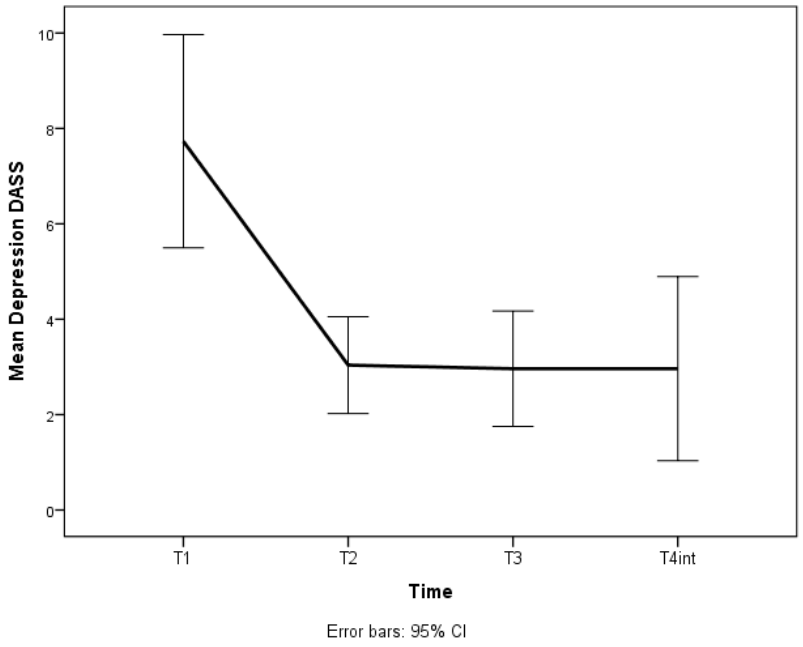

Figure 22. Changes in depressive symptoms across time in the intervention condition

DASS – Anxiety Subscale

The main effect of time was significant (F[3,129] = 5.52, p = .001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants showed a significant pre-post decrease in anxiety (t[129] = 2.54, p = .012), then a non-significant decrease at the 6-week follow-up (t[129] = 0.17, p = .866), and a significant decrease at the 6-month follow-up (t[129] = 2.45, p = .015) These results are reported in detail in Table 21, 22 and plotted in Figure 23.

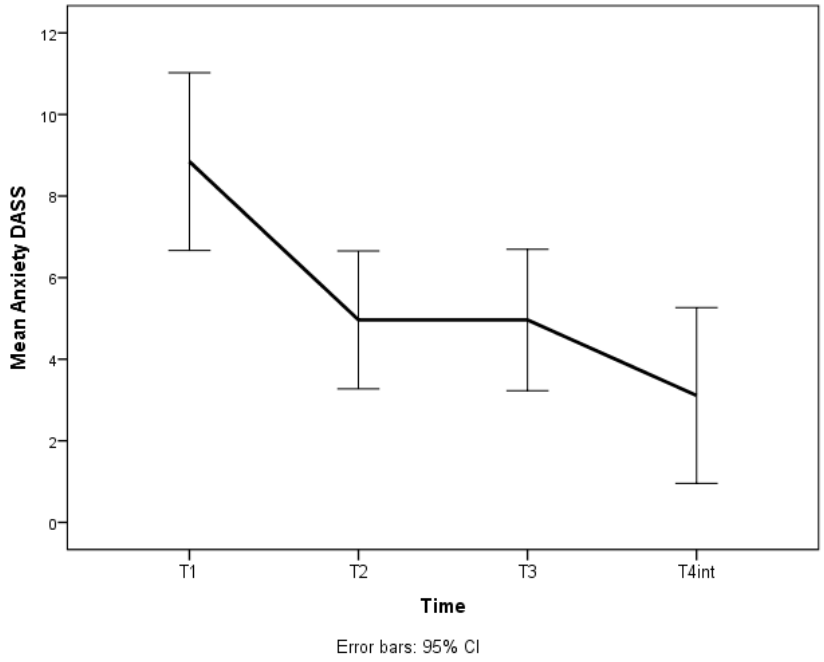

Figure 23. Changes in anxiety symptoms across time in the intervention condition

DASS – Stress Subscale

The main effect of time was significant (F[3,129] = 79.65, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. There was a moderate to large significant pre-post decrease in stress (t[129]= 4.35, p < .001), which was maintained at the follow-ups. These results are reported in detail in Table 21, 22 and plotted in Figure 24.

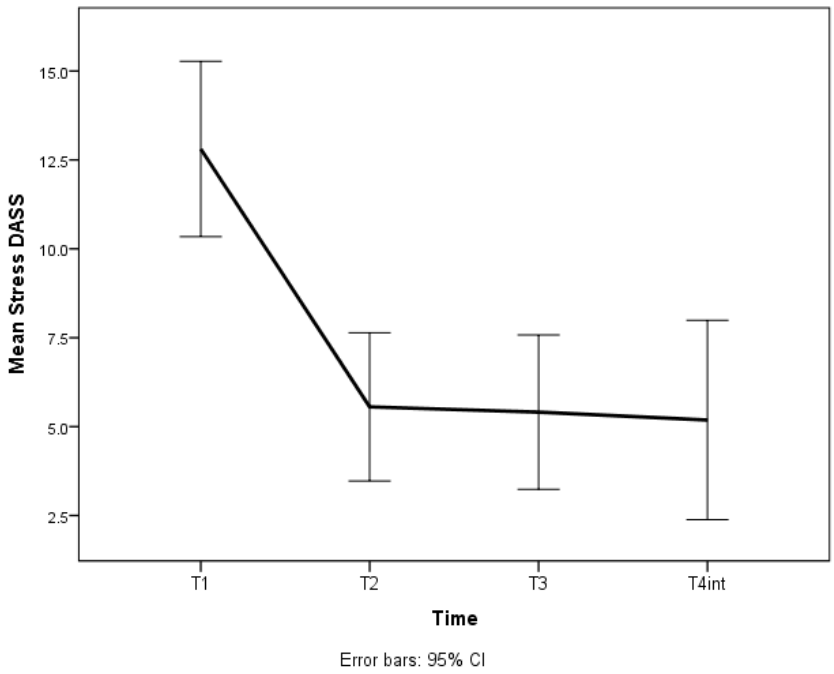

Figure 24. Changes in stress symptoms across time in the intervention condition

Table 21

Adjusted Means and (Standard Errors) of DASS across Time (T1-T2 ; T1-T3 ; T1-T4 $_{int}$) for the Intervention Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T1 *M*(*SE*)	T2 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T4 $_{int}$ *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
DASS Depression	7.98 (1.34)	4.29 (0.96)	3.28 (129)	.001**	.077 ML	7.98 (1.34)	4.16 (1.03)	2.56 (129)	.012*	.048 SM	7.98 (1.34)	4.25 (0.85)	3.57 (129)	.001**	.090 ML
DASS Anxiety	8.97 (1.16)	5.32 (0.75)	2.54 (129)	.012*	.048 SM	8.97 (1.16)	5.25 (0.53)	2.44 (129)	.016*	.044 SM	8.97 (1.16)	3.57 (0.80)	3.48 (129)	.001*	.086 ML
DASS Stress	12.80 (0.79)	5.64 (1.09)	4.35 (129)	<.001***	.128 ML	12.80 (0.79)	5.49 (0.99)	4.47 (129)	<.001***	.134 ML	12.80 (0.79)	5.26 (0.51)	5.98 (129)	<.001***	.217 L

Note. DASS = Depression, Anxiety and Stress Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* p < .05 ** p < .01 *** p < .001

Table 22

Adjusted Means and (Standard Errors) of DASS across Time (T2-T3 ; T2-T4$_{int}$; T3-T4 $_{int}$) for the Intervention Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T2 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	T4 $_{int}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T3 *M*(*SE*)	T4 $_{int}$ *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
DASS Depression	4.29 (0.96)	4.16 (1.03)	0.34 (129)	.733	.001 S	4.29 (0.96)	4.25 (0.85)	0.32 (129)	.751	.001 S	4.16 (1.03)	4.25 (0.85)	0.19 (129)	.846	0 S
DASS Anxiety	5.32 (0.75)	5.25 (0.53)	0.17 (129)	.866	0 S	5.32 (0.75)	3.57 (0.80)	3.27 (129)	.001**	.077 ML	5.25 (0.53)	3.57 (0.80)	2.45 (129)	.015*	.044 SM
DASS Stress	5.64 (1.09)	5.49 (0.99)	0.63 (129)	.533	.003 S	5.64 (1.09)	5.26 (0.51)	0.53 (129)	.594	.002 S	5.49 (0.99)	5.26 (0.51)	0.42 (129)	.672	.001 S

Note. DASS = Depression, Anxiety and Stress Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* p < .05 ** p < .01 *** p < .001

Q-LES-Q – Quality of Life Enjoyment and Satisfaction

The main effect of time was significant (F[3,129] = 85.90, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Participants showed a relatively large significant pre-post increase in Quality of Life (t[129] = 10.22, p < .001), then a smaller significant decrease at the 6-week follow-up (t[129] = 3.92, p < .001), and an even smaller significant increase at the 6-month follow-up (t[129] = 2.96, p = .003) These results are reported in detail in Table 23, 24 and plotted in Figure 25.

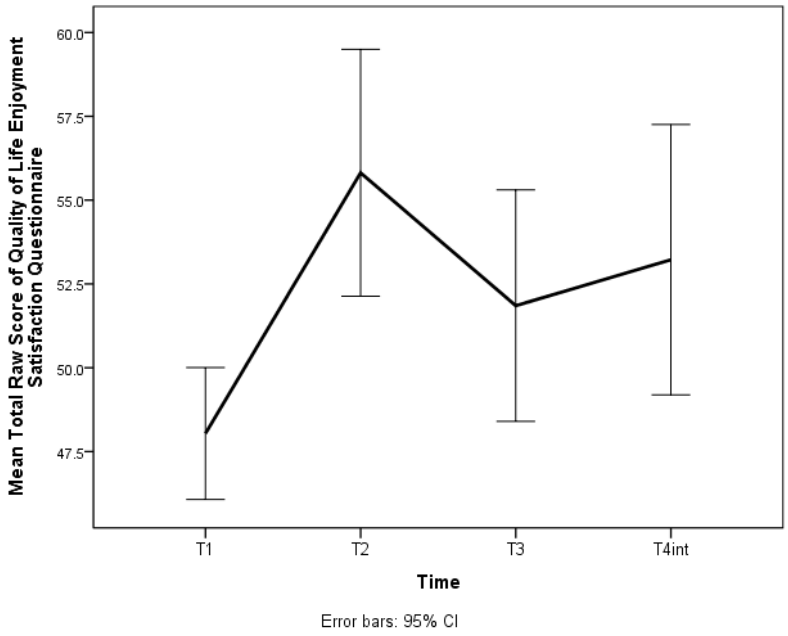

Figure 25. Changes in Quality of Life Enjoyment and Satisfaction across time in the intervention condition

ASQ – CPCN General Attribution Style (Optimism)

The main effect of time was significant (F[3,129] = 8.16, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. Higher attribution scores indicate higher levels of optimism. Participants showed a non-significant pre-post increase in optimism (t[129] = 0.40, p = .691), then a non-significant increase at the 6-week follow-up (t[129] = 0.70, p = .485), and a further non-significant increase at the 6 month follow-up (t[129] = .46, p = .646). These results are reported in detail in Table 23, 24 and plotted in Figure 26. Positive ASQ-CPCN score indicated stronger attribution towards good events (more optimistic) than bad events.

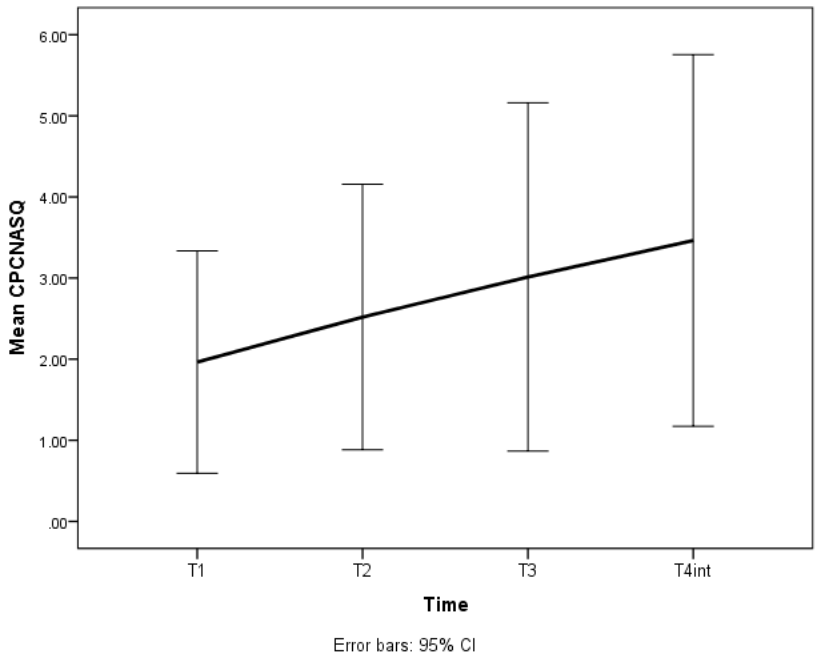

Figure 26. The change in General Attribution Style (optimism) across time in the Intervention condition

Table 23

Adjusted Means and (Standard Errors) of Q-LES-Q and ASQ-CPCN across Time (T1-T2 ; T1-T3 ; T1-T4$_{int}$) for the Intervention Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T1 *M*(*SE*)	T2 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T4$_{int}$ *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
Q-LES-Q	48.1 (0.6)	55.11 (1.13)	10.22 (129)	<.001***	.447 L	48.1 (0.6)	51.14 (0.92)	3.90 (129)	<.001***	.105 ML	48.1 (0.6)	52.35 (0.91)	7.03 (129)	<.001***	.277 L
ASQ-CPCN Optimism	2.07 (0.76)	1.76 (0.31)	0.40 (129)	.691	.001 S	2.07 (0.76)	2.24 (0.53)	0.13 (129)	.899	0 S	2.07 (0.76)	2.64 (0.36)	1.31 (129)	.192	.013 SM

Note. Q-LES-Q = Quality of Life Enjoyment and Satisfaction

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* p < .05 ** p < .01 *** p < .001

Table 24.

Adjusted Means and (Standard Errors) of Q-LES-Q and ASQ-CPCN across Time (T2-T3 ; T2-T4 $_{int}$; T3-T4 $_{int}$) for the Intervention Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T2 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	T4 $_{int}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T3 *M*(*SE*)	T4 $_{int}$ *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
Q-LES-Q	55.11 (1.13)	51.14 (0.92)	3.70 (129)	<.001***	.096 ML	55.11 (1.13)	52.35 (0.91)	6.2 (129)	<.001***	0.230 L	51.14 (0.92)	52.35 (0.91)	1.74 (129)	.085	.023 SM
ASQ-CPCN Optimism	1.76 (0.31)	2.24 (0.53)	0.70 (129)	.485	.004 S	1.76 (0.31)	2.64 (0.36)	1.85 (129)	.067	0.026 SM	2.24 (0.53)	2.64 (0.36)	0.46 (129)	.646	.002 S

Note.

Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire; ASQ-CPCN= Attributional Style Questionnaire – Composite Positive Composite Negative (Optimism)

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15

* p < .05 ** p < .01 *** p < .001

Hypothesis 3 predicted that the intervention group would maintain the pre-post therapeutic changes at the 6-month follow-up ($T4_{int}$). The findings summarised in Table 25 indicate the outcomes that showed significant therapeutic changes between pre-post (T1-T2), pre- to 6-week follow-up (T1-T3) and pre-to 6-month follow-up (T1-$T4_{int}$). These are the outcomes that supported H1, H2, and H3.

Table 25

Summary of findings on changes at Pre - Post, Pre – 6 weeks follow up and Pre – 6 months follow up

Expectation	Outcome Variables	Groups	T1 – T2	T1 – T3	T1 – $T4_{int}$
↑ Sig	Total Resilience	Intv	↑ Sig L	↑ Sig L	↑ Sig L
	F1 Personal Competence	Intv	↑ Sig L	↑ Sig L	↑ Sig L
	F2 Trust in Own Intuition	Intv	↑ Sig L	↑ Sig L	↑ Sig ML
	F3 Acceptance of Change	Intv	↑ Sig ML	↑ Sig SM	↑ NSig S
	F4 Personal Control	Intv	↑ Sig L	↑ Sig L	↑ Sig L
	F5 Spiritual Influences	Intv	↑ NSig S	↑ Sig SM	↑ NSig S
	Quality of Life Enjoyment and Satisfaction	Intv	↑ Sig L	↑ Sig ML	↑ Sig L
	ASQ – CPCN Optimism	Intv	↓ NSig S	↑ NSig S	↑ NSig SM
↓ Sig	Depression	Intv	↓ Sig ML	↓ Sig SM	↓ Sig ML
	Anxiety	Intv	↓ Sig SM	↓ Sig SM	↓ Sig ML
	Stress	Intv	↓ Sig ML	↓ Sig ML	↓ Sig L

Note.

L = Large; ML = Moderate to Large; SM = Small to Moderate; S = Small; Sig = Significant; NSig = Not Significant; Intv = Intervention condition; ↑ = Increase; ↓ = Decrease

5.2.3. Time Effects: Waitlist/Treated Control Group (T1, T2, T3, $T4_{cont}$ to T5)

Analyses of the main effects of time (pre, post and follow-ups) across all outcome variables were conducted for the control group. The pairwise contrasts across T1, T2, and T3 reflect control conditions, whereas all other contrasts either straddle the intervention or are post-intervention. Pairwise contrasts between T1-T2, T1-T3, T1-$T4_{cont}$, T1-T5, T2-T3, T2-$T4_{cont}$, T2-T5, T3-$T4_{cont}$, T3-T5, and $T4_{cont}$-T5 for all outcome variables, and the corresponding means and standard errors can be seen in Tables 26-29 for Resilience and its factors, and Tables 30-33 for the DASS subscales, Q-LES-Q and ASQ-CPCN.

Table 26

Adjusted Means and (Standard Errors) of CD-RISC Total Resilience and their Factors across Time (T1-T2 ;T1-T3) for the Waitlist-Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T1 *M*(*SE*)	T2 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2
Total Resilience	71.44 (2.09)	71.45 (1.63)	0.01 (194)	.993	.00 S	71.44 (2.09)	69.36 (2.34)	1.62 (194)	.108	.01 S
F1 Personal Competence	23.33 (0.55)	23.16 (0.43)	0.44 (194)	.664	.00 S	23.33 (0.55)	22.64 (0.55)	2.10 (194)	.037	.02 SM
F2 Trust in Own Intuition	17.59 (0.78)	18.74 (0.75)	1.73 (194)	.085	.02 SM	17.59 (0.78)	18.11 (0.81)	0.96 (194)	.339	.00 S
F3 Acceptance of Change	14.77 (0.56)	14.33 (0.18)	0.91 (194)	.364	.00 S	14.77 (0.56)	14.05 (0.53)	1.36 (194)	.175	.01 SM
F4 Personal Control	8.96 (0.14)	8.69 (0.24)	1.90 (194)	.060	.02 SM	8.96 (0.14)	8.53 (0.28)	2.82 (194)	.005**	.04 SM
F5 Spiritual Influences	6.68 (0.24)	6.47 (0.12)	1.26 (194)	.210	.01 S	6.68 (0.24)	6.03 (0.26)	3.54 (194)	<.001***	.06 SM

Note. CD-RISC = Connor-Davidson Resilience Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large = .06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15;

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 27

Adjusted Means and (Standard Errors) of CD-RISC Total Resilience and their Factors across Time (T1-T4$_{cont;}$ T1-T5) for the Waitlist/Treated Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T1 *M*(*SE*)	T4$_{cont}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T5 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2
Total Resilience	71.44 (2.09)	81.06 (2.11)	10.58 (194)	<.001***	.37 L	71.44 (2.09)	80.11 (2.03)	3.58 (194)	<.001***	.06 SM
F1 Personal Competence	23.33 (0.55)	27.05 (0.8)	11.85 (194)	<.001***	.42 L	23.33 (0.55)	26.27 (0.57)	4.86 (194)	<.001***	.11 ML
F2 Trust in Own Intuition	17.59 (0.78)	21.26 (0.71)	7.22 (194)	<.001***	.21 L	17.59 (0.78)	20.85 (0.92)	3.34 (194)	.001**	.05 SM
F3 Acceptance of Change	14.77 (0.56)	16.12 (0.31)	3.07 (194)	.002**	.05 SM	14.77 (0.56)	16.22 (0.27)	2.16 (194)	.032*	.02 SM
F4 Personal Control	8.96 (0.14)	9.95 (0.28)	5.94 (194)	<.001***	.15 L	8.96 (0.14)	9.84 (0.24)	4.42 (194)	<.001***	.09 ML
F5 Spiritual Influences	6.68 (0.24)	6.69 (0.14)	0.05 (194)	.963	.00 S	6.68 (0.24)	6.95 (0.12)	1.34 (194)	.183	.01 S

Note. CD-RISC = Connor-Davidson Resilience Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large = .06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15;

* p < .05 ** p < .01 *** p < .001

Table 28

Adjusted Means and (Standard Errors) of CD-RISC Total Resilience and their Factors across Time (T2-T3 ; T2-$T4_{cont}$; T2-T5) for the Waitlist/Treated Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T2 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	$T4_{cont}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	T5 *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
Total Resilience	71.45 (1.63)	69.36 (2.34)	2.35 (194)	.020*	.03 SM	71.45 (1.63)	81.06 (2.11)	7.65 (194)	<.001***	.23 L	71.45 (1.63)	80.11 (2.03)	10.06 (194)	<.001***	.34 L
F1 Personal Competence	23.16 (0.43)	22.64 (0.55)	1.67 (194)	.098	.01 S	23.16 (0.43)	27.05 (0.80)	5.58 (194)	<.001***	.14 ML	23.16 (0.43)	26.27 (0.57)	14.29 (194)	<.001***	.51 L
F2 Trust in Own Intuition	18.74 (0.75)	18.11 (0.81)	3.35 (194)	.001**	.05 SM	18.74 (0.75)	21.26 (0.71)	8.7 (194)	<.001***	.28 L	18.74 (0.75)	20.85 (0.92)	6.71 (194)	<.001***	.19 L
F3 Acceptance of Change	14.33 (0.18)	14.05 (0.53)	0.8 (194)	.428	.00 S	14.33 (0.18)	16.12 (0.31)	12.96 (194)	<.001***	.46 L	14.33 (0.18)	16.22 (0.27)	9.17 (194)	<.001***	.30 L
F4 Personal Control	8.69 (0.24)	8.53 (0.28)	1.95 (194)	.052	.02 SM	8.69 (0.24)	9.95 (0.28)	6.16 (194)	<.001***	.16 L	8.69 (0.24)	9.84 (0.24)	10.15 (194)	<.001***	.35 ML
F5 Spiritual Influences	6.47 (0.12)	6.03 (0.26)	3.14 (194)	.002**	.05 SM	6.47 (0.12)	6.69 (0.14)	3.28 (194)	.001**	.05 SM	6.47 (0.12)	6.95 (0.12)	5.06 (194)	<.001***	.12 ML

Note. CD-RISC = Connor-Davidson Resilience Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large = .06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15;

* p < .05 ** p < .01 *** p < .001

Table 29.

Adjusted Means and (Standard Errors) of CD-RISC Total Resilience and their Factors across Time (T3-T4$_{cont}$; T3-T5; T4$_{cont}$-T5) for the Waitlist/Treated Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T3 *M*(*SE*)	T4$_{cont}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T3 *M*(*SE*)	T5 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T4$_{cont}$ *M*(*SE*)	T5 *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
Total Resilience	69.36 (2.34)	81.06 (2.11)	10.5 (194)	<.001***	.36 L	69.36 (2.34)	80.11 (2.03)	7.27 (194)	<.001***	.21 L	81.06 (2.11)	80.11 (2.03)	0.46 (194)	.648	.00 S
F1 Personal Competence	22.64 (0.55)	27.05 (0.80)	7.11 (194)	<.001***	.21 L	22.64 (0.55)	26.27 (0.57)	7.81 (194)	<.001***	.24 L	27.05 (0.80)	26.27 (0.57)	0.87 (194)	.385	.00 S
F2 Trust in Own Intuition	18.11 (0.81)	21.26 (0.71)	10.09 (194)	<.001***	.34 L	18.11 (0.81)	20.85 (0.92)	5.79 (194)	<.001***	.15 L	21.26 (0.71)	20.85 (0.92)	0.75 (194)	.457	.00 S
F3 Acceptance of Change	14.05 (0.53)	16.12 (0.31)	9.11 (194)	<.001***	.30 L	14.05 (0.53)	16.22 (0.27)	5.46 (194)	<.001***	.13 ML	16.12 (0.31)	16.22 (0.27)	0.4 (194)	.690	.00 S
F4 Personal Control	8.53 (0.28)	9.95 (0.28)	8.55 (194)	<.001***	.27 L	8.53 (0.28)	9.84 (0.24)	6.9 (194)	<.001***	.20 L	9.95 (0.28)	9.84 (0.24)	0.36 (194)	.721	.00 S
F5 Spiritual Influences	6.03 (0.26)	6.69 (0.14)	3.88 (194)	<.001***	.07 ML	6.03 (0.26)	6.95 (0.12)	4.93 (194)	<.001***	.11 ML	6.69 (0.14)	6.95 (0.12)	1.68 (194)	.095	.01 S

Note. CD-RISC = Connor Davidson Resilience Scale

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large = .06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15;

* p < .05 ** p < .01 *** p < .001

CD-RISC – Total Resilience

The main effect of time was significant (F[3,194] = 63.83, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When the group acted as the waitlist control group (T1-T2-T3), the total resilience of participants showed a non-significant increase from T1 to T2 (t[194] = 0.01, p = .993), and a relatively small, significant decrease from T2 to T3 (t[194] = 2.35, p = .020). After receiving the intervention, thus becoming the treated control group, participants showed a large significant increase in total resilience from T3 to $T4_{cont}$ (t[194] = 10.5, p < .001), which was maintained at the 6-week follow up ($T4_{cont}$-T5: t[194] = 0.46, p = .648).

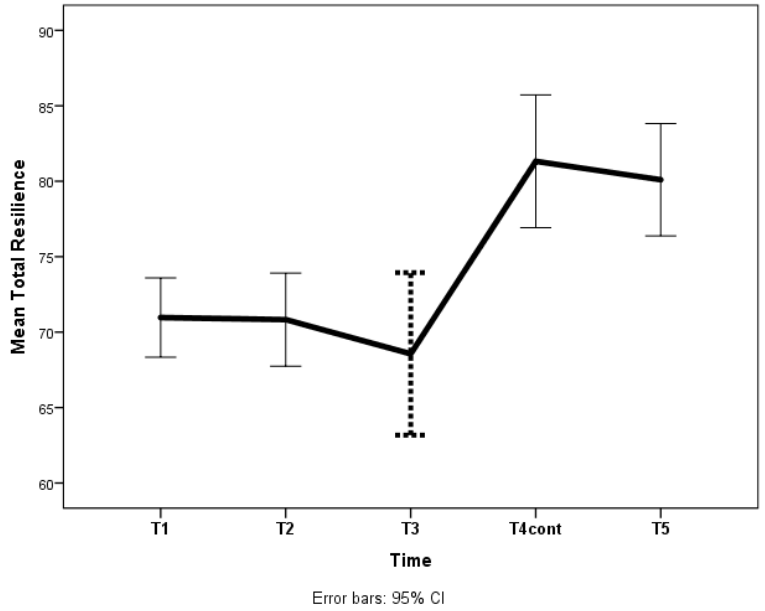

Figure 27. Changes in total resilience across time in the waitlist/treated control condition

CD-RISC – F1 Personal Competence

The main effect of time was significant (F[3,194] = 991.33, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When the participants were in the waitlist control group, they showed a non-significant decrease in Personal Competence from T1to T2 (t[194] = 0.44, p = .664) and a further non-significant decrease from T2 to T3 (t[194] = 2.35, p = .098). After receiving the intervention, however, they showed a relatively large, significant increase from T3 to $T4_{cont}$ (t[194] = 7.11, p < .001), which was maintained at the 6-week follow-up $T4_{cont}$- T5: t[194] = .087, p = .385).

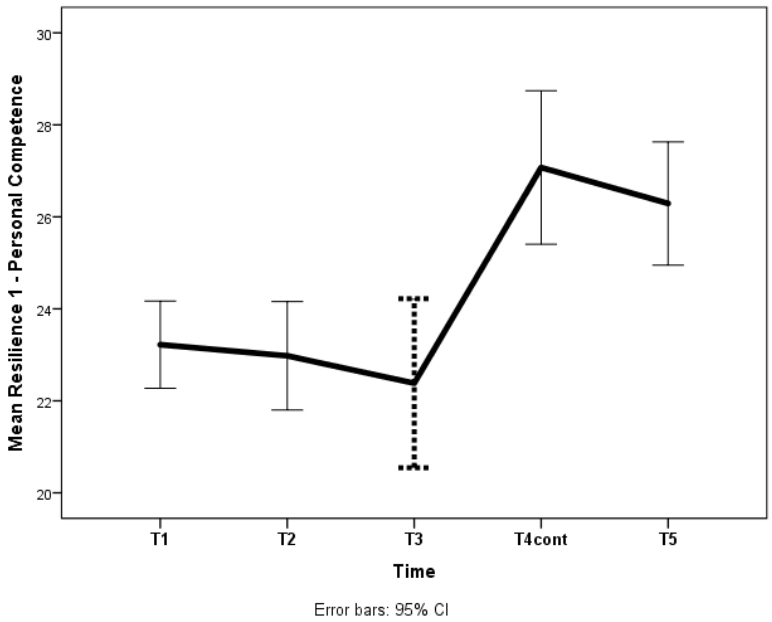

Figure 28. Changes in F1 Personal Competence across time in the waitlist/treated control condition

CD-RISC – F2 Trust in Own Intuition

The main effect of time was significant (F[3,194] = 81.29, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant increase in Trust in Own Intuition from T1 to T2 (t[194] = 1.73, p = .085), and a significant decrease from T2 to T3 (t[194] = 3.35, p < .001). After receiving the intervention, however, they showed a relatively large, significant increase from T3 to $T4_{cont}$ (t[194] = 10.09, p < .001), which was maintained at the 6-week follow-up ($T4_{cont}$- T5: t[194] = 0.75, p = .457).

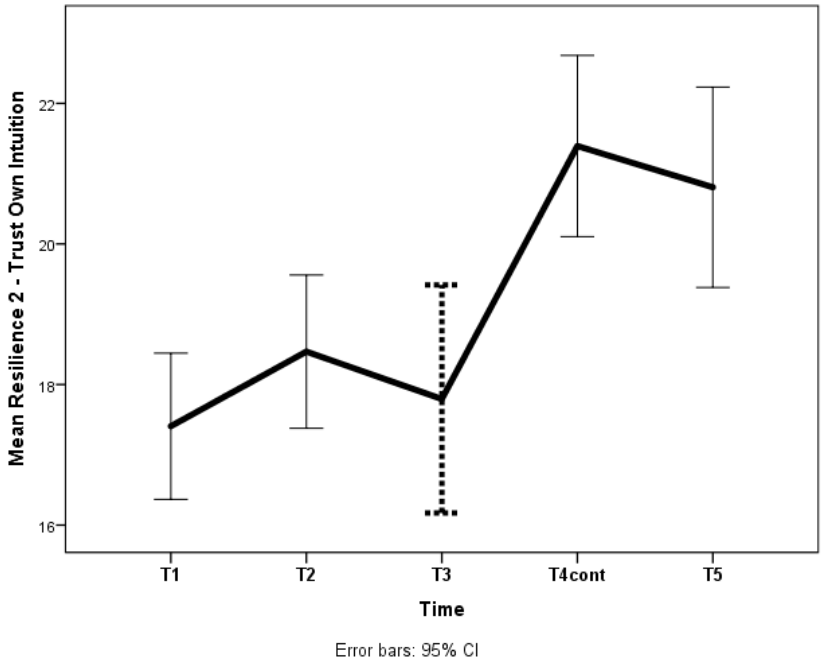

Figure 29. Changes in F2 Trust in Own Intuition across time in the waitlist/treated control condition

CD-RISC – F3 Acceptance of Change

The main effect of time was significant (F[3,194] = 3,709.57, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant decrease in Acceptance of Change from T1 to T2 (t[194] = 0.91, p = .364) and a further non-significant decrease from T2 to T3 (t[194] = 0.8, p = .428). After receiving the intervention, however, they showed a relatively large significant increase from T3 to $T4_{cont}$ (t[194] = 9.11, p < .001), which was maintained at the 6-week follow-up ($T4_{cont}$-T5: t[194] = 0.4, p = .690).

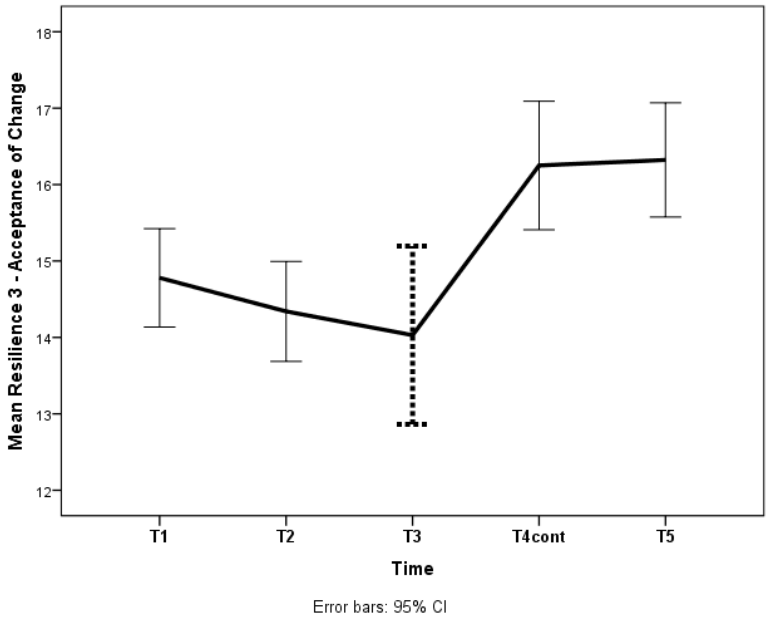

Figure 30. Changes in F3 Acceptance of Change across time in the waitlist/ treated condition

CR-RISC – F4 Personal Control

The main effect of time was significant (F[3,194] = 40.01, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant decrease in Personal Control from T1 to T2 (t[194] = 1.90, p = .060) and a further non-significant decrease from T2 to T3 (t[194]= 1.95, p = .052). After receiving the intervention, however, they showed a relatively large, significant increase from T3 to $T4_{cont}$ (t[194] = 8.55, p < .001), which was maintained at the 6-week follow-up ($T4_{cont}$- T5: t[194] = 0.36, p = .721).

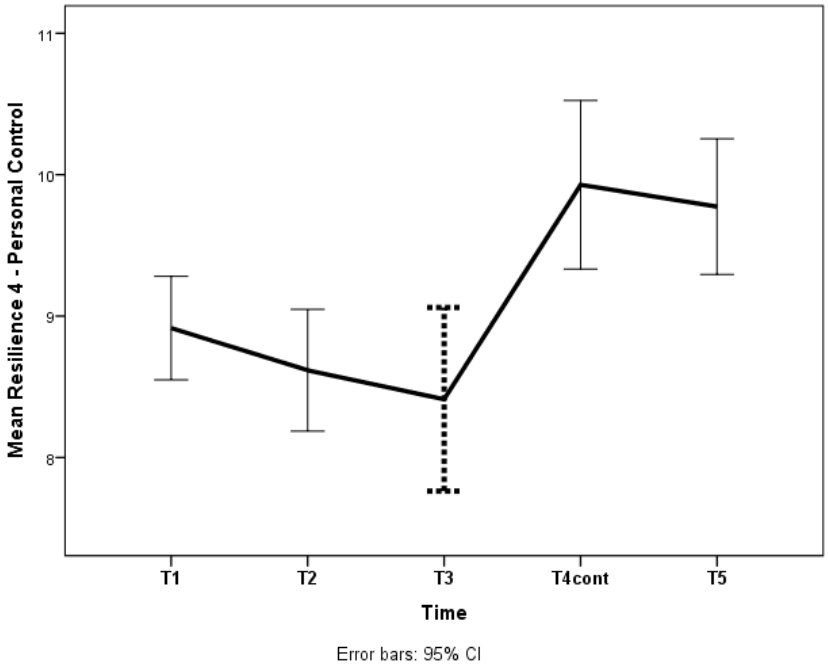

Figure 31. Changes in F4 Personal Control across time in the waitlist/treated control condition

CD-RISC – F5 Spiritual Influences

The main effect of time was significant (F[3,194] = 6.26, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant decrease in Spiritual Influences from T1 to T2 (t[194] = 1.26, p = .210) followed by a moderate significant decrease from T2 to T3 (t[194] = 3.14, p = .002). After receiving the intervention, however, they showed a relatively large, significant increase from T3 to $T4_{cont}$ (t[194] = 3.88, p < .001), which was maintained at the 6-week follow-up ($T4_{cont}$-T5: t[194] = 1.68, p = .095).

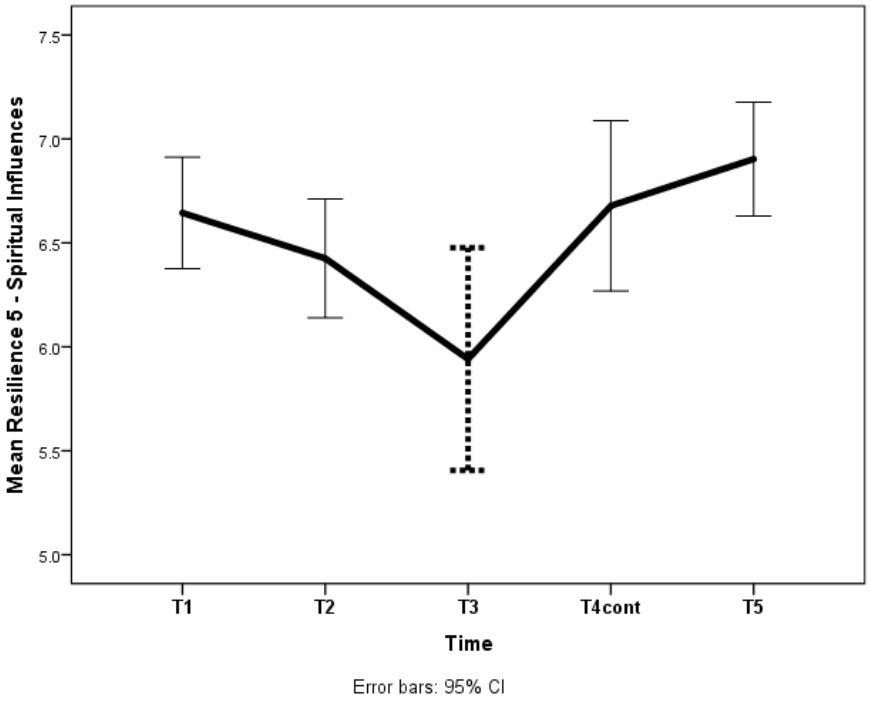

Figure 32. Changes in F5 Spiritual Influences across time in the waitlist/treated control condition

Table 30.

Adjusted Means and (Standard Errors) of DASS (Depression, Anxiety and Stress), Q-LES-Q and ASQ-CPCN across Time (T1-T2; T1-T3) for the Waitlist/Treated Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T1 *M*(*SE*)	T2 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2
DASS Depression	5.28 (0.73)	7.53 (1.42)	2.18 (194)	.03*	.02 SM	5.28 (0.73)	6.64 (0.99)	1.28 (194)	.203	.01 S
DASS Anxiety	6.47 (0.49)	6.2 (0.55)	0.64 (194)	.523	.00 S	6.47 (0.49)	7.36 (0.63)	1.93 (194)	.055	.02 SM
DASS Stress	8.92 (0.43)	8.67 (0.88)	0.24 (194)	.810	.00 S	8.92 (0.43)	8.85 (0.72)	0.06 (194)	.950	.00 S
Q-LES-Q	49.66 (0.73)	49.88 (1.24)	0.41 (194)	.680	.00 S	49.66 (0.73)	48.19 (1.72)	1.49 (194)	.140	.01 S
ASQ-CPCN Optimism	1.575 (0.31)	1.02 (0.24)	1.46 (194)	.147	.01 S	1.575 (0.31)	0.72 (0.94)	0.75 (194)	.453	.00 S

Note. DASS = Depression, Anxiety and Stress Scale

Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire

ASQ-CPCN = Attributional Style Questionnaire – Composite Positive Composite Negative

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large = .06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15;

* p < .05 ** p < .01 *** p < .001

Table 31.

Adjusted Means and (Standard Errors) of DASS (Depression, Anxiety and Stress), Q-LES-Q and ASQ-CPCN across Time (T1-$T4_{cont}$; T1-T5) for the Waitlist/Treated Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T1 *M*(*SE*)	$T4_{cont}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T1 *M*(*SE*)	T5 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2
DASS Depression	5.28 (0.73)	3.79 (1.65)	1.09 (194)	.28	.01 S	5.28 (0.73)	3.65 (1.26)	1.5 (194)	.14	.01 S
DASS Anxiety	6.47 (0.49)	4.42 (0.77)	3.19 (194)	.002**	.05 SM	6.47 (0.49)	4.71 (1.09)	2.02 (194)	.045*	.02 SM
DASS Stress	8.92 (0.43)	5.41 (0.87)	3.1 (194)	.002**	.05 SM	8.92 (0.43)	4.47 (0.96)	4.69 (194)	<.001***	.10 ML
Q-LES-Q	49.66 (0.73)	53.38 (1.98)	2.51 (194)	.013*	.03 SM	49.66 (0.73)	52.50 (1.98)	2.28 (194)	.024*	.03 SM
ASQ-CPCN Optimism	1.575 (0.31)	0.49 (0.42)	2.08 (194)	.039*	.02 SM	1.575 (0.31)	1.74 (0.24)	0.31 (194)	.754	0.00 S

Note. DASS = Depression, Anxiety and Stress Scale; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire; ASQ-CPCN = Attributional Style Questionnaire – Composite Positive Composite Negative (optimism)

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large = .06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15;

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 32.

Adjusted Means and (Standard Errors) of DASS (Depression, Anxiety and Stress), Q-LES-Q and ASQ-CPCN across Time (T2-T3; T2-$T4_{cont}$; T2-T5) for the Waitlist/Treated Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T2 *M*(*SE*)	T3 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	$T4_{cont}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T2 *M*(*SE*)	T5 *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
DASS Depression	7.53 (1.42)	6.64 (0.99)	0.76 (194)	.449	.00 S	7.53 (1.42)	3.79 (1.65)	10.07 (194)	<.001***	.34 L	7.53 (1.42)	3.65 (1.26)	6.59 (194)	<.001***	.18 L
DASS Anxiety	6.2 (0.55)	7.36 (0.63)	10.92 (194)	<.001***	.38 L	6.2 (0.55)	4.42 (0.77)	3.45 (194)	.001**	.06 SM	6.2 (0.55)	4.71 (1.09)	1.95 (194)	.053	.02 SM
DASS Stress	8.67 (0.88)	8.85 (0.72)	0.5 (194)	.619	.00 S	8.67 (0.88)	5.41 (0.87)	8.6 (194)	<.001***	.28 L	8.67 (0.88)	4.47 (0.96)	3.81 (194)	<.001***	.07 ML
Q-LES-Q	49.88 (1.24)	48.19 (1.72)	3.19 (194)	.002**	.05 SM	49.88 (1.24)	53.38 (1.98)	2.92 (194)	.004**	.04 SM	49.88 (1.24)	52.50 (1.98)	3.36 (194)	.001**	.05 SM
ASQ-CPCN Optimism	1.02 (0.24)	0.72 (0.94)	0.27 (194)	.790	.00 S	1.02 (0.24)	0.49 (0.42)	1.98 (194)	.050	.02 SM	1.02 (0.24)	1.74 (0.24)	2.47 (194)	.014*	.03 SM

Note. DASS = Depression, Anxiety and Stress Scale; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire; ASQ-CPCN = Attributional Style Questionnaire – Composite Positive Composite Negative (Optimism)

Effect size estimated by eta squared (η^2): Small = $\leq$.01; Small to Moderate = .01 < $\eta^2 \leq$ .06 ; Moderate to Large = .06 < η^2 < .15 ; Large = $\eta^2 \geq$ .15;

* p < .05 ** p < .01 *** p < .001

Table 33.

Adjusted Means and (Standard Errors) of DASS (Depression, Anxiety and Stress), Q-LES-Q and ASQ-CPCN across Time (T3-T4; T3-T5; $T4_{cont}$-T5) for the Waitlist/Treated Control Condition and Post-Hoc Comparisons between Assessments

Outcome Variables	T3 *M*(*SE*)	$T4_{cont}$ *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	T3 *M*(*SE*)	T5 *M*(*SE*)	*t* (df)	*p*	Eta squared η^2	$T4_{cont}$ *M*(*SE*)	T5 *M*(*SE*)	*t*(df)	*p*	Eta squared η^2
DASS Depression	6.64 (0.99)	3.79 (1.65)	2.22 (194)	.028*	.02 SM	6.64 (0.99)	3.65 (1.26)	2.21 (194)	.028*	.02 SM	3.79 (1.65)	3.65 (1.26)	0.21 (194)	.832	.00 S
DASS Anxiety	7.36 (0.63)	4.42 (0.77)	4.99 (194)	<.001***	.11 ML	7.36 (0.63)	4.71 (1.09)	3.27 (194)	.001**	.05 SM	4.42 (0.77)	4.71 (1.09)	0.9 (194)	.368	.00 S
DASS Stress	8.85 (0.72)	5.41 (0.87)	13.16 (194)	<.001***	.47 L	8.85 (0.72)	4.47 (0.96)	3.71 (194)	<.001***	.07 ML	5.41 (0.87)	4.47 (0.96)	0.84 (194)	.401	.00 S
Q-LES-Q	48.19 (1.72)	53.38 (1.98)	4.68 (194)	<.001***	.10 ML	48.19 (1.72)	52.50 (1.98)	12.77 (194)	<.001***	.46 L	53.38 (1.98)	52.50 (1.98)	0.64 (194)	.520	.00 S
ASQ-CPCN Optimism	0.72 (0.94)	0.49 (0.42)	0.18 (194)	.861	.00 S	0.72 (0.94)	1.74 (0.24)	1.11 (194)	.271	.01 S	0.49 (0.42)	1.74 (0.24)	3.15 (194)	.002*	.05 SM

Note. DASS = Depression, Anxiety and Stress Scale; Q-LES-Q = Quality of Life Enjoyment and Satisfaction; ASQ-CPCN = Attributional Style Questionnaire – Composite Positive Composite Negative

Effect size estimated by eta squared (η^2): Small = $\leqq$.01; Small to Moderate = .01 < $\eta^2 \leqq$ .06 ; Moderate to Large =.06 < η^2 < .15 ; Large = $\eta^2 \geqq$.15

* p < .05 ** p < .01 *** p < .001

DASS – Depression Subscale

The main effect of time was significant (F[3,194] = 634.11, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a moderate significant increase in depression from T1 to T2 (t[194] = 2.18, p = .030) and a non-significant decrease from T2 to T3 (t[194] = 0.76, p = .449). After receiving the treatment, however, they showed a moderate, significant decrease from T3 to $T4_{cont}$ (t[194] = 2.22, p = .028), which was maintained at the 6-week follow-up ($T4_{cont}$- T5: t[194] = 0.21, p = .832).

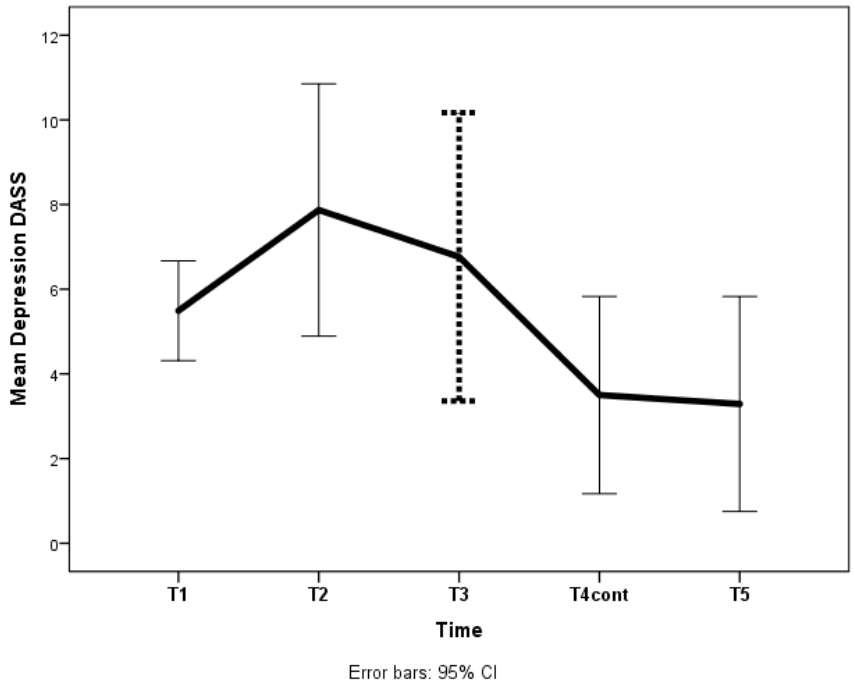

Figure 33. Changes in depressive symptoms across time in the waitlist/treated control condition

DASS – Anxiety Subscale

The main effect of time was significant (F[3,194] = 52.34, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant decrease in anxiety from T1 to T2 (t[194] = 0.64, p = .523) and a relatively large, significant increase from T2 to T3 (t[194] = 10.92, p < .001). After receiving the treatment, however, they showed a relatively large, significant decrease from T3 to $T4_{cont}$ (t[194] = 4.99, p < .001), which was maintained at the 6-week follow-up ($T4_{cont}$- T5: t[194] = 0.9, p = .368).

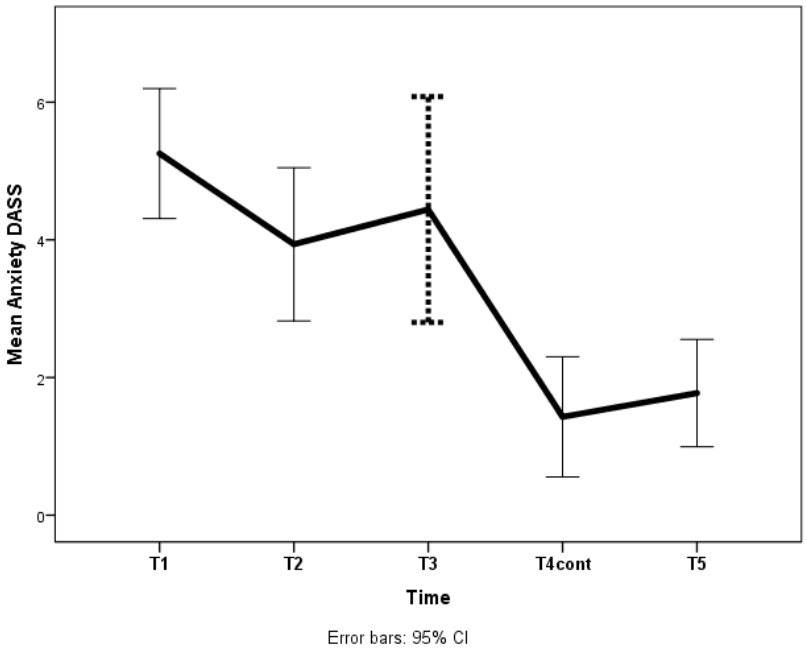

Figure 34. Changes in anxiety symptoms across time in the waitlist/treated control condition

DASS – Stress Subscale

The main effect of time was significant (F[3,194] = 87.49, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant decrease in stress from T1 to T2 (t[194] = 0.24, p = .810) followed by a non-significant increase from T2 to T3 (t[194] = 0.5, p = .619). After receiving the intervention, however, they showed a relatively large, significant decrease from T3 to $T4_{cont}$ (t[194] = 13.16, p < .001), which was maintained at the 6-week follow-up ($T4_{cont}$- T5: t[194] = 0.84, p = .401).

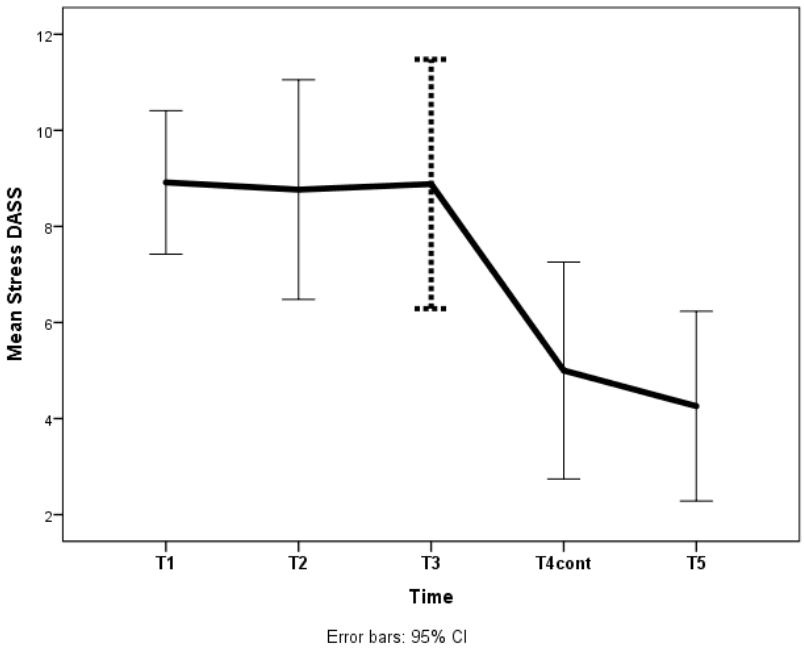

Figure 35. Changes in stress symptoms across time in the waitlist/treated control condition

Q-LES-Q – Quality of Life Enjoyment and Satisfaction

The main effect of time was significant (F[3,194] = 13.22, p <.001). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant increase in Quality of Life from T1 to T2 (t[194] = 0.41, p = .680) and a moderate significant decrease from T2 to T3 (t[194] = 3.19, p = .002). After receiving the intervention, however, they showed a relatively large significant increase from T3 to $T4_{cont}$ (t[194] = 4.68, p < .001), which was maintained at the 6-week follow-up ($T4_{cont}$-T5: t[194] = 0.64, p = .520).

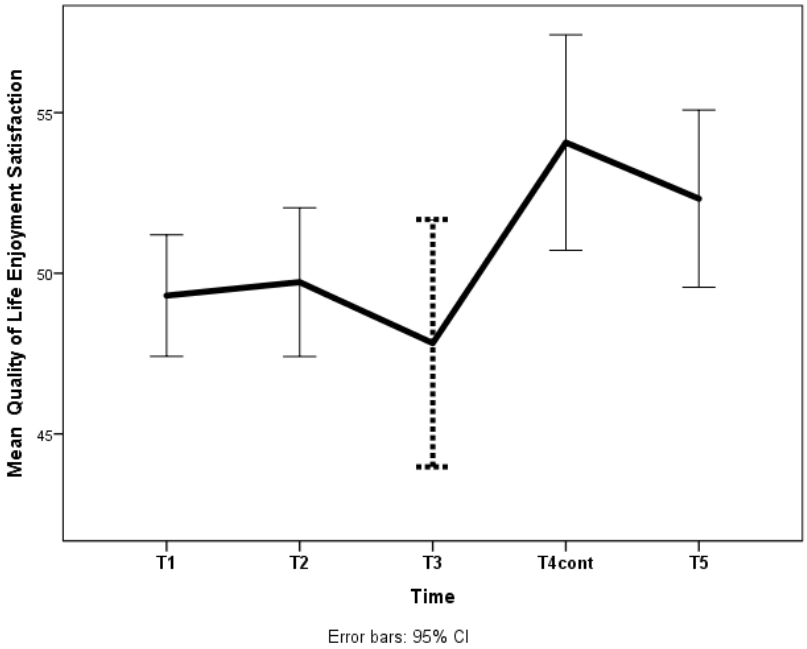

Figure 36. Changes in Quality of Life Enjoyment and Satisfaction across time in the waitlist/treated control condition

ASQ – CPCN – General Attribution Style (Optimism)

The main effect of time was significant (F[3,194] = 3.20, p = .025). LSD post-hoc contrasts were conducted across the time effect in order to locate its source. When participants were in the waitlist control group, they showed a non-significant decrease in optimism from T1 to T2 (t[194] = 1.46, p = .147) followed by a relatively small, non-significant decrease from T2 to T3 (t[194] = 0.27, p = .790). When participants had received the intervention as a treated control group, they showed a non-significant decrease from T3 to $T4_{cont}$ (t[194] = 0.18, p = .861), but at the 6-week follow-up, participants showed a significant increase in optimism ($T4_{cont}$- T5: t[194] = 3.15, p = .002) returning them to baseline levels.

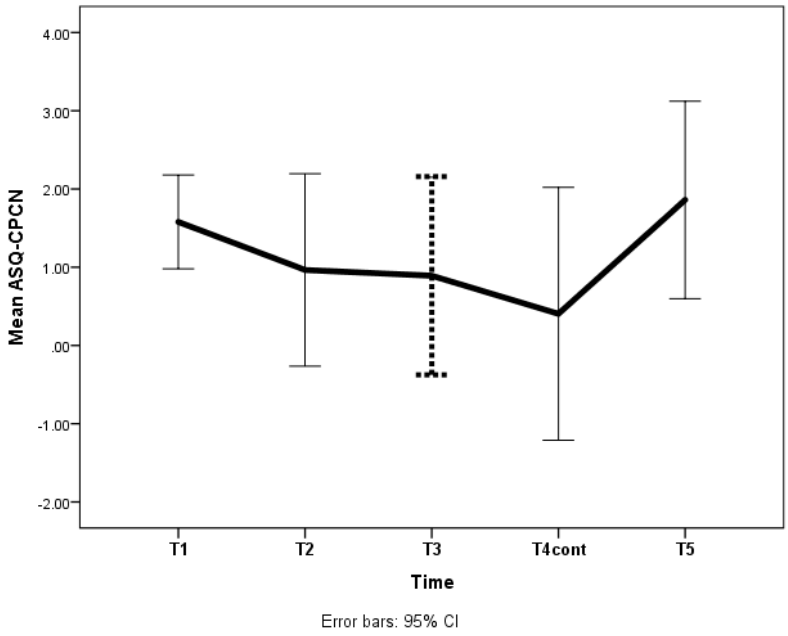

Figure 37. Changes in General Attribution Style (Optimism) across time in the waitlist/treated control condition

The summary of findings as shown in Table 34 below indicates that participants in the treated control group also showed significant therapeutic changes in outcomes between pre-test (T3) and the post-test ($T4_{cont}$), thus, with the exception of attributional style, Hypothesis 4 (H4) is supported. Moreover, participants in the treated control group maintained these changes at the 6-week follow-up (T5), thus supporting Hypothesis 5 (H5).

Table 34

Summary of Findings on Changes at Pre – Post and 6 week Follow Up for the Treated Control Group

Expectation	Outcome Variables	Groups	T3 – $T4_{cont}$	$T4_{cont}$ – T5	T3 – T5
↑ Sig	Total Resilience	TrCont	↑ Sig L	↓ NSig S	↑ Sig L
	F1 Personal Competence	TrCont	↑ Sig L	↓ NSig S	↑ Sig L
	F2 Trust in Own Intuition	TrCont	↑ Sig L	↓ NSig S	↑ Sig L
	F3 Acceptance of Change	TrCont	↑ Sig L	↓ NSig S	↑ Sig ML
	F4 Personal Control	TrCont	↑ Sig L	↓ NSig S	↑ Sig L
	F5 Spiritual Influences	TrCont	↑ Sig ML	↑ NSig S	↑ Sig ML
	Quality of Life Enjoyment and Satisfaction	TrCont	↑ Sig ML	↓ NSig S	↑ Sig L
	ASQ – CPCN Attributional (Optimism)	TrCont	↓ NSig S	↑ Sig SM	↓ NSig S
↓ Sig	Depression	TrCont	↓ Sig SM	↓ NSig S	↓ Sig SM
	Anxiety	TrCont	↓ Sig ML	↑ NSig S	↓ Sig SM
	Stress	TrCont	↓ Sig L	↓ NSig S	↓ Sig ML

Note.

TrCont = Treated Control condition; L = Large; ML = Moderate to Large; SM = Small to Moderate; S = Small; Sig = Significant; NSig = Not Significant; ↑ = Increase; ↓ = Decrease

Chapter 6

Discussion

This chapter will begin by summarising the main findings of this study according to the primary outcomes and how these findings relate to the relevant existing literature. The strengths and limitations of the research as well as suggestions for future research will then be considered. Finally, reflections on the process of developing and facilitating the AROW program will be offered along with a final discussion about where this research fits in terms of millennium developmental goals and future policy related to antenatal care, particularly in developing countries.

6.1. Main Outcome Measures

The primary findings of this study relate to comparisons of the intervention and control groups in terms of their changes on the outcome variables from pre-intervention through to the 6-week follow-up. These results were reported in Section 5.2.1. For the intervention group, the maintenance of these changes at the 6-month follow-up was examined in Section 5.2.2. Finally, in Section 5.2,3, analyses of the main effects of time across all outcome variables were conducted for the control group; the time effect for the control group included five assessments: Pre-intervention1, pre-intervention2, pre-intervention3, post-intervention, and follow-up.

6.1.1. The Impact of AROW on Resilience

This study aimed to measure resilience at the antenatal period and to evaluate whether resilience can be taught, learned, enhanced and maintained over a period of time. Participants from both groups were assessed at baseline and all of them were unaware of what they would experience at the workshop.

The intervention group showed significant positive changes in total resilience with all resilience factors improving when compared to the control group. Moderate to large increases from pre-intervention up to 6-weeks (T1 to T3) were found for total resilience and all four resilience factors (personal competence, acceptance of change, personal control and spiritual influences). Both intervention and control groups showed statistically similar increases on resilience scores on trust in own intuition (F2). Interestingly, personal competence (F1) and personal control (F4) showed a large improvement at post-intervention and the significant changes were

maintained at 6-week follow-up, while the control group showed declines. This result is consistent with recent study by Mautner et al. (2013) who further confirms that resilience will improve with interventions that increase the personal competence of women and enable them to gain self-confidence and control over their situation.

Importantly, participants in the intervention group maintained their gains with the improved scores on resilience at post-intervention, 6-week, and 6-month follow-ups when compared to baseline assessment. In summary, participants in the intervention group demonstrated that their general resiliency increased significantly over time after they attended the AROW especially at 6-week follow-up and that all resilience factors were increased, particularly as the participants showed stronger personal competence (F1), more trust in their own intuition (F2), and more capacity for personal control (F4). The AROW produced large intervention effects to participants' total resilience.

To confirm that the intervention did produce changes, analyses of the main effects of time were also conducted for the waitlist control group. Resilience level of control participants before intervention (T1, T2, and T3) were compared to their resilience levels at post-intervention ($T4_{cont}$) and 6-week follow up (T5). From T3 to $T4_{cont}$ the treated control group showed moderate to large, significant increases of their total resilience and all five resilience factors and the changes were maintained at 6-week post-intervention (T3-T5). The current study indicated that in the treated control group, the intervention produced therapeutic changes confirming that the AROW was effective for the population in creating the expected changes, improved and increased resilience. Participants in both intervention and treated control groups reported similar changes after the intervention such as:

- *"I have more knowledge and become resilient and optimistic"*
- *"I am feeling so much better than before; become more resilient and optimistic"*
- *"I become a person who is able to make decision resiliently"*
- *"I feel calmer and more relaxed"*
- *"I get many friends and am more ready in facing future life"*
- *"I am more confidents and feel that I can live my life strongly"*
- *"I am very happy after attending the workshop"*
- *"I am more optimistic, ready to become a resilient person"*
- *"I become more confident and do not fear in delivering my baby"*

These results indicated strongly that there were significant changes after participants attended the 2-day Antenatal Resilience and Optimism Workshop and the changes were captured by the Connor-Davidson Resilience Scale (CD-RISC). The integrated content of AROW is perceived to have created a strong internal commitment to change, to be open minded to self-evaluate irrational thoughts and to be ready to learn more about resiliency. During the workshop, participants learned how they could protect themselves and the baby from potential antenatal anxiety and depression that would further reduce the possibility of postnatal depression. By actively participating in the workshop, being acknowledged by other participants in a similar condition and, being given the opportunity to share their own experience and learn from each other, participants might have further improved their individual resilience and thus significantly contributed to the changes reported. The final session in the workshop was when pregnant women learned about, and were encouraged to develop, internal powerful preconditions (I have, I am and I can) using the resilience metaphor. The internal preconditions of resilience (Grotberg, 1998) explain what external resources are available around the individual (I have), what inner strengths one has (I am), and what has been achieved over a period of time (I can). The resiliency training was carefully developed to equip the participants leaving the workshop with a powerful motivation to show positive changes for the sake of their newborn baby and themselves and ultimately to prevent postnatal depression.

The study conducted by Connor and Davidson (2003) found that CD-RISC scores were sensitive to real changes in the well-being of patients with PTSD and suggested that the increase in resilience was related to the patient's global improvement possibly resulting from application of combined pharmacotherapy and cognitive behavioural therapy. However, due to the condition of being pregnant, participants in the current study did not have any pharmacotherapy in place other than normal vitamin consumption prescribed by the doctors. This was confirmed at the beginning of recruitment. Thus, the changes shown in the study can be more confidently attributed to the effects of the AROW intervention and if so, the notion that resilience can be taught, learned, enhanced and maintained over some period of time is justified and supported. However, it could have been the non-specific aspects of being in a supportive group with other pregnant women that initiated the changes at the beginning.

6.1.2. The Impact of AROW on Individual Attributional Style (Realistic Optimism)

Of the six outcome variables, the current study indicated that there were no significant intervention effects for optimism (as measured by the attributional style ASQ-CPCN), however the intervention group showed higher optimism towards good events. This result gives a new understanding on how to perceive optimism and it is likely that after attending the workshop, participants understand more about how to think positively yet at the same time being able to consider more realistic placing and more realistic expectations. The intervention seems to bring them back close to the baseline score and this is very much expected in reality, that in difficult circumstances, extreme or over optimism may not be good practice and a realistic pessimism will assist individuals to adjust their optimism by lowering expectations and anticipating for worst-case scenario (Norem, 2001).

One of the goals in implementing CBT is that the individual will be able to acquire skills to deal with future problems. There was a session where the workshop participants were requested to think individually then share their thoughts on "What if …?" and then gradually guided from thinking about "what if…?" to "unthreatened" topics such as "What if the sky is orange?" or "What if we can fly?" to relevant topics to her pregnancy such as "What if the baby has to be delivered prematurely?". Several questions on "what if?" were completed during the workshop and participants were requested to complete more as homework. The process of thinking and anticipating difficult situations and then coming up with possible solutions are some of the results expected from attending the workshop. The purpose of this exercise was to assist participants to be ready for future uncertainties, to be willing to deal with them, and to have the confidence to cope with them and resolve them.

Seligman (1990) asserted that a resilient individual can be identified from their behaviour as well as their optimistic thinking. Optimists are willing to learn and they benefit more in doing so. This is consistent with MacDonald (2004) who stated that optimism is an essential element of resilience. Optimists, driven by their resilience, are likely to achieve more in various areas and have better physical health, hence this training combined exercises and activities on optimism and resilience. From AROW, participants acquired new knowledge and skills; how to network, how to share ideas, and how others can help them to be more resilient and optimistic.

Participants learned the basic ABC model and thinking traps and understood that their thinking style which was developed across their life experiences would affect the way they perceived an event. The facilitators used the four steps described in Chapter 3 Section 3.2 and found that participants were able to evaluate their own thinking traps and unhelpful thinking styles more easily by following the steps. Once the participants understood their maladaptive thinking styles, they were more able to do the ABC (Activating events/situation; Beliefs/thoughts; Consequences/reactions – feelings or behaviour) exercise. Below are some comments related to changes in thinking offered by participants at the end of the final assessment:

- *"I am more optimistic, confident, stronger, more knowledgeable and more able to control emotion"*
- *"I have clear thinking and more confidence"*
- *"I am more positive thinking and feel more loved"*

There seems to be a similarity in comments provided by the participants and interestingly participants remembered key points that they learned at least 6 months post-intervention. Statistically, although there were no significant intervention effects in attributional style (optimism), the positive changes reported by participants may be due to how they were able to practice or apply the thinking style in daily life but this was not detected from the cases presented in the Attributional Style Questionnaire.

6.1.3. The Impact of AROW on Individual Quality of Life Enjoyment and Satisfaction

The study yielded a large intervention effect for quality of life. In the workshop, participants were not specifically taught about quality of life and related discussions on how to improve, or events that may influence their quality of life enjoyment and satisfaction. The focus of the workshop was more about getting the participants to understand how improved resilience and optimism could help them to reduce the risk factors of postnatal depression. The measurement of quality of life enjoyment and satisfaction in this study was conducted to reconfirm previous research by Cohn et al. (2009) who indicated that positive emotions predicted increases in resilience and life satisfaction. The current study found that when the intervention group showed increases in resilience, the quality of life showed improvement and reduction in depressive symptoms. This finding is consistent with

recent study by Brennan (2014) who demonstrates that resilience is a predictor of quality of life.

Although the content of AROW does not specifically address the concept of quality of life, it incorporates all aspects of life and has been used in a variety of disciplines. Quality of life is affected by individuals' physical health, personal belief, psychological condition, social relationships and much more. Participants provided different comments about changes that they have applied in their day-to-day life for the last 6 months after attending AROW, reflecting improved quality of life such as: "*I can communicate about pregnancy with my friends*" (showing better communication skills and more confidence in sharing knowledge to others); "*I know how to educate my children and husband*" (expanding her resilience to others); "*I am aware of how important to prepare savings for future needs*" (showing anticipative behaviour reflecting changes in thinking big and prioritising action).

Experiencing changes across the board in participants day-to-day life, in particular on how to perceive a situation and self-motivation, seem to be highly reported and changes were not only in the area of pregnancy, babies or family matters but also to grow as stronger and more optimistic individuals who will not easily give up. These reported changes reflected improved quality of life, which were indicators of the impact of the intervention. Interestingly, reported low quality of life seems to characterise individuals at-risk for developing future problems. Mautner et al. (2013) found that by screening quality of life, it is possible to identify women who would benefit from psychological support. This can be seen as another quick way to identify at-risk individuals (in this case pregnant women) whom if found to report low quality of life warrants further assessment and if their low resilience is confirmed, an early intervention such as AROW can be recommended.

6.1.4. The Impact of AROW on Depression, Anxiety and Stress

This study measured depression, anxiety and stress using the DASS, a validated tool that has been widely used in many studies. Participants of this study were all within the normal range of DASS and met inclusion criteria of non-clinical samples at the base-line assessment. The intervention group showed significant decreases in depression, anxiety and stress levels compared to the control group.

Participants attending the AROW were exposed to general knowledge about motherhood and parenthood and were told what would change due to their

pregnancy, followed by challenges related to cultural norms which created great discussion amongst participants. The workshop provided opportunities for pregnant women to share their difficult situations and conflicts they had to cope and deal with. It did not take long for most participants to convey their thoughts, feelings, stresses, anxieties and share their problems in groups or during panel sessions. Their active involvement resulted from facilitators motivating them at the beginning of the workshop which served two purposes: to encourage participants to get maximum benefit from the workshop and to reduce their worries that the workshop would be too difficult for them to understand.

Previous research has shown that women with low resilience scores showed significantly more depressive symptoms following a disease, and that resilience may be a significant factor that protects against emotional distress (Mautner et al., 2013). Enhancing the ability to experience positive emotions could play an important role in making people more resilient to depression. In the current study, the AROW was delivered to pregnant women who at the time of recruitment were not clinically depressed. The AROW aimed to help pregnant women to be more resilient and optimistic so upon completion and in follow-ups it is expected that the two aspects will increase, and depressive, anxiety and stress symptoms during pregnancy and postnatally will decrease. This study demonstrated promising results confirming the effectiveness of AROW in producing therapeutic changes up to 6-months follow-up, shown by reported significant decline of risk factors (depression, anxiety and stress) as a result of increased protective factors (resilience, resilience factors and life enjoyment and satisfaction) to reduce/prevent possibilities of postnatal depression. The current study did not restrict itself to only evaluating how the intervention impacts depression but also included anxiety and stress, because it is widely acknowledged that anxiety and depression commonly co-exist. Lovibond and Lovibond (1995) explained that stressful life events have the potential to precipitate anxiety and depression. The fact that AROW reduces levels of stress and anxiety confirms the prevention capacity of the program for depression.

6.2. Strengths

The study has a number of strengths including the use of well-known validated questionnaires which have been translated into Bahasa Indonesia as tools to measure resilience, attributional style (optimism), depression, anxiety, stress and

quality of life enjoyment and satisfaction, Furthermore, this is the first study which evaluates the efficacy of an antenatal intervention specifically designed and tailored to integrate recommendations from previous research within the context of resilience, optimism and maternal depression as well as taking into account relevant socio-cultural aspects. This study is also the first randomised controlled trial study in Indonesia involving pregnant women in the same period of pregnancy (2^{nd} trimester), recruited from similar sources (primary health care clinics) and using a group CBT approach delivered by trained facilitators.

Resilience and optimism are the two constructs that previous studies have indicated to have crucial roles in reducing risks factors of various mental health problems. The construct of resilience and optimism is acceptable in Indonesian culture. The challenge is to find the right way to incorporate those constructs in the context of pregnancy aiming to convey the importance to prevent long-term consequences of postnatal depression that is very much related to individual problems. The development of an Antenatal Resilience and Optimism Workshop (AROW) has addressed, integrated, and blended those constructs to be taught in a group setting so to encourage collective understanding and strong insights to change within individual participants. The AROW itself, including the Facilitator Module and Participant Workbook, is the main strength of this study and results gathered to evaluate its efficacy become an important step for further investigation to suggest it as a universally recommended antenatal intervention to prevent postnatal depression.

The AROW is delivered using a language that all participants understand, using examples that are culture-specific for Indonesia and Asian countries that participants believe and practice in everyday life. This is consistent with the guide for practitioners and providers framework for recovery-oriented mental health services emphasising that it is important to promote a culture and language of hope and optimism communicating positive expectations and resulting in a person feeling valued, welcomed and safe to contribute.

In most research, participants have the right to withdraw at any time for any reason and this most likely becomes the limitation of a study. However, the current study was able to attract participants to voluntarily commit to complete their involvement with zero drop-out. This in itself indicates that participants received direct benefits from attending the intervention and the process that enables them to prepare their journey (pregnancy and motherhood) better. The key to this zero drop

out seems due to a careful handling of participants from the beginning, a moderate level of difficulty, anxiety free program which is sensitive to the condition of being pregnant, combined with competent facilitators, easy-to-follow instructions and topics/activities that encourage positive emotions. Participants in the intervention groups kept in touch after completion indicating the effectiveness of AROW in developing group cohesiveness and supports needed to maintain level of resiliency and optimism.

To ensure objectivity and to avoid bias due to facilitators' influence at follow up, no contacts were made by any facilitator after the workshop. Only research administered follow up assessments, therefore data gathered through to the 6-month follow up may be considered an unbiased reflection of how the women maintained positive changes achieved during the workshop and not because of their intention to deliver good impression.

6.3. Limitations

The result of this study should be considered in light of some limitations. With regards to participants, due to the condition of pregnancy, the 6-month follow-up assessment could only be completed with the intervention group because pregnant women in the waitlist control group ethically, and in order to benefit from the study, had to receive the antenatal intervention. Another limitation of the study was the unequal numbers of participants in the intervention versus the waitlist control groups after the baseline assessment. However, this limitation may be considered to have been addressed through the use of GLMM which is robust to unequal group sizes.

The current study was conducted in Surabaya (East Java), one of the thirty-four provinces in Indonesia (see Appendix A no. 15). Pregnant women attended the workshop representing the Indonesian middle social class, quite educated (in average they had graduated from year 9 – junior high school). Nearly all of them were Moslems but one participant was Christian, representing majority of Indonesians. The current participant characteristics represented majority of middle class suburban people in Indonesia. However, it would be interesting to include more diverse participants in terms of religion, education background, household spending (showing income) and employment. Resiliency and optimism should have universality in values despite religions and other diversity aspects, and until future

research confirms that diversity of participants will still produce similar results, the current study demonstrates limitation in terms of its generalisability.

In terms of the intervention specifically tailored for pregnant women, there were situations where the women found it difficult in to express their opinions because they would depend on decisions made by their spouses who did not attend the workshop. Comments like *"I have to ask my husband"* were observed during the workshop and this indicated the need to involve husband/spouse at some point during the workshop which should be managed in future studies.

Using a group CBT approach, the result of AROW may potentially be the consequence of non-specific effect knowing that group therapy is powerful in its own right to assist participants to feel supported by others, not alone in experiencing difficulties and to have individual experiences were recognised. This possibility can be seen as another limitation of the study, hence a possibility to deliver AROW in an individual setting should be considered as an option and as a comparison to results from attending AROW in a group setting. It would also be useful to investigate the potential benefits of AROW delivered individually for situations where there are only a small number of pregnant women at 2nd trimester who are recommended to benefit from attending AROW.

6.4. Reflections on Development and Facilitation of AROW

The structure of the workshop was seen as one of the most important parts in the implementation of AROW. It was crucial that participants were not bombarded by a one-way lecturing or only knowledge transfering approach which may have created stress and anxiety, instead they were encouraged to actively participate and to change their thinking style when necessary. They were led to believe that they were doing something good for the baby and needed to make changes to improve their mental health before their baby is born (Cowan & Cowan, 2000). The fact that all participants were in their 2nd trimester most of them were less worried about miscarriage, had started to feel the baby move and were excited about the pregnancy, so participants were in the best period to learn about new things (PANDA, 2015).

The biggest challenge of any research measuring effectiveness of an intervention is missing data and participant withdrawals or drop-outs. The fact that there were no drop outs from the intervention group is an indication that participants

found valued and acknowledged the benefits they received from the program. In the evaluation sheet given at the end of the research, 100% of the participants evaluated AROW as a useful program. Some of these comments are listed below:

"Increase my understanding and knowledge to be a resilient mother"
"I can be very optimistic and able to handle when my baby is irritable"
"as a new mother i learnt a lot on how to become a mother"
"I have more knowledge to become a resilient mother"
"I know more that it is important to be optimistic in facing life"
"I become more confident that I am able and strong to cope to any problem"
"It motivates me to keep being optimistic and resilient in life"
"Because the workshop motivated pregnant women on how to cope and solve problems"

At the 6-month follow-up, participants completed the questionnaires and said that they had maintained the relationships with other participants after the workshop and supported each other. "*They are not just a friend to me, they are my families and we will raise children of same age. They supported me when I was down losing my baby. Glad that I attended the workshop and learned about how to be resilient and optimistic*" is one of the comments we received from one participant. She testified that she would not have been strong enough to accept the reality that she lost the baby just before the delivery time if she did not attend AROW and learned about being resilient and optimistic. The value of the group CBT approach used is supported by the statistical evidence, zero drop-out, positive feedback throughout the study, past participants spontaneously contacting the researcher requesting similar workshops, as well as commitments by past participants offering their willingness to promote AROW to their networks and friends who were pregnant. Some of them offered to attend if needed to encourage pregnant women to attend the workshop. The intensive group CBT approach for AROW was considered to be very effective in fostering resilience and optimism which can influence the quality of life of the participating women.

6.5. Directions for Future Implementation and Research

In light of the findings presented in this thesis and the current evidence yielded from previous studies and the broader context of achieving the Millennium Developmental Goals (MDGs), future implementation should be directed to gain

approval from relevant institutions in Indonesia and developing countries to suggest AROW as a recommended antenatal care service for pregnant women in their 2nd trimester. The more pregnant women who have the opportunity to attend AROW as their antenatal care program, it is hoped that the two important constructs (resilience and optimism) within individuals and in longer term at community level can be enhanced and strengthened, and act as protective factors against depression, anxiety and stress during pregnancy and postnatally. The AROW has been carefully developed, considers culturally sensitive topics and is systematically organised, allowing possible adaptation for future implementation in other cultures of developing countries which have report high levels of postnatal depression.

Extensive studies have been conducted to investigate long-term consequences of postnatal depression for mothers, children and family. This was the rationale for developing AROW as a preventive program. Other studies which also introduce various antenatal interventions focus their evaluations on the mothers as participants to see the intervention effects across time. However, with such promising results gathered from the current study, it is recommended that there will be future longitudinal studies investigating the impact of AROW as a preventive program to examine parent-infant interaction or quality of parenting in general. Simultaneously additional studies can be conducted to review how the infants' growth, development, health and resilience may indirectly benefit from an antenatal intervention designed to enhance mother's capability (knowledge, skills, resilience, and optimism).

Lastly, it is strongly recommended that more facilitators be trained to deliver AROW which may include health professionals from a range of disciplines. This anticipates AROW becoming a recommended antenatal program, and ensuring there will be enough skilled and trained facilitators to implement the program, given the short time frame to do so at 2nd trimester, in order to obtain the best outcomes. Furthermore, with more skilled AROW facilitators, a larger trial involving more women can be done to confirm the current promising results as a strategy to accomplish healthier generations in the future raised by healthier mothers.

References

AACBT. (2015). What is CBT? Retrieved 13 February 2015, from http://www.aacbt.org/viewStory/WHAT+IS+CBT%3F

Adler, R.H. (2009). Engel's biopsychosocial model is still relevant today. *Journal of Psychosomatic Research, 67,* 607-611.

Almond, P. (2009). Postnatal depression: A global public health perspective. *Perspectives in Public Health*, *129*(5), 221-227.

Allen, J., Stapleton, H., Tracy, S., & Kildea, S. (2013). Is a randomised controlled trial of a maternity care intervention for pregnant adolescents possible? An Australian feasibility study. *BMC Medical Research Methodology*, *13*, 138.

Allison, P. J., Guichard, C., Fung, K., & Gilain, L. (2003). Dispositional optimism predicts survival status 1 year after diagnosis in head and neck cancer patients. *Journal of Clinical Oncology, 21*(3), 543-548.

American Psychiatric Association. (2000). Practice guideline for the treatment of patients with major depression (revision). *American Journal of Psychiatry, 157*(*4*).

American Psychological Association. (2007). What is resilience? *Psych Central.* Retrieved 15 August 2014, from http://psychcentral.com/lib/what-is-resilience/0001145

Andajani-Sutjahjo, S., Manderson, L. & Astburry, J. (2007). Complex emotions, complex problems: Understanding the experiences of perinatal depression among new mothers in urban Indonesia. *Culture, Medicine and Psychiatry*, *31*(1), 101-122. doi: 10.1007/s11013-006-9040-0

Antenatal and Postnatal Psychology Network (2014). Pregnancy. Retrieved from http://www.antenatalandpostnatalpsychology.com.au/pregnancy.html

Antony, M. M., Bieling, P.J., Cox, B.J., Enns, M.W., & Swinson, R.P. (1998). Psychometric properties of the 42-Item and 21-Item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment, 10*(2), 176-181. doi: 10.1037/1040-3590.10.2.176.

Armstrong, A. R., Galligan, R. F., & Critchley, C. R. (2011). Emotional intelligence and psychological resilience to negative life events. *Personality and Individual Differences, 51,* 331-336. doi: 10.1016/j.paid.2011.03.025

Austin, M-PV. (2003). Psychosocial assessment and management of depression and anxiety in pregnancy. *Australian Family Physician*, *32*, 1-8.

Austin, M. P., Frilingos, M., Lumley, J., Hadzi-Pavlovic, D., Roncolato, W., Acland, S., . . . Parker, G. (2008). Brief antenatal Cognitive Behaviour Therapy group intervention for the prevention of postnatal depression and anxiety: a randomised controlled trial. *Journal of Affective Disorders, 105*, 35-44. doi: 10.1016/j.jad.2007.04.001

Austin, M-PV, Tully, L., & Parker, G. (2007). Examining the relationship between antenatal anxiety and postnatal depression. *Journal of Affective Disorders, 101*(1-3), 169-174. doi: 10.1016/j.jad.2006.11.015

Badan Pusat Statistik Indonesia. (2014) Population of Indonesia by province 1971, 1980, 1990, 1995, 2000 and 2010. Retrieved from http://www.bps.go.id/eng/tab_sub/view.php?kat=1&tabel=1&daftar=1&id_subyek=12&notab=1

Bainbridge, J. (2010). Indonesia improves quality of care in childbirth to reduce maternal death. *British Journal of Midwifery, 18*(6), 393.

Baldwin, AL., Baldwin, C., & Cole, R.E. (1990). Stress-resistant family and stress-resistant children. In J. Rolf, A.S. Masten, D. Ciccheti, K.H. Nucchterlain, & S. Weintraub. Eds. *Risk and Protective Factors in the Development of Psychopathology*, 2 : 425-444.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Baron, J. (2007). *Hierarchy of study designs for evaluating the effectiveness of a STEM education project or practice.* Retrieved from http://coalition4evidence.org/wp-content/uploads/2009/05/study-design-hierarchy-6-4-09.pdf

Baron, L., Eishman, H., Scuello, M., Veyzer, A., & Lieberman, M. (1996). Stress, resilience, locus of control, and religion in children of Holocaust victims. *The Journal of Psychology*, 130(5), 513-526.

Barratt, H., & Kirwan, M. (2009). Intervention studies and randomised controlled trials: design, applications, strengths and weaknesses of intervention studies and randomised controlled trials. *Health Knowledge: Education, CPD and Revalidation from Phast.* Retrieved 6 October, 2014, from http://www.healthknowledge.org.uk/public-health-textbook/research-methods/1a-epidemiology/cs-as-is/intervention-studies-rct

Basoqlu, M., Salcioglu, E., Livanou, M., Kalender, D., & Acar, G. (2005). Single-session behavioural treatment of earthquake-related posttraumatic stress disorder: a randomized waiting list controlled trial. *Journal of traumatic stress, 18*(1), 1-11.
Baumeister, R. (1991). *Meanings of life*. New York: Guilford.

Barrett, P.M., Duffy, A.L., Dadds, M.R.,& Rapee, R.M. (2001). Cognitive-behavioral treatment of anxiety disorders in children: Long term (6-year) follow up. *Journal of Consulting and Clinical Psychology*, *69*(1), 135-141.

Baumeister, R. (1991). *Meanings of Life*. New York: Guildford.

Beardslee, W. R., Keller, M. B., Lavori, P. W., Staley, J. E., & Sacks, N. (1993). The impact of affective disorder on depression in offspring: A longitudinal follow-up in a non-referred sample. *Journal of the American Academy of Child and Adolescent Psychiatry*, *32*, 723–730. doi: 10.1097/00004583-199307000-00004

Beardslee ,W.R., Versage, E.M., & Gladstone, T.R. (1998). Children of affectively ill parents: a review of the past 10 years. *Journal of the American Academy of Child & Adolescent Psychiatry*, *37*(11),1134-1141.

Beardslee, W.R., Gladstone, T.R., Wright, E.J., & Cooper, A.B. (2003). A family-based approach to the prevention of depressive symptoms in children at risk: Evidence of parental and child change. *Pediatrics*, 1*12* (2), e119-131.

Beck, C. T. (2003). Postpartum depression predictors inventory-revised. *Advance Neonatal Care*, *3*, 47-48.

Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson. T.R. (2004). Prevalence of depression during pregnancy: Systematic review. *Obstetrics and Gynecology*, *103*(4), 698-709. doi: 10.1097/01.AOG.0000116689.75396.5f

Bennett, S. (2011). Do you have baby blues or postpartum depression? Retrieved from http://www.pbs.org/thisemotionallife/blogs/do-you-have-baby-blues-or-postpartum-depression

Benson, P.L. (1997). *All kids are our kids*. Minneapolis: Search Institute.

Beusenberg, M., & Orley, J. (1994). *A User's guide to the Self Reporting Questionnaire (SRQ)*. Geneva: World Health Organization.

Beyondblue (2013). Understanding perinatal depression and anxiety. Beyond Blue Ltd.

Bitsika,V., Sharpley, C.F. & Peters, K. (2010). How is resilience associated with anxiety and depression? analysis of factor score interactions within a homogenous sample. *German Journal of Psychiatry*, *13*, 9-16.

Boukydis, Z. (2006). Ultrasound consultation to reduce risk and increase resilience in pregnancy. *Annals of the New York Academy of Sciences*, *1094*, 268-271.

Bowlby, R. (2013). Birth stories: how science is changing parenthood. Retrieved 25 February, 2015, from http://www.newstatesman.com/culture/2013/08/birth-stories-how-science-changing-parenthood

Brennan, F. (2014). *Investigating of optimism and resilience on quality of life and general health for haemophilia patients.* (Bachelor of Art (Hons) Psychology), Dublin Business School, Dublin. Retrieved from http://esource.dbs.ie/handle/10788/2222

Brennan, P., Hammen, C., Andersen, M., Bor, W., Najman, J., & Williams, G. (2000). Chronicity, severity, and timing of maternal depressive symptoms: relationships with child outcomes at age five. *Developmental Psychology, 36*, 759-766.

Brennan, P., Hammen, C., Katz, A., & Brocque, R. (2002). Maternal depression, paternal psychopathology, and adolescent diagnostic outcomes. *Journal of Consulting and Clinical Psychology*,*70*(5), 1075-1085.

Brouwers, E. P. M., Van Baar, A.L. & Pop, V.J.M. (2001). Does the Edinburgh Postnatal Depression Scale measure anxiety? *Journal of Psychosomatic Research, 51*(5), 659-663. doi:10.1016/S0022-3999(01)00245-8

Brown, J., Boardman, J., Elliott, S., et al. (2005). Are self-referrers just the worried well? A cross-sectional study of self-referrers to community psycho-educational stress and self-confidence workshop. *Social Psychiatry and Psychiatric Epidemiology, 40*, 396-401.

Brown, T. A., Chorpita, B.F., Korotitsch, W., Barlow, D.H. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behaviour Research and Therapy, 35*(1), 79-89. doi:10.1016/S0005-7967(96)00068-X

Brown, J., Elliott, S., Boardman, J., Andiappan, M., Landau, S., & Howay, E. (2008) Can the effects of a 1-day CBT psychoeducational workshop on self-confidence be maintained after 2 years? A naturalistic study. *Depression and Anxiety, 25* (7), 632 – 640.

Brown, R. A., Ramsey, S. E., Kahler, C. W., Palm, K. M., Monti, P. M., Abrams, D., . . . Miller, I. W. (2011). A randomized controlled trial of Cognitive-Behavioral Treatment for depression versus relaxation training for alcohol-dependent individuals with elevated depressive symptoms. *Journal of Study Alcohol Drugs, 72*, 286-296.

Brunwasser, S., Gilham, J. E., & Kim, E. S. (2009). A meta-analytic review of The Penn Resiliency Program's effect on depressive symptoms. *Journal of Consulting and Clinical Psychology, 77*(6), 1042-1054. doi: 10.1037/a0017671

Brydon, L., Walker, C., Wawrzyniak, A. J., Chart, H., & Steptoe, A. (2009). Dispositional optimism and stress-induced changes in immunity and negative mood. *Brain, Behavior and Immunity, 23*(6), 810-816. doi: 10.1016/j.bbi.2009.02.018

Bryk, A.S. & Raudenbush, S.W. (1987). Application of hierarchical linear models to assessing change. *Psychological Bulletin*, *101*(*1*), 147-158. doi: 10.1037/0033-2909.101.1.147

Burns, A., O'Mahen, H., Baxter, H., Bennert, Wiles., Ramchandani, P., Turner, K., Thorn, J., Noble, S., and Evans, J. (2013). A pilot randomised controlled trial of cognitive behavioural therapy for antenatal depression. *BMC Psychiatry, 13*, 33 doi:10.1186/1471-244X-13-33

Burton, N. W., Pakenham, K. I., & Brown, W. J. (2009). Evaluating the Effectiveness of psychosocial resilience training for heart health, and the added value of promoting physical activity: A cluster randomized trial of the READY program. *BMC Public Health, 9*(1), 427. doi: 10.1186/1471-2458-9-427

Burton, N. W., Pakenham, K. I., & Brown, W. J. (2010). Feasibility and effectiveness of psychosocial resilience training: A pilot study of the READY program. *Psychology, Health & Medicine, 15*(3), 266-277. doi: 10.1080/13548501003758710

Campbell, S. B., Brownell, C. A., Hungerford, A., Spieker, S. I., Mohan, R., & Blessing, J. S. (2004). The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Developmental Psychopathology, 16*(2), 231-252.

Campbell-Sills, L., Cohan, S.L., & Stein, M.B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy, 44*, 585-599.

Carter, Jan. & University of Melbourne. School of Social Work. & Australia. Department of Human Services and Health. Research Coordination and Support Grants Section. & Postnatal Depression Workshop. (1994). *Postnatal depression: towards a research agenda for human services and health : proceedings from the Postnatal Depression Workshop 1992*. Canberra, A.C.T : Australian Govt. Pub. Service.

Carver, C., & Gaines, J. (1987). Optimism, pessimism, and postpartum depression. *Cognitive Therapy and Research, 11*, 449-462.

Carver, C., Scheier, M., Miller, C., & Fulford, D. (2009). Optimism. In C. Snyder & S. Lopez (Eds). *Oxford Handbook of Positive Psychology*. New York: Oxford University Press, pp. 303-311.

Carver, C., Scheier, M., & Segerstrom, S. (2010). Optimism. *Clinical Psychology Review, 30*, 879-889.

Center on the Developing Child at Harvard University (2009). *Maternal Depression Can Undermine the Development of Young Children: Working Paper No. 8*. http://www.developingchild.harvard.edu

Chaudron, L. H., Kitzman, H. J., Peifer, K. L., Morrow, S., Perez, L. M., & Newman, M. C. (2005). Prevalence of maternal depressive symptoms in low-income Hispanic women. *The Journal of Clinical Psychiatry*, *66*(4), 418-423.

Chen, L.C. (2004). Harnessing the power of human resources for achieving the MDGs. Geneva: World Health Organization

Chen, L., Evans, T., Anand, S., Boufford, I., Brown, H., Chowdhury, M., Cueto, M., Dare, L., Dussault, G., Elzinga, G., Fee, E., Habte, D., Hanvoravongchai, P., Jacobs, M, Kurowski., Michael, S., Pablos-Mendez, A., Sewankambo, N., Solimano, G., Stilwell, B., de Waal, A., & Wibulpolprasert, S. (2004). Human resources for health: Overcoming the crisis. *The Lancet*, *364*(9449), 1984-1990. doi: 10.1016/S0140-6736(04)17482-5

Cherry, K. Characteristic of Resilience. *About.com Psychology*. Retrieved 20 August, 2014, from http://psychology.about.com/od/crisiscounseling/p/resilience-2.htm

Cho, H.J., Kwon, J.H., & Lee, J.J. (2008). Antenatal cognitive-behavioral therapy for prevention of postpartum depression: A pilot study. *Yonsei Medical Journal*, 49(4), 553-562. doi: 10.3349/ymj.2008.49.4.553

Chung, E. K., McCollum, K. F., Elo, I. T., Lee, H. J., & Calhane, J. F. (2004). Maternal depressive symptoms and infant health practices among low income women. *Pediatrics*, *113*(6), e523-529.

Clara, I. P., Cox, B.J., & Enns, M.W. (2001). Confirmatory factor analysis of the Depression-Anxiety-Stress Scales in Depressed and Anxious Patients. *Journal of Psychopathology and Behavioral Assessment*, *23*(1), 61-67. doi: 10.1023/A:1011095624717

Clark, H. (2013). Empowered Lives; Resilient Nations - Why Health Matters to Human Development. Retrieved from http://www.undp.org/content/undp/en/home/presscenter/speeches/2013/01/31/helen-clark-empowered-lives-resilient-nations-why-health-matters-to-human-development-/

Clauss-Ehlers, C. S. (2008). Sociocultural factors, resilience, and coping: Support for a culturally sensitive measure of resilience. *Journal of Applied Developmental Psychology*, *29*(3), 197-212. doi: 10.1016/j.appdev.2008.02.004

Clayton, A.H. (2004). Postpartum mood disorders. *Primary Psychiatry*, *11*(9), 20-21.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. New York, NY: Routledge Academic.

Cohn, M. A., Fredrickson, B.L., Brown, S.L., Mikels, J.A., & Conway, A.M. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. *Emotion*, *9*(3), 361-368. doi: 10.1037/a0015952

Collishaw, S., Pickles, A., Messer, J., Rutter, M., Shearer, C., & Maughan, B. (2007). Resilience to adult psychopathology following childhood maltreatment: Evidence from a community sample. *Child Abuse & Neglect, 31*, 211-229.

Connor, K. M., & Davidson, J.R.T. (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

Conversano, C., Rotondo, A., Lensi, E., Della Vista, O., Arpone, F., & Reda, M. A. (2010). Optimism and its impact on mental and physical well-being. *Clinical Practice and Epidemiology in Mental Health, 6*, 25-29. doi: 10.2174/1745017901006010025

Cooper, P.J. & Murray, L. (1998). Fortnightly review: Postnatal depression. *British Medical Journal, 316*, 1884-1886.

Cornum, R., Matthews, M. D., & Seligman, M. E. P. (2011). Comprehensive soldier fitness. *American Psychologist, 66*(1), 4-9. doi: 10.1037/a0021420

Cowan, C. P., & Cowan, P. A. (2000). When partners become parents: The big life change for couples. Mahwah, NJ: Lawrence Erlbaum.

Cox, J. L., Chapman, G., Murray, D., & Jones, P. (1996). Validation of the Edinburgh Postnatal Depression Scale (EPDS) in non-postnatal women. *Journal of Affective Disorders, 39*, 185-189.

Cox, J. L., Holden, J.M. & Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. The British *Journal of Psychiatry*, *150*, 782-786. doi: 10.1192/bjp.150.6.782

Coyne, J., & Tennen, H. (2010). Positive psychology in cancer care: bad science, exaggerated claims, and unproven medicine. *Annals of Behavioral Medicine, 39*, 16-26.

Craig, E., Judd, F., & Hodgins, G. (2005). Therapeutic group programme for women with postnatal depression in rural Victoria: A Pilot Study. *Australasian Psychiatry, 13*(3), 291-295.

Cramer, H., Lauche, R., & Dobos, G. (2014). Characteristics of randomised controlled trials of yoga: a bibliometric analysis. *BMC Complementary & Alternative Medicine, 14*: 328.

Crawford, J.R. & Henry, J.D. (2003). The Depression Anxiety Stress Scale (DASS): Normative data and latent structure in a large non-clinical sample. *British Journal of Clinical Psychology, 42*(2), 111-131. doi: 10.1348/014466503321903544

Cully, J.A., & Teten, A.L. (2008). *A Therapist's guide to brief Cognitive Behavioral Therapy*. Houston: Department of Veterans Affair South Central MIRECC.

Cummings, E.M. & Davies, P.T.(1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry, 35,* 73-112.

Cyna, A., Crowther, C., Robinson, J., Andrew, M., Antoniou, G., & Baghurst, P. (2013). Hypnosis antenatal training for childbirth: a randomised controlled trial. *British Journal of Obstetrics and Gynaecology, 120*(10), 1248-1259. doi: 10.1111/1471-0528.12320

Damanik, E. D. (2006). *Pengujian reliabilitas, validitas, analisis item dan pembuatan norma Depression Anxiety Stress Scale (DASS) - The measurement of reliability, validity, item analysis and normative data of Depression Anxiety Stress Scale (DASS)* [Thesis]. Psychology. University of Indonesia. Jakarta.

Davidson, L. & Strauss, J.S. (1992). Sense of self in recovery from severe mental disorder. *British Journal of Medical Psychology, 65,* 131-145.

Davidson, J. R. T., Payne, V. M., Connor, K. M., Foa, F.B., Rothbaum, B.O., Hertzberg, M.A., & Weisler, R.H. (2005). Trauma, resilience and saliotasis: Effects of treatment in post-traumatic stress disorder. *International Clinical Psychopharmacology, 20,* 43-48.

Davydov, D. M., Steward, R., Ritchie, K., & Chadieu, I. (2010). Resilience and mental health. *Clinical Psychology Review, 30,* 479-495. doi: 10.1016/j.cpr.2010.03.003

Day, C., Kane, R. T., & Roberts, C. (2003). The prevention of depressive symptoms in rural Australian women. *Journal of Community and Applied Social Psychology, 13,* 1-14. doi: 10.1002/casp.703

Dayan, J., Creveuil, C., Dreyfus, M., Herlicoviez, M., Baleyte, J-M., & O'Keane, V. (2010). Developmental model of depression applied to prenatal depression: Role of present and past life events, past emotional disorders and pregnancy stress. *PLoS ONE, 5*(9), e12942.

Dennis, C-L. (2003). The effect of peer support on postpartum depression: A pilot randomized controlled trial. *Canadian Journal of Psychiatry, 48*(2), 115-124.

Dennis, C. L., & Allen, K. (2008). Interventions (other than pharmacological, psychosocial or psychological) for treating antenatal depression. *Cochrane Database Systematic Review, 8*(4), CD006795. doi: 10.1002/14651858.CD006795.pub2.

Dennis, C. L., Ross, L. E., & Grigoriadis, S. (2007). Psychosocial and psychological interventions for treating antenatal depression. *Cochrane Database Systematic Review, 18*(3). doi: 10.1002/14651858.CD006309.pub2

Department of Health, Government of Western Australia (2006). *Using the Edinburgh Postnatal Depression Scale (EPDS): Translated into languages other than English*. Perth: State Perinatal Mental Health Reference Group.

De Tychey, C. (2008). Quality of life, postnatal depression and baby gender. *Journal of Clinical Nursing, 17*(3), 312-322. doi: 10.1111/j.1365-2702.2006.01911.x

Deveson, A. (2003). *Resilience*. Sydney: Allen & Unwin.

Dietz, P. M., Williams, S. B., Callaghan, W. M., Bachman, D. J., Whitlock, E. P., & Hornbrook, M. C. (2007). Clinically identified maternal depression before, during, and after pregnancies ending in live births. *American Journal of Psychiatry, 164*, 1515-1520.

DiLeo, G. M. *The high-risk pregnancy*. Retrieved 19 September, 2014, from http://www.babyzone.com/pregnancy/pregnancy-complications/high-risk-pregnancy-overview_70516

Dimitrov, D. M., & Rumrill, P. D. (2003). Pretest-posttest designs and measurement of change. *Work, 20*(2), 159-165.

Dowrick, C., Kokanovic, R., Hegarty, K., Griffiths, F., & Gunn, J. (2009). Resilience and depression: perspectives from primary care. *Health, 12*(4), 439-452. doi: 10.1177/1363459308094419

Dunavold, P. A. (1997). *Happiness, hope, and optimism*. Retrieved 3 February, 2015, from http://www.csun.edu/~vcpsy00h/students/happy.htm

Earls, M. F. (2010). Clinical report incorporating recognition and management of perinatal and postpartum depression into pediatric practice. *Pediatrics, 126*(5), 1032-1039.

Edwards, G. D., Shifuku, N., Gittelman, M., Ghozali, E.W., Haniman, F., Wibisono, S., Yamamoto, K., Miyaji, N.T., & Rappe, P. (2006). Postnatal depression in Surabaya, Indonesia. *International Journal of Mental Health, 35*(1), 62-74. Retrieved from http://www.jstor.org/stable/pdf/41345156.pdf?acceptTC=true

Ellis, M.V. (1999). Repeated measures designs. *The Counseling Psychologist, 27*(4), 552-578.

Endicott, J., Nee, J., Harrison, W., & Blumenthal, R. (1993). Quality of life enjoyment and satisfaction questionnaire: A new measure. *Psychopharmacology Bulletin, 29*(2), 321-326.

Evans, J., Heron, J., Francomb, H., Oke, S., & Golding, J. (2001). Cohort study of depressed mood during pregnancy and after birth. *British Medical Journal, 323*(7307), 257-260.

Every Woman Every Child (2014). *#COMMIT2DELIVER*. Retrieved 4 July, 2014, from http://www.everywomaneverychild.org/commit2deliver

Feinberg, E., Donahue, S., Bliss, R., & Silverstein, M. (2010). Maternal depressive symptoms and participation in early intervention services for young children. *Maternal and Child Health Journal*, 1-10. doi: 10.1007/s10995-010-0715-3

Focus. *FOCUS: Family resilience training for military families.* Retrieved 30 September, 2014, from http://www.focusproject.org/home

Forgeard, M. J. C., & Seligman, M. E. P. (2012). Seeing the glass half full: A review of the causes and consequences of optimism. *Pratiques Psychologiques, 18* 107-120. doi: 10.1016/j.prps.2012.02.002

Fransson, E., Ortenstrand, A. & Hjelmstedt, A. (2011). Antenatal depressive symptoms and preterm birth: A prospective study of a Swedish national sample. *Birth, 38*(1), 10-16. doi: 10.1111/j.1523-536X.2010.00441.x

Freeman, M.P. (2007). Antenatal depression: Navigating the treatment dilemmas. *American Journal of Psychiatry, 164*, 1162-1165. doi:10.1176/appi.ajp.2007.07020341

Friborg, O., Hjemdal, O., Rosenvinge, J.H., & Martinussen, M. (2003). A new rating scale for adult resilience: What are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research*, *12*, 65-76.

Futures, P. (2014). *Promoting resiliency among children and youth experiencing domestic violence : protective factors that promote resiliency.* Retrieved 15 Aug, 2014, from http://promising.futureswithoutviolence.org/files/2014/01/Promising-Futures-Infographic-FINAL.jpg

Garmezy, N. (1991). Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist*, *34*(4), 416-430.

Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development*, *55*(1), 97-111.

Ghaemi, S.N. (2009). *The rise and fall of the biopsychosocial model: Reconciling art and science in psychiatry*. Baltimore, Maryland: Johns Hopkins Univerity Press.

Gibran, K. (1951). *The Kahlil Gibran Reader: Inspirational Writings*. New York: Citadel Press.

Gillespie, B. M., Chaboyer, W., & Wallis, M. (2007). Development of a theoretically derived model of resilience through concept analysis. *Contemporary Nurse : A Journal for the Australian Nursing Profession, 25*(1-2), 124-135. doi: 10.5172/conu.2007.25.1-2.124

Gillham, J., & Reivich, K. (2007). *Resilience research in children.* Retrieved 29 September 2014, from http://www.ppc.sas.upenn.edu/prpsum.htm

Gillham, J. E., Reivich, K. J., Jaycox, L. H., & Seligman, M. E. P. (1995).Prevention of depressive symptoms in school children: Two-year follow-up. *Psychological Science, 6,* 343–351.

Giltay, E. J., Kamphuis, M. H., Kalmijn, S., Zitman, F. G., & Kromhout, D. (2006). Dispositional optimism and the risk of cardiovascular death: The Zutphen elderly study. *Archives of Internal Medicine, 166*(4), 431-436.

Giovanni, A.F., & Elena, T. (2009). Increasing psychological well-being and resilience by psychotherapeutic methods. *Journal of Personality, 77*(6), 1903-1934.

Goleman, D. (1995). *Emotional Intelligence*. New York: Bantam Books.

Goodman, S.H. & Gotlib, I.H. (1999). Risk for psychopathology in the children of depressed mothers: A developmental model for understanding mechanisms of transmission. *Psychological Review, 106*(3), 458-90.

Gotlib, I. H., Whiffen, V. E., Mount, J. H., Milne, K., & Cordy, N. I. (1989). Prevalence rates and demographic characteristics associated with depression in pregnancy and the postpartum. *Journal of Consulting and Clinical Psychology, 57*(2), 269-274. doi: 10.1037/0022-006X.57.2.269

Gregoire A.J.P, Kuman, R. , Everitt B, et al (1996). Transdermal oestrogen for treatment of severe postnatal depression. *Lancet, 347*, 930–933

Grigoroiu-Serbanescu, M., Christodorescu, D., Magureanu, S., et al.(1991). Adolescent offspring of endogenous unipolar depressive parents and of normal parents. *Journal of Affective Disorder, 21*, 185-198.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348-362.

Grotberg, E. (1998). I Am, I Have, I Can: What families worldwide taught us about resilience. Reaching today's youth. *The Community Circle of Caring, 1*(3), 36-39.

Grotberg, E.M. (2014). A guide to promoting resilience in children: Strengthening the human spirit. In B.Van Leer Foundation. *Early Childhood Development: Practice and Reflection Series*. Retrieved 30 September 2014, from http://resilnet.uiuc.edu/library/grotb95b.html

Grote, N. K., & Bledsoe, S. E. (2007). Predicting postpartum depressive symptoms in new mothers: The role of optimism and stress frequency during pregnancy. *Health and Social Work, 32*(3), 107-118.

Grote, N. K., Bledsoe, S. E., Larkin, J., Lemay, E. P., & Brown, C. (2007). Stress exposure and depression in disadvantaged women: The protective effects of optimism and perceived control. *Social Work Research, 31*(1), 19-33.

Gul, M., Bajwa, S., Niaz, S., Haroon, M., Liaqat, S., Ahmad, M., . . . Chaudry, H. R. (2011). Postnatal depression and its comparison with the gender of newborn in fourth pregnancy. *International Journal of Culture and Mental Health, 6*(1), 16-28. doi: 10.1080/17542863.2011.602543

Habsjah, A. (2009). *Contraception in Decentralisation Era in Indonesia*. Kuala Lumpur, Malaysia: The Asian-Pacific Resource & Research Centre for Women (ARROW).

Hall, D. K. (2014). *Reaching IN...Reaching OUT (RIRO)* – research and evaluation program: Description and results summary.

Hall, L.A., Williams, C.A., & Greenberg, R.S. (1985). Supports, stressors, and depressive symptoms in low-income mothers of young children. *American Journal of Public Health, 75*(*5*), 518-522. doi: 10.2105/AJPH.75.5.518

Harding, T. W., De Arango, M. V., Baltazar, J., Climent, C. E., Ibrahim, H. H. A., Landrido-Ignacio, L., Srinivasa Murthy, R. & Wig, N. N. (1980). Mental disorders in primary health care: A study of their frequency and diagnosis in four developing countries. *Psychological Medicine, 10*, 231-241. doi: 10.1017/S0033291700043993

Harnby, S., Finkelhor, D., Turner, H., & Ormrod, R. (2011). Children exposure to intimate partner violence and other family violence. *Juvenile Justice Bulletin – NCJ 232272 (p.1-12)*. Washington, DC: U.S. Government Printing Office.

Harville, E.W., Xiong, X., Buekens, P., Pridjian, G., & Elkind-Hirsch, L. (2010). Resilience after hurricane Katrina among pregnant and postpartum women. *Women's Health Issues*, *20*(1), 20-27.

Hay, D. F., Pawlby, S., Sharp, D., Asten, P., Mills, A., & Kumar, R. (2001). Intellectual problems shown by 11-year-old children whose mothers had postnatal depression. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 42*(7), 871. doi: 10.1111/1469-7610.00784

Hendrick, V., Altshuler, L. L., & Suri, R. (1998). Hormonal changes in the postpartum and implications for postpartum depression. *Psychosomatics, 39*, 1337-1356.

Henshaw, C. (2004). Perinatal psychiatry. *Medicine*, *32*(8),42–43

Heron, J., O'Connor, T.G., Evans, J., Golding, J., Glover, V. (2004). The course of anxiety and depression through pregnancy and the postpartum in a community sample. *Journal of Affective Disorder*, *80*, 65-73.

Hess, C.R., Papas, M.A., & Black, M.M. (2002). Resilience among African American adolescent mothers: Predictors of positive parenting in early infancy. *Journal of Pediatric Psychology*, *27*(7), 619-629.

Hjemdal, O., Aune, T., Reinfjell, T., Stiles, T.C., & Friborg, O. (2007). Resilience as predictors of depressive symptoms: A correlational study with young adolescents. *Clinical Child Psychology and Psychiatry*, *12*(1), 91-104.

Hofmann, S. G, et al. (2007). Preliminary evidence for cognitive mediation during Cognitive-Behavioral Therapy of panic disorder. *Journal of Consulting and Clinical Psychology*, *75*(3), 374-379. doi: 10.1037/0022-006X.75.3.374

Holden, J. E., Kelley, K., & Agarwal, R. (2008). Analyzing Change: A primer on multilevel models with applications to nephrology. *American Journal of Nephrology, 28*(5), 792-801. doi: 10.1159/000131102

Howell, E.A., Mora, P., & Leventhal, H (2006). Correlates of early postpartum depressive symptoms. *Maternal and Child Health Journal, 10* (2): 149–57. doi:10.1007/s10995-005-0048-9.

Humphreys, J.C. (2001). Turnings and adaptations in resilient daughters of battered women. *Journal of Nursing Scholarship, 33*(3), 245-252.

Husain, N., Creed, F. & Tomenson, B. (2000). Depression and social stress in Pakistan. *Psychological Medicine*, *30*, 395-402.

Hyman, B. & Williams, L. (2001). Resilience among women survivors of child sexual abuse. *Affilia*, *16*, 198-219. doi: 10.1177/08861090122094226.

Idaiani, S. (2009). *Analisis 20 butir pertanyaan Self-Reporting Questionnaire pada masyarakat Indonesia (P. B. M. d. Farmasi, Trans.).* Jakarta: Departemen Kesehatan dan Kesejahteraan Sosial.

Indonesian Ministry of Health (2015). *Rumah Sakit Online*. from http://sirs.buk.depkes.go.id/rsonline/report/

Indonesian Ministry of Health. (2010). Guide to Service for Mothers in Health Care Facility (*Pedoman Pelayanan Kesehatan Ibu di Fasilitas Kesehatan*). Jakarta : Indonesian Ministry of Health.

Indonesian Ministry of Health (2014). Primary Health Care Recapitulation (*Rekapitulasi Puskesmas*). Retrieved 13 February 2014, from http://www.bankdata.depkes.go.id/puskesmas/

Indonesian Ministry of Health. (2010). Report of Indonesian Basic Health Research 2010 (*Laporan Riset Kesehatan Dasar 2010*). Jakarta: Indonesian Ministry of Health. Retrieved from http://www.riskesdas.litbang.depkes.go.id/download/TabelRiskesdas2010.pdf

Indonesian Ministry of Health. (2008). Report of Indonesian Basic Health Research 2007 (*Laporan Riset Kesehatan Dasar 2007*). Jakarta: Indonesian Ministry of Health. Retrieved from http://www.k4health.org/system/files/laporanNasional%20Riskesdas%202007.pdf

Irmansyah, I., Dharmono, S., Maramis, A., & Minas, H. (2010). Determinants of psychological morbidity in survivors of the earthquake and tsunami in Aceh and Nias. *International Journal of Mental health Systems*, *4*, 8. doi: 10.1186/1752-4458-4-8

Jackson, R. & Watkin, C. (2004). The Resilience Inventory: Seven essential skills for overcoming life's obstacles and determining happiness. *Selection & Development Review*, *20*(6), 13-17.

Johnstone, S.J., Boyce, P.M., Hickey, A.R., Morris-Yatees, A.D., & Harris, M.G. (2001). Obstetric risk factors for postnatal depression in urban and rural community samples. *Australian and New Zealand Journal of Psychiatry, 35*, 69-74.

Jolly, M., Senire, N., Harris, J., Robinson, S., & Regan, L. (2000). The risks associated with pregnancy in women aged 35 years or older. *Human Reproduction, 15*(11), 2433-2437. doi: 10.1093/humrep/15.11.2433

Jones, G.W. & Gubhaju, B. (2008). Trend in age at marriage in the provinces of Indonesia. Asia Research Institute Working Paper Series No. 105.

Judd, F. (2011). Making a difference: mental health care in pregnancy. Retrieved 10 February 2015, from http://www.apha.org.au/wp-content/uploads/2011/10/Fiona-Judd.pdf

Kashdan, T.B., Pelham, W.E., Lang, A.R., Hoza, B., Jacob, R.G., Jennings, R.J., Blumenthal, J.D., & Gnagy, E.M. (2002). Hope and optimism as human strengths in the parents of children with externalising disorders: Stress is in the eye of the beholder. *Journal of Social and Clinical Psychology*, *21*(4), 441-468.

Kazi, A., Fatmi, Z., Hatcher, J., Kadir, M., Niaz, U., & Wasserman, H. (2006). Social environment and depression among pregnant women in urban areas of Pakistan: Importance of social relations. *Social Science and Medicine, 6*, 1466-1476.

Kendall, P. C., Hollon, S. D., & Beck, A. T. (1987). *Issues and recommendations regarding use of the Beck Depression Inventory*. Philadelphia: Plenum Publishing Corporation.

Kendall, J. M. (2003). Designing a research project: randomised controlled trials and their principles. *Emergency Medicine Journal, 20*, 164-168.

Ki-moon, B. (2010). *Global strategy for women's and children's health*. New York: United Nation Retrieved from

http://www.everywomaneverychild.org/images/content/files/global_strategy/full/20100914_gswch_en.pdf.

Kim, J., & Buist, A. (2005). Postnatal depression: A Korean perspective. *Austrralasian Psychiatry, 13*(1), 68-71. doi: 10.1111/j.1440-1665.2004.02153.x

Kingston, D., Austin, M-P., Hegadoren, K., McDonald, S., Lasiuk, G., McDonald, S., Heaman, M., Biringer, A., Sword, W., Giallo, R., Patel, T., Lane-Smith, M., & Van Zanten, S.V. (2014). Study protocol for a randomised, controlled, superiority trial comparing the clinical and cost-effectiveness of integrated online mental health assessment-referral-care in pregnancy to usual prenatal cre on prenatal and postnatal mental health and infant health and development: the Integrated Maternal Psychosocial Assessment to Care Trial (IMPACT). *Trials, 15,* 72.

Klainin, P., & Arthur, D. G. (2009). Postpartum depression in Asian cultures: A literature review. *International journal of nursing studies, 46*(10), 1355-1373. doi: 10.1016/j.ijnurstu.2009.02.012

Knitzer, J., Theberge, S. & Johnson, K. (2008). *Reducing maternal depression and its impact on young children: Toward a responsive early childhood policy framework.* New York, NY: National Center for Children in Poverty.

Kristiansen, S., & Pratikno. (2006). Decentralising education in Indonesia. *International Journal of Education Development, 26*, 513-531. doi: 10.1016/j.ijedudev.2005.12.003

Kristiansen, S., & Santoso, P. (2006). Surviving decentralisation? Impacts of regional autonomy on health service provision in Indonesia. *Health Policy, 77*, 247-259. doi: 10.1016/j.healthpol.2005.07.013

Kubzansky, L., Sparrow, D., Vokonas, P., & Kawachi, I. (2001). Is the glass half empty or half full? A prospective study of optimism and coronary heart disease in the normative aging study. *Psychosomatic Medicine, 63*, 910-916.

Kuliahbidanonline. (2010). *Aspek sosial budaya pada setiap trimester kehamilan.* Retrieved from http://kuliahbidanonline.blogspot.com/2010/11/aspek-sosial-budaya-pada-setiap.html

Kurki T, Hiilesmaa V, Raitasalo R, Mattila H, Ylikorkala O. (2000). Depression and anxiety in early pregnancy and risk for preeclampsia. *Obstetric Gynaecology, 95*(4), 487-90.

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-test and ANOVAs. *Frontiers in Psychology, 4*, 1-11. doi: 10.3389/fpsyg.2013.00863

Lazarus, R.S. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

Le, H.N., Perry, D.F., & Stuart, E.A. (2011). Randomized controlled trial of a preventive intervention for perinatal depression in high-risk Latinas. *Journal of Consulting and Clinical Psychology*, *79*(2), 135-141. doi: 10.1037/a0022492

Lee, D. T. S. & Chung, T.K.H. (2007). Postnatal Depression: An Update. *Baillière's Best Practice & Research. Clinical Obstetrics & Gynaecology, 21*(2), 183-191. doi: 10.1016/j.bpobgyn.2006.10.003

Lee, D. T. S., Yip, A. S. K., Leung, T. Y. S., & Chung, T. K. H. (2000). Identifying women at risk of postnatal depression: prospective longitudinal study. *Hong Kong Medical Journal, 6*, 349-354.

Leigh, B., & Milgrom, J. (2008). Risk factors for antenatal depression, postnatal depression and parenting stress. *BMC Psychiatry, 8*(24), 24. doi: 10.1186/1471-244X-8-24

Lerner, R.M. (2006). Resilience as an attribute of the developmental system: Comments on the papers of Professors Masten & Wachs. *Annals of the New York Academy of Sciences, 1094*, 40-51.

Lester, P.B., Harms, P.D., Herian, M.N., Krasikova, D.V., & Beal, S.J. (2011). The Comprehensive Soldier Fitness program evaluation. Report 3: Longitudinal analysis of the impact of Master Resilience Training on self-reported resilience and psychological health data. *Publications of Affiliated Faculty: Nebraska Public Policy Center. Paper 32.* http://digitalcommons.unl.edu/publicpolicyfacpub/32

Levine, R. E., Oandasan, A. P., Primeau, L. A., & Berenson, A. B. (2003). Anxiety disorders during pregnancy and postpartum. *American Journal of Perinatology, 20*(5), 239-248. doi: 10.1055/s-2003-42342

Lewinsohn, P., & Clarke, G. (1999). Psychosocial treatment for adolescent depression. *Clinical Psychology Review, 19*, 329-342.

Lewinsohn, P. M., Hoberman, H. M., & Clarke, G. N. (1989). The Coping with Depression Course: Review and Future Directions. *Canadian Journal of Behavioural Science, 21*(4), 470-493. doi: 10.1037/h0079846

Liu, C.H. & Tronick, E. (2013). Rates and predictors of postpartum depression by race and ethnicity: Results from 2004 to 2007 New York City PRAMS survey (Pregnancy Risk Assessment Monitoring System). *Maternal and Child Health Journal, 17*, 1599-1610.

London, S. (2004). Risk of pregnancy-related death is sharply elevated for women 35 and older. *Perspectives on Sexual and Reproductive Health, 36*.

Lovejoy, M.C., Graczyk, P.A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review, 20*, 561-592.

Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scale*. 2nd ed. Sydney : Psychology Foundation Monograph.

Lyons-Ruth, K., Zoll, D., Connell, D., & Grunebaum, H. U. (1986). The depressed mother and her one-year-old infant: environment, interaction, attachment, and infant development. *New Direction for Child Development, 34*, 61-82.

Luebbert, K., Dahme, B., & Hasenbring, M. (2001). The effectiveness of relaxation training in reducing treatment-related symptoms and improving emotional adjustment in acute non-surgical cancer treatment: A meta-analytic review. *Psycho-Oncology, 10*(6), 490-502

Luoma, I., Tamminen, T., Kaukonen, P., Laippala, P., Puura, K., Salmelin, R., & Almqvist, F. (2001). Longitudinal Study of Maternal Depressive Symptoms and Child Well-Being. *Journal of American Academy of Adolescent Psychiatry, 40*(12), 1367-1374. doi: 10.1097/00004583-200112000-00006

Luthar, S.S., & Cicchetti, D. (2000). The construct of resilience implications for intervention and social policy. *Developmental Psychopathology, 12*, 857-885.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The Construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543-562. doi: 10.1111/1467-8624.00164

Luthar, S.S & Suchman, N.E. (2000). Relational psychotherapy mothers' group: A developmentally informed intervention for at-risk mothers. *Development and Psychopathology, 12*, 235-253.

Macdonald, L. (2004). *Learn to be an optimist*. London: Duncan Baird Publishers.

Manly, P. C., Mc Mahon, R. J., Bradley, C. F., & Davidson, P. O. (1982). Depressive attributional style and depression following childbirth. *Journal of Abnormal Psychology, 91*(4), 245-254. doi: 10.1037/0021-843X.91.4.245

Margalit, M. (2004). Second-generation research on resilience: Social-emotional aspects of children with learning disabilities. *Learning Disabilities Research & Practice, 19*(1), 45-48. doi: 10.1111/j.1540-5826.2004.00088.x

Marra, T. (2004). *Depressed and anxious: The dialectical behaviour therapy workbook for overcoming depression and anxiety*. Oakland, CA: New Harbinger Publications.

Marshan, J. N., Rakhmadi, M. F., & Rizky, M. (2013). *Prevalence of child marriage and its determinant among young women in Indonesia*. Paper presented at the Child Poverty and Social Protection Conference, Jakarta - Indonesia. http://www.smeru.or.id/report/other/cpsp/Paper,%20Abstact,%20CV/0102_Joseph-paper.pdf

Martin, S. P. (2002). *Delayed marriage and childbearing: Implications and measurement of diverging trends in family timing*. Department of Sociology and Maryland Population Research Center. University of Maryland, College Park.

Martins, C., & Gaffin, E. A. (2000). Effects of early maternal depression on patterns of infant-mother attachment: a meta-analytic investigation. *Journal of Child Psychology and Psychiatry, 41*, 737-746.

Masten, A.S. (2006). Promoting resilience in development: A general framework for systems of care. In R.J. Flynn, et al. (Eds.). *Promoting resilience in child welfare*. Ottawa: University of Ottawa Press.

Masten, A., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children.(Special issue: Applications of developmental science). *The American Psychologist, 53*(2), 205-220.

Masten, A.S., & Obradovic, J. (2006). Competence and resilience in development. *Annals of the New York Academy of Sciences, 1094*, 13-27.

Matthews, K., Raikkonen, K., Sutton-Tyrell, K., & Kuller, L. (2004). Optimistic attitudes protects against progression of carotid atherosclerosis in healthy middle-aged women. *Psychosomatic Medicine, 66*, 640-644.

Mautner, E., Stern, C., Deutch, M., Nagele, E., Greimel, E., Lang, U., & Cervar-Zivkovic, M. (2013). The impact of resilience on psychological outcomes in women after preeclampsia: An observational cohort study. *Health and Quality of Life Outcomes, 11*, 194. doi: 10.1186/1477-7525-11-194

Mboi, N. (2013). *Until now we have 2,083 hospitals*. Retrieved 13 March 2013, from http://komisiixnews.com/2013/03/sampai-maret-2013-jumlah-rumah-sakit-mencapai-2-083-buah/

Mick, E., Faraone, S.V., Spencer, T., Zhang, H.F., & Biederman, J. (2008). Assessing the validity of the Quality of Life Enjoyment and Satisfaction Questionnaire short form in adults with ADHD. *Journal of Attention Disorders, 11*(4), 504-509. doi: 10.1177/1087054707308468

Milgrom, J., Negri, L., & Gemmill, A. (2005). A randomized controlled trial of psychological interventions for postnatal depression. *British Journal of Clinical Psychology, 44*, 529–542.

Milgrom, J., Schembri, C., Ericksen, J., Ross, J., & Gemmill, A. W. (2011). Towards parenthood: An antenatal intervention to reduce depression, anxiety and parenting difficulties. *Journal of Affective Disorders, 130*, 385-394. doi: 10.1016/j.jad.2010.10.045

Millennium Development Goals Indicators: The official United Nations site for the MDG indicators. (2013). from http://mdgs.un.org/unsd/mdg/data.aspx

Miller, R. L., Pallant, J. F., & Negri, L. M. (2006). Anxiety and stress in the postpartum: Is there more to postnatal distress than depression? *BMC Psychiatry, 6*, 12. doi: 10.1186/1471-244X-6-12

Miranda, J. J., & Patel, V. (2005). Achieving the Millenium Development Goals: Does mental health play a role? *PLoS Medicine, 2*(10), e291. doi: 10.1371/journal.pmed.0020291

Mogil, C., Paley, B., Doud, T. D., Havens, L., Moore-Tyson, J., Beardslee, W. R., & Lester, P. (2010). Families OverComing Under Stress (FOCUS) for Early Childhood. *Zero to Three*, 10-16.

Mohammad, K. I. S. (2007). *Incidence and factors associated with postnatal depression among Jordanian women.* (Doctoral Thesis. Griffith University, Brisbane, Australia)

Morrison, N. (2001). Group Cognitive Therapy: Treatment of Choice or Sub-Optimal Option? *Behavioural and Cognitive Psychotherapy, 29*, 311-332.

Morrow, R. (2012). A Journey from Optimism to Hope. Retrieved 3 February 2015, from http://www.pspl.com.au/pdf/From%20optimism%20to%20hope%20.pdf

Moyer, C. A., Yang, H., Kwawukume, Y., Gupta, A., Zhu, Y., Koranteng, I., . . . Anderson, F. (2009). Optimism/pessimism and health-related quality of life during pregnancy across three continents: a matched cohort study in China, Ghana, and the United States. *BMC Pregnancy and Childbirth, 9*, 39. doi: 0.1186/1471-2393-9-39

Murray, L. (1992). The impact of postnatal depression on child development. *Journal of Child Psychology and Psychiatry*, *33*, 543-561.

Murray, L., Arteche, A., Fearon, P., Halligan, S., Croudace, T., & Cooper, P. (2010). The effect of maternal postnatal depression and child sex on academic performance at age 16 years: A developmental approach. *The Journal of Child Psychology and Psychiatry, 51*(10), 1150-1159. doi: 10.1111/j.1469-7610.2010.02259.x

Murray, L., Fiori-Cowley, A., Hooper, R., & Cooper, P.J. (1996). The impact of postnatal depression and associated diversity on early mother-infant interactions and later infant outcome. *Child Development*, *67*, 2512-2526.

Nag, A., & Singhal, P. (2013). Impact of education and age at marriage on fertility among Uttar Pradesh Migrant of Ludhiana, Punjab, India. *Anthropologist, 15*(2), 225-230.

Nagata, C., Takatsuka, N., Inaba, S., Kawakami, N., & Shimizu, H. (1998). Associations of diet and other lifestyle with onset of menopause in Japanese women. *Maturitas, 29,* 105-113.

Nathanson, J. (2014). *FOCUS Family Resilience Training*. Retrieved 20 August, 2014, from http://nfrc.ucla.edu/FOCUS

Neck, C. P., Steward, G. L., & Manz, C. C. (1995). Thought self-leadership as a framework for enhancing the performance of performance appraisers. *Journal of Applied Behavioral Science*, *31*(3), 278-302

Netuveli, G., Wiggins, R.D., Montgomery, S.M., Hildon, Z., & Blane, D. (2008). Mental health and resilience at older ages: Bouncing back after adversity in the British Household Panel Survey. *Journal of Epidemiology and Community Health, 62,* 987-991.

Newham, J. J., Wittkowski, A., Hurley, J., Aplin, J. D., & Westwood, M. (2014). Effects of antenatal yoga on maternal anxiety and depression: A randomized controlled trial. *Depression and Anxiety, 31,* 631-640. doi: 10.1002/da.22268

Newport, D. J., Stowe, Z. N., & Nemeroff, C. B. (2002). Parental depression: animal model of an adverse life event. *American Journal of Psychiatry, 159*(8), 1265-1283.

New York State Department of Health and Office of Mental Health (2005). *Understanding maternal depression: A fact sheet for care providers*. Retrieved from https://www.health.ny.gov/community/pregnancy/health_care/perinatal/maternal_factsheet.htm

NICHD. National Institute of Child Health and Human Development. (1999). Child care and mother-child interaction in the first three years of life. *Developmental Psychology, 35,* 1399-1413.

NICHD. National Institute of Child Health and Human Development (1999). Chronicity of maternal depressive symptoms, maternal sensitivity, and child functioning at 36 months. *Developmental Psychology, 35,* 1297-1310.

Norem, J.K. (2001). *The positive power of negative thinking: using defensive pessimism to manage anxiety and perform at your peak.* New York: Basic Books.

Norem, J. K. (2013). Optimism and pessimism. *Oxford Index*. doi: 10.1093/obo/9780199828340-0108

Norcross, J.C., & Goldfried, M.R. (2005). The future of psychotherapy integration: A roundtable. *Journal of Psychotherapy Integration, 15,* 392-471.

NREPP (2014). *SAMHSA's National registry of evidence-based programs and Practices – FRIENDS program*. Retrieved from http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=334

Null, S. (2013). *Women: Producers, not just reproducers*. Retrieved from http://www.mhtf.org/tag/women-deliver-2013/

Nyren, B., Alex, L., Jonsen, E., Gustafson, Y., Norberg, A., & Lundman, B. (2010). Resilience, sense of coherence, purpose in life and self-transcendence in relation to perceived physical and mental health among the oldest old. *Aging & Mental Health, 9*(4), 354-362. doi: 10.1080/1360500114415

OASAS. (2006). *Screening for co-occurring disorders: user-guide for the modified mini screen (MMS).* New York: New York State Office of Alcoholism and Substance Abuse Services. Retrieved from http://www.nyc.gov/html/doh/downloads/pdf/qi/qi-mms-userguide.pdf.

Oates, M. (2006). Perinatal psychiatric syndromes: clinical features. *Psychiatry*, *5*(1), 5–9.

Oates, M. R., Cox, J. L., Neema, S., Asten, P., Glangeaud-Freudenthal, N., Figueiredo, B., . . . Yoshida, K. (2004). Postnatal depression across countries and cultures: a qualitative study. *The British Journal of Psychiatry, 184*, s10-16. doi: 10.1192/03-332.

Oei, T.P.S., Sawang, S., Goh, Y.W., & Mukhtar, F. (2013). Using the Depression Anxiety Stress Scale 21 (DASS-21) across cultures. *International Journal of Psychology*, doi:10.1080/00207594.755535.

Oberlander, T.F., Weinberg, J., Papsdorf, M., Grunau, R., Misri, S., & Devlin, A.M. (2008). Prenatal exposure to maternal depression, neonatal methylation of human glucocorticoid receptor gene (NR3CI) and infant cortisol stress responses. *Epigenetics*, *3*(2), 97-106.

O'Connor, T.G., Heron, J., Golding, J., Beveridge, M., & Glover, V. (2002).Maternal antenatal anxiety and children's behavioural / emotional problems at 4 years: *Report from the Avon Longitudinal Study of Parents and Children*. British Journal of Psychiatry, 180, 502-508.

O'Hara, M. W. (1997). The nature of postpartum depressive disorders. In L. Murray & P. J. Cooper (Eds.), *Postpartum Depression and Child Development* (pp. 3-31). New York, NY: The Guildford Press.

O'Hara, M. W., & McCabe, J. E. (2013). Postpartum depression: Current status and future directions. *The Annual Review of Clinical Psychology, 9*, 379-407.

O'Hara, M. W., Rehm, L. P., & Campbell, S. B. (1982). Predicting depressive symptomatology: cognitive-behavioral models and postpartum depression. *Journal of abnormal psychology*, *91*(6), 457-461.

O'Hara, M.W., Schlechte, J.A., Lewis, D.A, et al (1991). Controlled prospective study of postpartum mood disorders: psychological, environmental, and hormonal variables. *Journal of Abnormal Psychology, 100,* 63-73.

O'Hara, M. & Swain, A. (1996). Rates and risk of postpartum depression; A meta-analysis. *International Review of Psychiatry, 8,* 37-54.

Ollson, C.A., Bond, L., Burns, J.M., Vella-Brodrick, D.A., & Sawyer, S.M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence, 26,* 1-11.

Ong, A. D., Bergeman, C. S., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of personality and social psychology, 91*(4), 730-749. doi: 10.1037/0022-3514.91.4.730

Ortiz Collado, M. A., Saez, M., Favrod, J., & Hatem, M. (2014). Antenatal psychosomatic programming to reduce postpartum depression risk and improve childbirth outcomes: a randomized controlled trial in Spain and France. *BMC Pregnancy and Childbirth, 14*, 22.

Patel, V., Rodrigues, M., & DeSouza, N. (2002). Gender, poverty, and postnatal depression: a study of mothers in Goa, India. *American Journal of Psychiatry, 159*, 43-47.

PANDA. (2015). *Antenatal depression*. Victoria: Post and Antenatal Depression Association Inc.

Pearson, J., & Hall, D.K. (2006). *Reaching IN ... Reaching OUT Resiliency Guidebook: "Bounce back" thinking skills for children and adults*. Canada: First Folio Resource Group, Inc.

PEEP (2014). *Reflective parenting (antenatal) training*. Retrieved from http://www.peep.org.uk/standard.asp?id=4534&cachefixer=cf16384462363566

Peng, L., Li, M., Zuo, X., Miao, Y., Chen, L., Yu, Yongju., Liu, B.,& Wang, T. (2014). Application of the Pennsylvania resilience training program on medical students. *Personality and Individual Differences, 61-62*, 47-51.

Peterson, C. (2000). The future of optimism. *American Psychologist, 55*(1), 44-55. doi: 10.1037/0003-066X.55.1.44

Peterson, C., Semmel, A., Von Baeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. P. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research, 6*(3), 287-299. doi: 10.1007/BF01173577

Peterson, C. & Steen, T. (2009). Optimistic explanatory style. In: C. Snyder, S. Lopez (Eds). *Oxford Handbook of Positive Psychology*. New York: Oxford University Press, pp.313-321.

Pop, V.J.M, de Rooy, H.A.M., Vader, H.L., et al. (1991). Postpartum thyroid dysfunction and depression in an unselected population. *New England Journal of Medicine*, *324,* 1815–1816.

Pope, S. (2000). Postnatal Depression: A systematic review of published scientific literature to 1999. Canberra: National Health and Medical Research Council (NHMRC).

Pujianto, R. (2011, 6 July 2011). Penduduk Indonesia Pada 2011 Lebih Dari 241 Juta, *Media Indonesia.com*. Retrieved from http://www.mediaindonesia.com/read/2011/07/05/239361/293/14/Penduduk-Indonesia-2011-Lebih-dari-241-Juta

Putnam, F. (2006). *Reducing maternal depression and its impact on young children: Building A Policy Framework*. Policy Roundtable. New York: National Center for Children in Poverty.

Radke-Yarrow, M. (1998). *Children of Depressed Mothers: From Early Childhood to Maturity*: Cambridge University Press.

Rahman, A., Bunn, J., Lovel, H., & Creed, F. (2007). Association between antenatal depression and low birthweight in a developing country. *Acta Psychiatrica Scandinavica, 115*(6), 481-486.

Rapkin, A.J., Mikacich, J.A., & Moatakef-Imani, B. (2003). Reproductive mood disorders. *Primary Psychiatry*, *10*(2), 31-40.

Rasmussen, H.N., Scheier, M. F., & Greenhouse, J. B. (2009). Optimism and physical health: a meta-analytic review. *Annals of Behavioral Medicine, 37*(3), 239-256. doi: 10.1007/s12160-009-9111-x

Rasmussen, H.N., Wrosch, C., Scheier, M.F., & Carver, C.S. (2006). Self-regulation processes and health: the importance of optimism and goal adjustment. *Journal of Personality Disorders*, *74*(6),1721–1748.

Ratna, J., Kane, R.T., Rees, C.S.,& Roberts, C. (2014). *The Efficacy of an Antenatal Resilience and Optimism Workshop (AROW) in Preventing Postnatal Depressive Symptoms: A Cluster Randomised Controlled Trial*. Paper presented at the Indonesian Students International Conference (KIPI 2014), Canberra, Australia.

Ratna, J., Roberts, C., Kane, R. T., & Rees, C. (2012, 1-4 November). *The Development and Implementation of An Antenatal Resilience and Optimism Workshop Module.* Paper presented at the 1st National Scientific Meeting Clinical Psychology Association 2012 (Temu Ilmiah Nasional I Ikatan Psikologi Klinis 2012), Surabaya, East Java, Indonesia.

Reck, C., Struben, K., Backenstrass, M., Stefenelli, U., Reinig, K., Fuchs, T., . . . Mundt, C. (2008). Prevalence, Oncet and Commorbidity of postpartum anxtiety and depressi disorders. *Acta Psychiatrica Scandinavica*, 1-10.

Reivich, K. J., Seligman, M.E.P. & McBride, S. (2011). Master Resilience Training in the US Army. *The American Psychologist, 66*(1), 25. doi: 10.1037/a0021897

Reivich, K. & Shatte, A. (2002). *The resilience factor: seven essential skills for overcoming life's inevitable obstacles*. New York: Broadway Books.

Richardson, G.E. (2002). The meta-theory of resilience and resiliency. *Journal of Clinical Psychology*, *58*(3), 307-321.

Richardson, G. (2004). Determining the efficacy of resiliency training in the work site. *Journal of allied health, 33*(3), 178-183.

Richardson, G.E. (2011). Application of the meta-theory of resilience and resiliency in rehabilitation and medicine. *Journal of Human Development, Disability and Social Change*, *19*(1), 35-42.

Robakis, T. K., Williams, K. E., Crowe, S., Kenna, H., Gannon, J., & Rasgon, N. L. (2014). Optimistic outlook regarding maternity protects against depressive symptoms postpartum. *Archives of Women's Mental Health*. doi: 10.1007/s00737-014-0446-3

Roberts, C. M., Kane, R., Bishop, B., Cross, D., Fenton, J., & Hart, B. (2010). The prevention of anxiety and depression in children from disadvantaged Schools. *Behaviour Research and Therapy, 48*(1), 68-73. doi: 10.1016/j.brat.2009.09.002

Robertson, E. (2004). Antenatal risk factors for postpartum depression: a synthesis of recent literature. *General hospital psychiatry*, *26*(4), 289-295.

Robinson, G.E. & Steward, D.E. (2001). Postpartum disorders. In N.L. Stotland and D.E. Stewart (Eds.), *Psychological aspects of women's health care* (2nd ed.ed., pp. 117-139). Washington, DC: American Psychiatric Press, Inc.

Rogers, M. E., Hanson, N. B., Levy, B. R., Tate, D. C., & Sikkema, K. J. (2005). Optimism and coping with loss in bereaved HIV-infected men and women. *Journal of Social and Clinical Psychology, 24*, 341-360.

Roomruangwong, C., & Epperson, C. N. (2011). Perinatal depression in Asian women: prevalence, associated factors, and cultural aspects. *Asian Biomedicine, 5*(2), 179-193. doi: 10.5372/1905-7415.0502.024

Roos, A., Faure, S., Lochner, C., Vythilingum, B., & Stein, D.J. (2013). Predictors of distress and anxiety during pregnancy. *African Journal of Psychiatry*, *16*, 118-122.

Ross, L. E., Sellers, E. M., Gilbert Evans, S. E., & Romach, M. K. (2004). Mood changes during pregnancy and the postpartum period: Development of a biospychosocial model. *Acta Psychiatrica Scandinavica, 109*, 457-466.

Rossi, A., Rucci, P. , Mauri, M., Maina, G., Pieraccini, F., Pallantis, S. & Endicott, J. (2005). Validity and reliability of the Italian version of the Quality of Life, Enjoyment and Satisfaction Questionnaire. *Quality of life research, 14*(10), 2323-2328. doi: 10.1007/sl1 136-005-7387-

Roy, A., Carli, V., & Sarchiapone, M. (2011). Resilience mitigates the suicide risk associated with childhood trauma. *Journal of Affective Disorders*, *133*(3), 591-594.

Roy, A., Sarchiapone, M., & Carli, V. (2007). Low Resilience in Suicide Attempters. *Archives of Suicide Research, 11*(3), 265-269.

Rumbaut, R. G. (2000). Profiles in resilience: Educational achievement and ambition. In R. D. Taylor & M. C. Wong (Eds.), *Resilience across contexts: Family, work, culture and community* (pp. 257–293). Mahwah, NJ: Lawrence Erlbaum.

Rutter, M. (1990). Psychosocial resilience and protective mechanism. In J. Rolf, A. Masten, D. Cicchetti, K. Nuechterlein & S. Weintraub (Eds.), *Risk and protective factors in the development of Psychopathology* (Social Competence in Children ed., Vol. 3, pp. 49-74). Hanover: University Press.

Rutter, M. (2006). The promotion of resilience in the face of adversity. In A. Clarke-Steward, J. Dunn (eds). *Families Count*. (pp.15-55). London: Cambridge University Press.

Salazar-Pousada, D., Arroyo, D., Hidalgo, L., Pérez-López, F.R., & Chedraui, P. (2010). Depressive symptoms and resilience among pregnant adolescents: A case-control study. *Obstetrics and Gynecology International*, Retrieved from http://downloads.hindawi.com/journals/ogi/2010/952493.pdf

Santoro, K., & Peabody, H. (2010). Identifying and treating maternal depression: strategies and considerations for health plans. *NIHCM Issue Brief*: National Institute for Health Care Management.

Santos, R., Brownell, M., Ekuma, O., Mayer, T., & Soodeen, R.(2012). *The Early Development Instrument (EDI) in Manitoba: Linking socioeconomic adversity and biological vulnerability at birth to children's outcomes at Age 5*. Winnipeg, MB: Manitoba Centre for Health Policy.

Sari, L.S. (2009). *Sindroma depresi pasca persalinan di Rumah Sakit Umum Pusat Haji Adam Malik Medan* (Postnatal depression syndrome at Haji Adam Malik General Hospital Medan), USU Repository Open Access. Retrieved from http://repository.usu.ac.id/handle/123456789/6370

Scheier, M.F., & Carver, C.S. (2003). Self-regulatory processes and responses to health threats: effects of optimism on well-being. In J. Suls & K.A. Wallston (Eds). *Social psychological foundations of health and illness*. Oxford: Blackwell, pp. 395–428.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, *67*, 1063-1078.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (2001). Optimism, pessimism, and psychological well-being. In E. C. Chang (Ed.), *Optimism and pessimism: Implication for theory, research and practice* (pp. 189-216). Washington, DC: American Psychological Association

Schneider, S.L. (2001). In search of realistic optimism, meaning, knowledge, and warm fuzziness. *American Psychologist*, *56*(3), 250-263.

Schofield, P., Ball, D., Smith, J., Borland, R., O'Brien, P., Davis, S., & Joseph, D. (2004). Optimism and survival in lung carconoma patients. *Cancer, 100*, 1276-1282.

Schou, I., Ekeberg, O., & Ruland, C. M. (2005). The mediating role of appraisal and coping in the relationship between optimism-pessimism and quality of life. *Psycho-oncology, 14*, 718-727.

Schueller, S. & Seligman, M.E.P. (2008). Optimism and pessimism. In K.S. Dobson, & D.J.A. Dozois (Eds). *Risk factors in depression*. New York, NY: Elsevier, pp 171-194.

Scott-Kemmis, J. (2009). *Empower-yourself-with-Colour* - Psychology.Com. Retrieved 13 February 2015, from http://www.empower-yourself-with-color-psychology.com/

Segerstrom, S. (2006). *Breaking Murphy's law: how optimists get what they want from life and pessimists can too*. New York: Guilford.

Segre, L. S., & Davis, W. N. (2013). *Postpartum depression and perinatal mood disorders in the DSM.* Retrieved from http://www.postpartum.net/Professionals-and-Community/Postpartum-Support-International-and-the-DSM5-.aspx

Segre, L.S., O'Hara, M.W., & Losch,M.E. (2006). Race/ethnicity and perinatal depressed mood. *Journal of Reproductive and Infant Psychology*, *24* (2), 99-106. doi: 10.1080/02646830600643908

Seitz, V., & Provence, S. (1990). Care-giver focused models of early intervention. In S. J. Meisels & J. P. Shonkoff (Eds.), *Handbook of Early Childhood Intervention* (pp. 400-427). Cambridge: Cambridge University Press.

Seligman, M. E. P. (1990). *Learned Optimism*. Sydney: Random House.

Seligman, M. E. P. (2011). *Flourish*. New York: Simon & Schuster.

Semple, C., Dunwoody, L., Sullivan, K., & Kernohan, W.G. (2006). Patients with head and neck cancer prefer individualized cognitive behavioural therapy. *European Journal of Cancer Care, 15*(3), 220 - 227.

Setyowati. (2010). An ethnography study of nutritional conditions of pregnant women in Banten Indonesia. *Makara, Kesehatan*, *14*(1), 5-10.

Shadish, W.R., Cook, T.D., & Campbell, D.T. (2002). *Experimental and quasi-experimental designs for generalised causal inference*. Boston, MA:Houghton Mifflin.

Sharma, V. & Mazmanian, D. (2014). The DSM-5 Peripartum specifier: prospects and pitfalls. *Archives of Women Mental Health*, *17*, 171-173. doi: 10.1007/s00737-013-0406-3

Sharp, D., Power, K., & Swanson, V. (2004). A comparison of the efficacy and acceptability of group versus individual Cognitive Behaviour Therapy in the Treatment of Panic Disorder and Agoraphobia in Primary Care. *Clinical Psychology and Psychotherapy*, *11*(2), 73-82. doi: 10.1002/cpp.393

Sharps, L (2012). Prenatal depression warning signs: Here's what to look For. *The Huffington Post*. Retrieved 2013. http://www.huffingtonpost.com/the-stir/prenatal-depression_b_1967991.html

Shatte, A. (1999). *Resiliency promotion and depression prevention programs*: University of Pennsylvania, Department of Psychology. Retrieved 29 September 2014, from http://www.reachinginreachingout.com/documents/Resiliency%20Promotion%20and%20Depression.pdf

Sheehan, D.V., Lecrubier, Y., Sheehan, K.H., Amorim, P., Janavs, J., Weiller, E., Herqueta, T., Baker, R., & Dunbar, G.C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. Journal of Clinical Psychiatry, 59, 34-57

Shortt, A.L., Barrett, P.M., & Fox, T.L. (2001). Evaluating the FRIENDS Program: A cognitive-behavioral group treatment for anxious children and their parents. *Journal of Clinical Child Psychology*, *30*(4), 525-535.

Shure, D. (2012, February 2). Are your titles irresistibly click worthy & viral?!. [Web blog post]. Retrieved from http://www.seomoz.org/blog/are-your-titles-irresistibly-click-worthy-viral.

Sichel, D. A., Cohen, L. S., Robertson, L. M., Ruttenberg, A., & Rosenbaum, J. F. (1995). Prophylactic Estrogen in Recurrent Postpartum Affectic Disorder. *Biological Psychiatry*, *38*(12), 814-818.

Simpson, W., Glazer, M., Michalski, N., Steiner, M., & Frey, B. N. (2014). Comparative Efficacy of the Generalized Anxiety Disorder 7-Item Scale and the Edinburg Postnatal Depression Scale as Screening Tools for Generalized Anxiety Disorder in Pregnancy and Postpartum Period. *Canadian Journal of Psychiatry*, *59*(8), 434-440.

Smith, B.W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief resilience Scale: Assessing the Ability to Bounce Back. *International Journal of Behavioral Medicine*, *15*, 194-200.

Smith, T. (1992). *Self-help: PaNDa (Post and Ante Natal Depression Association).* Paper presented at the Postnatal Depression Workshop 1992.

Smith, P.R. (2009). Resilience: resistance factor for depressive symptom. *Journal of Psychiatric and Mental Health Nursing*, *16*, 829-837.

Snyder, C.R. (1994). *The psychology of hope: You can get there from here*. New York, NY: The Free Press.

Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, *13*(4), 249-275.

SOGC. *Ultrasound in Pregnancy*. Retrieved 25 September, 2014, from http://sogc.org/publications/ultrasound-in-pregnancy/

Sood, S., Chandra, U., Palmer, A., & Molyneux, I. (2004). *Measuring The Effects of The SIAGA Behaviour Change Campaign in Indonesia with Population-Based Survey Results*. Maryland, USA: JHPIEGO.

Speroff, L., Glass, R.H., & Kase, N.G. (1983). *Clinical gynaecologic Endocrinology and infertility* (3rd ed). Baltimore, MD: Williams and Wilkins.

Squire, C. (Ed.). (2009). *The Social Context* (2nd ed.). Oxford: Radcliffe Publishing.

Stallard, P., Simpson, N., Anderson, S., Carter, T., Osborn, C., & Bush, S. (2005). An evaluation of the FRIENDS programme: A cognitive behaviour therapy intervention to promote emotional resilience. *Archives of Disease in Childhood*, 90, 1016-1019. doi: 10.1136/adc2004.068163.

Steiner, M., Dunn, E., & Born, L. (2003). Hormones and mood: From menarche to menopause and beyond. *Journal of Affective Disorders*, *74*, 67-83.

Steinhardt, M., & Dolbier, C. (2008). Evaluation of a resilience intervention to enhance coping strategies and protective factors and decrease symptomatology. *Journal of American College Health*, *56*, 445-453.

Steward, D. (2010). Research brief: Resilience and mental health outcomes. PreVAIL: preventing violence across the lifespan research network. London.

Storch, E., Merlo, L., Lehmkuhl, H., Geffken, G. R., Jacob, M., Ricketts, E., . . . Goodman, W. K. (2008). Cognitive-Behavioral Therapy for Obsessive-Compulsive Disorder: A non-randomized comparison of intensive and weekly approaches. *Journal of Anxiety Disorders, 22*(7), 1146-1158. doi: 10.1016/j.janxdis.2007.12.001

Sugiura-Ogasawara, M., Furukawa, T.A., Nakano, Y., Hori, S., Aoki, K., Kitamura, T. (2002). Depression as a potential causal factor in subsequent miscarriage in recurrent spontaneous aborters. *Human Reproduction, 17*(10),2580-4.

Surkan, P.J, Kennedy, C.E, Hurley, Kristen M, & Black, M.M. (2011). Maternal depression and early childhood growth in developing countries: Systematic review and meta-analysis. *Bulletin of the World Health Organization, 89*(8), 607-615. Retrieved April 07, 2014, from http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0042-96862011000800013&lng=en&tlng=en. 10.1590/S0042-96862011000800013.

Sweeney, P. D., Anderson, K., & Bailey, S. (1986). Attributional style in depression: A meta-analytic review. *Journal of Personality and Social Psychology, 50*(5), 974-991. doi: 10.1037/0022-3514.50.5.974.

Sylven, S. M. (2012). *Biological and Psychological Aspects of Postpartum Depression.* (Doctor of Philosophy - Faculty of Medicine), Uppsala University, Sweden.

Taylor, J. D. (2003). Exploring postnatal fatigue: Influential factors and management strategies for women. (Doctor of Philosophy), The University of Western Sydney.

Tebes, J.K., Irish, J.T., Puglisi Vasquez, M.J., & Perkins, D.V. (2004). Cognitive transformation as a marker of resilience. *Substance Use and Misuse, 39*(5), 769-788.

Teti, D. M., Gelfand, D. M., Messinger, D., & Isabella, R. (1995). Maternal depression and the quality of early attachment: An examination of infants, preschoolers, and their mothers. *Developmental Psychology, 31*, 364-376.

The American College of Obstetricians and Gynecologists (2010). *Perinatal and postpartum depression a top priority at Annual Conference of Ob-Gyns*. Retrieved from http://www.acog.org/from_home/publications/press_releases/nr05-17-10-2.cfm

The Partnership for Maternal, Newborn and Child Health (2013). *The PMNCH 2013 report: Analysing progress on commitments to the global strategy*. Geneva: World Health Organization

Thompson, T. (2006). *The ghost in the house: Motherhood, raising children, and struggling with depression*: HarperCollins.

Tiger,L. (1979). *Optimism: The Biology of Hope*. New York: Simon & Schuster.

Titaley, C. R., Hunter, C. L., Heywood, P., & Dibley, M. J. (2010). Why don't some women attend antenatal and postnatal care services?: A qualitative study of community members' perspectives in Garut, Sukabumi and Ciamis Districts of West Java Province, Indonesia. *BMC Pregnancy and Childbirth, 10*, 61-72. doi: 10.1186/1471-2393-10-61

Travis, P., Bennett, S., Haines, A., Pang, T., Bhutta, Z., Hyder, A. A., . . . Evans, T. (2004). Overcoming health-systems Constraints to Archieve the Millennium Development Goals. *Lancet, 364*(9437), 900-906.

Troisi, A. (2009). Cholesterol in coronary heart disease and psychiatric disorders: Same or opposite effecys on morbidity risks? *Neuroscience and Biobehavioural Reviews, 33*, 125-132.

Tucker, M., & Oei, T. P. S. (2007). Is group more cost effective than individual Cognitive Behaviour Therapy? The evidence is not solid yet. *Behavioural and Cognitive Psychotherapy, 35*(01), 77-91. doi: 10.1017/S1352465806003134

Turner, S. G. (2001). Resilience and social work practice: Three case studies. *Families in Society, 82*(5), 441-448

Tusaie, K., & Dyer, J. (2004). Resilience: A historical review of the construct. *Holistic Nursing Practice, 18,* 3-8.

United Nations Development Programme (UNDP) (1990). *Human Development Report 1990*. New York.

United Nation Foundation. (2006). *Health Campaign Launched to Protect Indonesian Children*. Retrieved from http://www.unfoundation.org/news-and-media/press-releases/2006/health-campaign-launched-protect-indonesian-children.html

United Nation Statistics Division (2008). Official list of MDG indicators. Retrieved from http://millenniumindicators.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm

United Nation Statistics Division (2013). Millennium Development Goals indicators by country. Retrieved from http://mdgs.un.org/unsd/mdg/data.aspx

Valant, P. (1998). Resilience in child survivors of the Holocaust: Toward the concept of resilience. *Psychoanalytic Review, 85*(4): 517-536.

Varker, T. & Gevilly, G.J. (2012). An analogue trial of inoculation/resilience training for emergency services personnel: Proof of concept. *Journal of Anxiety Disorders, 26,* 696-701.

Verdeli, H., Ferro, T., Wickramaratne, P., Greenwald, S., Blanco, C., & Weissman, M. M. (2004). Treatment of depressed mothers of depressed children: Pilot study of feasibility. *Depression and Anxiety, 19*(1), 51-58. doi: 10.1002/da.10139

Wachs, T. D., Black, M. M., & Engle, P. L. (2009). Maternal depression: A global threat to children's health, development, and behaviour and to human rights. *Child Development Perspectives, 3*(1), 51-59.

Wagnild, G.M. (2010). Discovering your resilience core. Retrieved from http://www.resiliencescale.com/papers/pdfs/Discovering_Your_Resilience_Core.pdf

Walsh, F. (2002). A family resilience framework: Innovative practice applications. *Family relations, 51*(2), 130-137. doi: 10.1111/j.1741-3729.2002.00130.x

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070.

Waugh, V.E., Fredrickson, B.L., & Taylor, S.F. (2008). Adapting to life's slings and arrows: Individual differences in resilience when recovering from an anticipated threat. *Journal of Research in Personality, 42,* 1031-1046.

Weissman, M. M., Warner, V., Wickramaratne, P., Moreau, D., & Olfson, M. (1997). Offspring of depressed parents: 10 Year Later. *Archives of General Psychiatry, 54*(10), 932-940.

Weissman, M.M., Wickramaratne, P., Nomura, Y., Warner, V., Pilowsky, D., & Verdeli, H.(2006). Offspring of Depressed Parents: 20 Years Later. *American Journal of Psychiatry, 163*(6), 1001-1008.

Werner, E. (2000). Protective Factors and Individual Resilience. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of Early Intervention* (2nd ed., pp. 115-132). New York, NY: Cambridge University Press.

Werner, E.E. (1993). Risk and resilience in individuals with learning disabilities: Lessons learned from the Kauai longitudinal study. *Learning Disabilities Research and Practice, 8*(1), 28-34.

Werner, E. & Smith, R. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Itacha: Cornell University Press.

West, A., & Spring, B. (2010). EBBP-Module Five: Randomized Controlled Trials. Retrieved 5 October, 2014, from http://www.ebbp.org/course_outlines/rcts.pdf http://www.ceconcepts.net/EBBP/session5.asp

West, S.G., Duan, N., Pequegnat, W., Gaist, P., Des Jarlais, D.C., Holtgrave, D., Szapocznik, J., Fishbein, M., Rapkin, B., Clatts, M., & Mullen, P.D. (2008). Alternatives to the Randomized Controlled Trial. *American Journal of Public Health, 98*(8), 1359-1366.

Whitfield, G. (2010). Group Cognitive-Behavioural Therapy for anxiety and depression. *Advances in Psychiatric Treatment, 16*, 219-227. doi: 10.1192/apt.bp.108.005744

Windle, G., Bennet, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes, 9*(8). doi: 10.1186/1477-7525-9-8

Winson, N. (2009). Transition to motherhood. In C. Squire (Ed). *The Social Context of Birth*. (pp. 145-160). Oxford: Radcliffe Publishing.

Wisner, K. L., Parry, B. L., & Piontek, C. M. (2002). Postpartum Depression. *The New England Journal of Medicine, 347*, 194-199. doi: 10.1056/NEJMcp011542

Wisner, K. L., & Wheeler, S. B. (1994). Prevention of Recurrent Postpartum Major Depression. *Hospital and Community Psychiatry, 45*, 1191-1196.

Wolf, A., DeAndraca, I., & Lozoff, B.(2002). Maternal depression in three Latin Amarican samples. *Social Psychiatry and Psychiatric Epidemiology*. *37*, 169-176

Wolff, S. (1995). The concept of resilience. *Australian and New Zealand Journal of Psychiatry, 29*(4), 565-574. doi: 10.3109/00048679509064968

Women Deliver (2010). *Focus On 5: Women's Health and The MDGs*. Retrieved from http://www.womendeliver.org/assets/Focus-on-5.pdf

Women Deliver (2010). *Women Deliver: Delivering solutions for girls and women*. New York: Women Deliver.

Woolhouse, H., Mercuri, K., Judd, F., & Brown, S. J. (2014). Antenatal mindfulness intervention to reduce depression, anxiety and stress: A pilot randomised controlled trial of the MindBabyBody program in an Australian tertiary maternity hospital. *BMC Pregnancy Childbirth, 14*(1), 369. doi: 10.1186/s12884-014-0369-z

World Bank. (2009). *World Bank List of Economies (July 2009).* Retrieved from http://www.iqla.org/joining/World-Bank_Classification-List_2009.pdf

World Health Organization. (2006). *Pregnancy, childbirth, postpartum and newborn care: A guide for essential practice*. Singapore : WHO

World Health Organization. (2014). *Mental health: a state well-being*. Retrieved 15 February 2015, from http://www.who.int/features/factfiles/mental_health/en/

Wrosch, C., & Scheier, M. F. (2003). Personality and quality of life: the importance of optimism and goal adjustment. *Quality of Life Research, 12*(1), 59-72.

Yalom, I. (1995). *The theory and practice of group psychotherapy* (4th ed.): Basic Books.

Zinbarg, R. E., Barlow, D. H., Liebowitz, M., Street, L., Broadhead, E., & Katon, W. (1994). The DSM-IV field trial for mixed anxiety depression. *American Journal of Psychiatry, 151*, 1153-1162.

APPENDICES

Appendix A

Mental Emotional Prevalence Rate of ≥ 15 years old in Indonesia

No	By Provinces	Prevalence (%)	Rank	Research
1	Nagroe Aceh Darussalam	14.1	7	
2	North Sumatra	6.9	30	
3	West Sumatra	13.9	8	
4	Riau	11.4	15	
5	Jambi	7.1	28	
6	South Sumatera	6.3	32	
7	Bengkulu	10.3	18	
8	Lampung	6.8	31	
9	Bangka Belitung	14.5	5	
10	Riau Island	5.1	33	
11	DKI Jakarta	14.1	6	
12	West Java	20.0	1	
13	Central Java	12.0	13	
14	D I Yogyakarta	9.6	22	
15	East Java	12.3	12	8 Primary Health Care Clinics
16	Banten	11.5	14	
17	Bali	9.8	20	
18	West Nusa Tenggara	12.8	11	
19	East Nusa Tenggara	14.5	4	
20	West Kalimantan	7.8	25	
21	Central Kalimantan	10.7	17	
22	South Kalimantan	11.3	16	
23	East Kalimantan	6.9	29	
24	North Sulawesi	9.0	23	
25	Central Sulawesi	16.0	3	
26	South Sulawesi	13.7	9	
27	South-East Sulawesi	10.2	19	
28	Gorontalo	16.5	2	
29	West Sulawesi	7.7	26	
30	Maluku	7.5	27	
31	North Maluku	8.9	24	
32	West Papua	13.2	10	
33	Papua	9.7	21	

National prevalence rate : 11.6%

Highlighted rows indicate provinces in Indonesia which their mental emotional prevalence rates were higher than the national rate. Research will be conducted Surabaya, where supports and permission to conduct the research have been indicated by the regional authorised Ministry of Health.

Source : Indonesian Ministry of Health. (2008). Report of Indonesian Basic Health Research 2007 (*Laporan Riset Kesehatan Dasar 2007*). Jakarta: Indonesian Ministry of Health

Appendix B

Primary Health Care and Hospital in Indonesia

As per January 2014

No	Province	Primary Health Care		Hospital	
		Number	Percentage	Number	Percentage
1	Nangroe Aceh Darussalam	336	3.46	64	2.66
2	North Sumatera	570	5.90	177	7.36
3	West Sumatera	262	2.71	62	2.58
4	Riau	211	2.14	62	2.58
5	Jambi	176	1.82	33	1.37
6	South Sumatera	320	3.30	55	2.29
7	Bengkulu	180	1.86	19	0.79
8	Lampung	288	2.90	52	2.16
9	Bangka Belitung	61	0.62	16	0.67
10	Riau Island	73	0.73	25	1.04
11	DKI Jakarta	340	3.52	157	6.53
12	West Java	1050	10.88	293	12.19
13	Central Java	875	9.04	301	12.52
14	DI Yogyakarta	121	1.25	71	2.95
15	**East Java**	**960**	**9.94**	**345**	**14.35**
16	Banten	231	2.38	85	3.54
17	Bali	120	1.24	57	2.37
18	West Nusa Tenggara	158	1.64	24	1.00
19	East Nusa Tenggara	370	3.75	44	1.83
20	West Kalimantan	238	2.45	45	1.87
21	Central Kalimantan	195	2.01	19	0.79
22	South Kalimantan	228	2.36	36	1.50
23	East Kalimantan	174	2.30	51	2.12
24	North Sulawesi	187	1.90	43	1.79
25	Central Sulawesi	184	190	31	1.29
26	South Sulawesi	444	4.56	88	3.66
27	Southeast Sulawesi	268	2.73	25	1.04
28	Gorontalo	93	0.94	12	0.50
29	West Sulawesi	94	0.95	10	0.42
30	Maluku	197	1.97	27	1.12
31	North Maluku	126	1.29	19	0.79
32	West Papua	147	1.48	18	0.75
33	Papua	394	4.05	38	1.58
34	North Kalimantan	New province (2014) – no data available yet			
	Total	9,671	100.00	2,404	100.00

Source : The Indonesian Ministry of Health - www.depkes.go.id ; Rumah Sakit Online; http://www.bankdata.depkes.go.id/puskesmas/; file:///C:/Users/09379042/Downloads/profil-kesehatan-indonesia-2013.pdf

Appendix C (1)

ABOUT ME						
1	Name					
2	Date of birth					
3	Current address					
4	Contact details	Mobile:				
		Home tel :				
		FB :				
5	I regularly check my pregnancy at this Primary Health Care Clinic (√ one)	☐ PHC Sidosermo	☐ PHC Jemursari	☐ PHC Tenggilis	☐ PHC Jagir	
		☐ PHC Gayungan	☐ PHC Kalirungkut	☐ PHC Menur	☐ PHC Klampis Ngasem	
6	Religion					
7	Will I stay in the same address after giving birth (√ one)	☐ YES (go to no 11)		☐ NO (go to no 8)		
8	After giving birth I will stay at this address					
9	Contact numbers	Home tel:				
10	I plan to/will stay in the address stated in no 8 for :	_____ days/months*				
11	Level of education (√ the highest one)	☐ Primary school (year 1 -6)	☐ Junior Secondary school (year 7 to 9)	☐ Senior Secondary school (year 10-12)	☐ Tertiary education	
12	I got married when I was	_____	years of age			
13	I consume (√ all that apply to you)	☐	junk food	☐	cigarette	
		☐	coffee	☐	alcohol	
		☐	Traditional medicine (give examples)			
14	I am currently working and earn an income	☐	Yes	as _____		
		☐	No			

Appendix C (2)

ABOUT ME				
15	Average monthly family expenses (√ one only)	☐ < Rp. 600,000	☐ Rp. 600,001 - 900,000	
		☐ Rp. 900,001 - Rp. 1,250,000	☐ Rp. 1,250,001 - 1,750,000	
		☐ Rp. 1,750,001 - Rp. 2,500,000	☐ Rp. 2,500,001 - 3,500,000	
		☐ > Rp. 3,500,001		
16	Order in the family	I am the _____ child in a family of _____ children		
17	My husband's current age	_____ years old		
18	This is my (Circle one number)	1st 2nd 3rd 4th 5th 6th pregnancy		
19	I am currently on my (Circle one number)	10th 11th 12th 13th 14th 15th 16th 17th 18th 19th 20th 21st 22nd 23rd 24th	weeks of pregnancy	
20	My hobbies are (List as many as you can)			
21	Happy moments in my life			
22	Sad moments in my life			
23	I cope my sad moments by			
24	I believe culturally that a pregnant woman should not do these:		Because :	
			Because :	
			Because :	
	Surabaya, Full name and Signature			

Appendix D

Email Exchange: Permission to Use and Translate ASQ (Seligman)

From: Linda Newsted [lnewsted@psych.upenn.edu]
Sent: Tuesday, 17 May 2011 9:55 PM
To: Josephine Ratna
Subject: RE: Request to use ASQ and translate into Bahasa Indonesia for research purposes

Hello Josephine,
Thank you for your interest in the ASQ. To request it, please see the procedures at http://www.ppc.sas.upenn.edu/testproc.htm. Please note that the ASQ may not be posted or administered online.
We do not have a Bahasa translation. Dr. Seligman will grant permission to translate under the following terms:

- The content may not be adapted
- The original copyright information must appear on the translation
- We are provided with a copy of the translation

I look forward to hearing from you.
Sincerely,
Linda Newsted
Positive Psychology Center
lnewsted@psych.upenn.edu
215-898-7173

From: Josephine Ratna [mailto:josephine.ratna@postgrad.curtin.edu.au]
Sent: Tuesday, May 17, 2011 1:15 AM
To: SeligmanInfo@psych.upenn.edu
Subject: Request to use ASQ and translate into Bahasa Indonesia for research purposes
Importance: High

Dear Dr. Seligman,
I am a PhD candidate in Psychology at Curtin University – Western Australia and I am interested in using the ASQ for my research on "Prevention of Postnatal Depressive Symptoms through Promoting Resilience and Optimism Workshop in Antenatal Care". I am currently preparing my candidacy proposal and due to present it mid July 2011.

The research will be conducted in Indonesia and therefore I would like to ask your permission in translating the scale into Bahasa Indonesia, or have you already had the Bahasa Indonesia version of ASQ ?

I would also like to request for the guideline and manual and would appreciate your advice on how to get it. Thank you so much and I am looking forward to hearing from you.

Josephine Ratna
PhD Candidate - Psychology
Curtin University

Mobile | +61 451 997812

Email | josephine.ratna@postgrad.curtin.edu.au and ratna.josephine@gmail.com
Web | http://curtin.edu.au

Appendix E

Email Exchange: Permission to Use DASS (Lovibond)

---------- Forwarded message ----------
From: **Josephine Ratna** <ratna.josephine@gmail.com>
Date: Thu, Mar 17, 2011 at 11:33 AM
Subject: Re: Inquiries on availability of DASS - Bahasa Indonesia
To: Peter Lovibond <p.lovibond@unsw.edu.au>
Cc: Clare Roberts <c.roberts@curtin.edu.au>, Clare Rees <C.Rees@curtin.edu.au>

Dear Peter,

Thank you so much for your prompt reply and I will follow your advice.

Regards,
Josephine Ratna

Peter Lovibond <p.lovibond@unsw.edu.au> 3/17/11

to me

Dear Josephine,

Yes, no problem. However if you have any enquiries about this translation you will need to send them to Dr Damanik.

Best wishes,
Peter Lovibond

From: Josephine Ratna [mailto:ratna.josephine@gmail.com]
Sent: Thursday, 17 March 2011 2:20 PM
To: Peter Lovibond
Subject: Inquiries on availability of DASS - Bahasa Indonesia

Dear Prof. Lovibond,

I am a PhD student at Curtin University and I am thinking to use the DASS for my research. The data collection will be conducted in Indonesia and therefore I will need to use the Bahasa Indonesia translated version of DASS. I saw the Indonesian translation of DASS - done by Evelina Debora Damanik and I would like to ask your confirmation that this Indonesian version is ok for me to use.

Thank you so much and i am looking forward to hearing from you soon as to allow me to start writing my candidacy proposal. I would regard highly for any advice you may have. My current supervisor - Dr. Clare Roberts - has the manual of DASS purchased from the UNSW and she allows me to us it.

Best regards,
Josephine Ratna

Appendix F

Email Exchange: Permission to Use Translated version DASS (Bahasa Indonesia – Evelina D Damanik)

evelinadebora@gmail.com 3/23/11

to me

Indonesian
English

Dear Ms. Josephine

Maaf saya baru sempat mengecek email ini karena alamat ini bukanlah email utama saya.
Tentunya dengan senang hati saya ijinkan bila ibu berminat untuk menggunakan terjemahan bahasa Indonesia tes DASS ini sebagai alat bantu riset ibu.
Terkait pertanyaan ibu, saya saat itu tidak sempat melakukan evaluasi psikometrik terhadap short versionnya.
Saya terbuka bila ibu ingin berkorespondensi terkait ini, saya akan usahakan bantu yang terbaik.
Sukses buat riset ibu dan saya berharap dapat memperoleh informasi lebih lanjut mengenai hasilnya.
Terima kasih.

Salam,
Evelina D. Damanik

Sent from my BlackBerry®

From: Josephine Ratna <ratna.josephine@gmail.com>
Date: Thu, 17 Mar 2011 12:41:29 +0800

To: <evelinadebora@gmail.com>
Subject: Fwd: Inquiries on availability of DASS - Bahasa Indonesia

Yth. Ibu Evelina Debora Damanik,

Perkenalkan saya Josephine Ratna, saat ini sedang studi PhD di Curtin University di Perth. Saya rencananya akan menggunakan DASS untuk riset saya di Indonesia berhubungan dengan Resiliency Ibu dan Tingkat Depresi, kecemasan dan stressnya.

Berdasarkan email korespondensi dengan Peter Lovibond, saya sudah dapat konfirmasi diijinkan menggunakan DASS terjemahan bahasa Indonesia yang Ibu terjemahkan.

Untuk itu bersama email ini saya mohon ijin juga untuk menggunakannya dalam riset saya dan jika tidak keberatan bisa korespondensi seandainya ada hal-hal yang perlu saya tanyakan. Prosedur ini adalah untuk memenuhi persyaratan legalitas, etika dan plagiarisme yang sebagaimana ibu ketahui di Australia mereka sangat tegas dalam menjalankannya di lingkungan akademik.

Ada satu pertanyaan :
Apakah Ibu sempat mengevaluasi properti psikometrik untuk yang short version 21 items DASS ?
Jika ada, apakah mungkin saya memperoleh hasil validitas dan reliabilitasnya ?

Terima kasih atas bantuan ibu.

Salam,
Josephine Ratna
0451997812

Appendix G

Email Exchange: Permission to Use CD-RISC (Jonathan Davidson)

Jonathan Davidson <jonathan.davidson@duke.edu>

to kathryn_connor, Josephine, me

Dear Josephine:

Thank you for your enquiry about the CD-RISC. We appreciate your interest very much and would be pleased to make the scale available. We do have a Bahasa translation of the 2 and 10 item versions but not the full 25 item scale, so if that was to be prepared it would be a real asset. We normally ask prospective users of the scale to complete an agreement and brief project form, and there is a user fee of $50 for dissertation type work. However if you are willing to prepare a translation of the 25 item scale, we can waive the fee. We would also send our standard procedure for translating the scale. If as we hope, you have interest in proceeding, please let me know and we'll send the necessary forms. We would also be happy to send the existing 10 item scale translation, which you could perhaps expand into the 25 item version.

With kind regards,

Jonathan Davidson

Josephine Ratna <josephine.ratna@postgrad.curtin.edu.au> 5/27/11

to jonathan.david., me

Dear Dr. Davidson,

Allow me to introduce myself. My name is Josephine Ratna – a PhD candidate (Psychology) at Curtin University in Western Australia. I emailed Kathryn M Connor earlier to get more information on CD RISC and permission to translate the scale into Bahasa Indonesia (see my email below) to be used for my study. I did not get any reply and just found out that she passed away http://www.legacy.com/obituaries/sptimes/obituary.aspx?n=kathryn-m-connor&pid=150653574

As the author of CD RISC, may I forward my request to you and please kindly guide me on how to proceed. I have to submit my research proposal soon and I have to ensure that I get author's permission to use the scale.

Thank you and I am looking forward to hearing from you at your soonest possible.

Regards,

Josephine Ratna
PhD Candidate - Psychology
Curtin University

Mobile | +61 451 997812
Email | josephine.ratna@postgrad.curtin.edu.au and ratna.josephine@gmail.com

Appendix H

Connor-Davidson Resilience Scale (CD-RISC) ©

Project Information Form

Please complete and type or print responses clearly. Email this form to Jonathan Davidson at david011@mc.duke.edu.

Name of Principal Investigator/ Project Director/Clinician	Josephine Maria Julianti Ratna, Mpsych (for PhD research)
Department/Organization	• School of Psychology and Speech Pathology – Curtin University • Premier Hospital, Surabaya, East Java – Indonesia
Street Address	• Kent Street, Bentley, WA 6102 (School of Psychology and Speech Pathology) • Jl. Nginden Intan Barat, Surabaya, east Java, Indonesia (Premier Hospital)
City, State/Province Zip/Postal code	• Perth, Western Australia, 6102 • Surabaya, Eaat Java, Indonesia 60283
Country	• Australia • Indonesia
Telephone	• +61451997812 (Australia) • +62811327812 (Indonesia)
Fax	• +61892662464 (School of Psychology & Speech Pathology) • +62318707632 (Indonesia)
Email address	josephine.ratna@postgrad.curtin.edu.au ratna.josephine@gmail.com (available all the time)

1. Organization Type: *Check box next to the category that best describes the type or primary purpose of your organization*.

☐ Medical group
■ Hospital
☐ Academic Center
☐ Private Foundation
☐ Insurance Company/Health Plan
☐ Government Agency
☐ Consulting Firm
☐ Pharmaceutical Company
■ Other: University

2. Please describe the project (s) for which you plan to use the CD-RISC (indicate objectives, design, and key sample characteristics, source of funding): see attachment

3. Project sample size: intervention vs control group (each max 50)

4. Number of CD-RISC administrations (i.e. # subjects x # scale administrations):
   - Intervention group=50 x 4 (pretest, post-test, 6-week and 6-month follow ups)
   - Waitlist control group= 50 x 3 (baseline, pretest1, pretest 2) and possibly 50 x 2 (posttest and 6 weeks follow up)

5. Project duration: March – November 2012

6. Method of assessment (e.g., mail survey): Direct administration and mail

7. Other measurement tools include:
   - Attributional Style Questionnaire (ASQ)
   - Depression Anxiety Stress Scale (DASS)
   - Quality of Life Enjoyment and nSatisfaction Questionnaire Short Form (Q-LES-Q SF)
   - Modified Mini Screen(MMS)
   - Self-Reporting Questionnaire (SRQ)
   - Edinburg Postnatal Depression Scale (EPDS)

Appendix I

Connor-Davidson Resilience Scale (CD-RISC) ©

Terms of Agreement

Dear Josephine:

Thank you for your interest in the Connor-Davidson Resilience Scale (CD-RISC). We are pleased to grant permission for use of the CD-RISC in the project you have described under the following terms of agreement:

1. You agree not to use the CD-RISC for any commercial purpose, or in research or other work performed for a third party, or provide the scale to a third party. If other off-site collaborators are involved with your project, their use of the scale is restricted to the project, and the signatory of this agreement is responsible for ensuring that all collaborators adhere to the terms of this agreement.

2. You may use the CD-RISC in written format or through administration over the telephone or in a secure electronic format in which the scale is protected from unauthorized distribution or the possibility of modification.

3. The scale's content may not be modified, although in some circumstances the formatting may be adapted, with permission of either Dr. Connor or Dr. Davidson. If you wish to create a non-English language translation or culturally modified version of the CD-RISC, please let us know and we will provide details of the standard procedures.

4. Three forms of the scale exist: the original 25 item version and two shorter versions of 10 and 2 items respectively. When reproducing the CD-RISC 25, CD-RISC 10 or CD-RISC 2, whether in English or other language, please include the full copyright statement and use restrictions as it appears on the scale.

5. Complete and return this form via email to david011@mc.duke.edu, along with the attached Project Outline form describing the nature of the project in which you plan to use the CD-RISC.

6. In any publication or report resulting from use of the CD-RISC, you do not publish or partially reproduce the CD-RISC without first securing permission from the authors.

If you agree to the terms of this agreement, please email a signed copy to the above email address, along with the completed User's Profile form. Upon receipt of the signed agreement and of payment, we will email a copy of the scale.

For questions regarding use of the CD-RISC, please contact Jonathan Davidson at david011@mc.duke.edu. We wish you well in pursuing your goals.

Sincerely yours,

Jonathan R. T. Davidson, M.D.
Kathryn M. Connor, M.D.

Agreed to by:

30 May 2011

Signature (printed) Date

Josephine M.J. Ratna, MPsych Title

Appendix J

Connor-Davidson Resilience Scale (CD-RISC) ©

Translating Procedures

Dear Josephine:

Thank you for your enquiry requesting permission to translate the CD-RISC scale into Bahasa Indonesian. Having filled out and returned the Agreement and Project forms to us, you already have our permission to use the English version in your research according to the requirements in the Agreement. To translate the scale into Bahasa, please follow these procedures:

1. Translate the scale. Please be sure to include the copyright information in Bahasa and English on the translation. We also advise that the translator(s) add their own name(s) and date of the translation. This not only gives credit to the translator, but also helps us keep better track of our translations. In this instance, since you are adding 15 items to a pre-existing translation, please give credit as translators both to yourself (and colleagues as appropriate) and Yuristie Lamsinar. Please note that copyright of the translation is retained by Drs Connor and Davidson, who will continue to have exclusive rights of distribution of the translated scale.

2. Back-translate the scale into English. This should be done by an independent translator (that is, someone not involved in the original translation).

3. E-mail copies of the Bahasa translation and English back translation to us for review.

4. We will review the back translation and get back to you about any necessary changes. Once these have been resolved, we can give you permission to use the translated version of the scale in your work.

5. In planning your translation, please give us an estimate of how long you think it will take. If it cannot be done in a timely manner, and we receive another request for translation, we may have to consider assigning the translation to someone else.

You may wish to print and save these instructions for future use.

Thank you again for your interest in the CD-RISC. Feel free to contact us if you have any questions. We look forward to hearing from you when the scale is translated.

Best wishes,

Jonathan Davidson MD

Emeritus Professor, Psychiatry, Duke University Medical Center

E-mail david011@mc.duke.edu

Appendix K

Email Exchange: Permission to Use Q-LES-Q SF (Jean Endicott)

From: Jean Endicott, Ph.D. [mailto:je10@columbia.edu]
Sent: Thursday, 14 April 2011 2:15 AM
To: Josephine Ratna
Subject: Re: Request for Permission to Use the QLESQ-SF - translated to Bahasa Indonesia

Dear Ms Ratna,

I am attaching the only translation I have of the Q-LES-Q SF that was prepared for Indonesia. Unfortunately, I do not know whether it would be considered to be a Bahasa Indonesian version or not. I suspect not.

In any case, you have my permission to use and translate the QLESQ SF to make it suitable for your studies.

I would appreciate receiving a copy of your translated version when it is completed.

Do not hesitate to contact me if you have any questions.

Regards,
Jean Endicott, Ph.D.

On 4/12/2011 7:41 AM, Josephine Ratna wrote:
Jean Endicott, Ph.D.,
Unit 123, 1051 Riverside Drive,
New York, NY 10032.
212-543-5536

Dear Dr. Endicott,
I am a PhD student (Psychology) at Curtin University - Western Australia. At the moment I am preparing my candidacy research proposal. After several discussion with my supervisor Dr. Clare Roberts, I plan to use and translate QLESQ SF - to Bahasa Indonesia.
I am going to do a research on post natal resilience in Indonesian women. I will measure several aspects : anxiety, depression, quality of life and satisfaction and resilience. Several characteristics of resilient people will be measured on their coping, self-efficacy and hope.

I need your approval for me to use QLESQ SF (Bahasa Indonesia version) and please advise me on next step to do so. Of my curiosity, do you have the Bahasa Indonesia version in place for QLESQ SF?
Thank you and I am looking forward to hearing from you at your earliest possible.

PS : would you kindly reply to all email addresses please.

Josephine Ratna
PhD Candidate - Psychology
Curtin University

Mobile | +61 451 997812

Appendix L

Curtin University Human Research Ethics Committee :

Ethics Approval Letter

Curtin University

Memorandum

To	A/Prof Clare Roberts, Psychology and Speech Pathology
From	Miss Linda Teasdale, Manager, Research Ethics
Subject	Protocol Approval **HR 164/2011**
Date	19 December 2011
Copy	Josephine Maria Julianti Ratna, Psychology and Speech Pathology Dr Robert Kane, Psychology and Speech Pathology A/Prof Clare Rees, Psychology and Speech Pathology Graduate Studies Officer, Faculty of Health Sciences

Office of Research and Development
Human Research Ethics Committee

TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for your application submitted to the Human Research Ethics Committee (HREC) for the project titled "*The Impact of An Antenatal Resilience and Optimism Workshop on Postnatal Depressive Symptoms*". Your application has been reviewed by the HREC and will be **approved subject to** the conditions detailed below:

1. Please confirm registration of Clinical Trial (http://www.anzctr.org.au) as Curtin staff and students, it is not the location where the trial is conducted it is required as researchers, who are employed or are students of Australian Institutions.
2. Please advise whether the size of the instruments can be limited e.g., short version of the DAS, as there was a perception of redundancy with the proposed battery of questionnaires.
3. The Committee suggested that the order of the instruments be randomised for each participant to prevent/limit participant fatigue.

Please do not commence your research until your response to the above conditions has been approved and final clearance has been granted by the Human Research Ethics Committee.

Please note the following:

- Reference Number: **HR 164/2011.** *Please quote this number in any future correspondence.*
- The following standard statement **must be** included in the information sheet to participants:

  *This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR**164/2011**). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au.*

- It is the policy of the HREC to conduct random audits on a percentage of approved projects. These audits may be conducted at any time after the project starts. In cases where the HREC considers that there may be a risk of adverse events, or where participants may be especially vulnerable, the HREC may request the chief investigator to provide an outcomes report, including information on follow-up of participants.

Regards,

Miss Linda Teasdale
Manager, Research Ethics

Appendix M

Ministry of Health, National Institute of Health Research &

Development: Ethics Approval

MINISTRY OF HEALTH
NATIONAL INSTITUTE
OF HEALTH RESEARCH AND DEVELOPMENT
Jalan Percetakan Negara No. 29 Jakarta 10560 Kotak Pos 1226
Telepon: (021) 4261088 Faksimile: (021) 4243933
E-mail: sesban@litbang.depkes.go.id, *Website:* http://www.litbang.depkes.go.id

ETHICAL APPROVAL
FOR THE USE OF HUMAN SUBJECTS

No. : KE.01.02/EC/057/2012

The Committee on Health Research Ethics of the National Institute of Health Research and Development, Indonesia Ministry of Health, after conducting review on the research protocol entitled :

"The Impact of an Antenatal Resilience and Optimism Workshop on Postnatal Depressive Symptoms"

submitted on : ***December 14, 2011*** by : ***Dra. Josephine Maria Julianti Ratna, PGDip Sc., M. Psych***

has hereby declared that the above protocol whereby human subjects will be used, has been approved for implementation in duration as stated in the protocol.

Please note that this *ethical approval* is for the period of 1 year since approved date.

Should there be any modification and/or extention of the study, the Principal Investigator is required to resubmit the protocol for approval. The progress and final summary reports should be submitted to NIHRD ethics committee.

Jakarta, 1 March 2012

Committee Health Research Ethics,
Chairperson,

Prof. Dr. M. Sudomo

Appendix N

Clinical Trial Registry

ANZCTR
Australian New Zealand Clinical Trials Registry

Questions in **bold** text are mandatory. (*)

Request Number:	
Current Page:	Review

Trial from ANZCTR

Trial ID	ACTRN12612000222842
Trial Status:	Registered
Date Submitted:	7/02/2012
Date Registered:	22/02/2012
	Prospectively registered

Page 1

Public title	An Antenatal Resilience and Optimism Workshop on Postnatal Depressive Symptoms
Study title in 'Participant- Intervention- Comparator- Outcome (PICO)' format	Pregnant women in Indonesia, attending an Antenatal Resilience and Optimism Workshop, to reduce postnatal depression symptoms?
Secondary ID [1]	Nil
UTN	U1111-1126-5428
Trial acronym	Resilience & Optimism Workshop (ROW)

Page 2

Health condition(s) or problem(s) studied:	
Postnatal Depression	
Condition category:	**Condition code:**
Reproductive Health and Childbirth	Childbirth and postnatal care
Mental Health	Depression

Page 3

Descriptions of intervention(s) / exposure	The Resilience and Optimism Workshop (ROW). This intervention is a 2-day consecutive workshop, each day starts at 8.30am - 4pm with 1 hour lunch break and two 15 minute coffee breaks in the morning and afternoon. The workshop will be facilitated by a clinical psychologist who is the

Appendix O

Participant Information Sheet

Having physically and mentally healthy mothers is a worthy investment for building a healthy future generation. The role of a mother is influenced by cultural, social and individual factors. It is strongly related to family life, and expectations of family duties. The majority of Indonesian mothers and families still perceive the woman's main role as the housewife and primary responsible for upbringing the children.

Pregnancy is supposed to be one of the happiest times in a woman's life, but for some women this is a time of confusion, fear, sadness, stress, and even depression. It is important for pregnant women to be aware about their current physical and psychological health to be more prepared for a new family member.

To help pregnant women better understand the journey of pregnancy, in developing and maintaining skills essential for quality parenting before the baby arrives, we are offering you participation in a free 2-day workshop (approximately 6 hours per day) which will be conducted in Surabaya. The workshop is developed as an additional option to your basic antenatal care visit

Participation will include an initial assessment which will require you to complete several questionnaires to help us understanding your current condition. In the 2-day workshop, participants will be involved in activities, group discussion, individual reflection, and answering hypothetical questions related to pregnancy and motherhood. The workshop and assessments used throughout the study will be administered by a Clinical Psychologist, Josephine Ratna and assistant psychologists.

The 2-day workshop will be videotaped in order to ensure that we provide you with the best implementation of the resilience program. The videotapes will be used to review the process of the workshop as well as to meet the documentation procedure for research conducted in Indonesia. The videotapes will also be shown to the Indonesian Ministry of Health to demonstrate the programs' activities and for future training if this intervention proves to be successful. If you do not want to be videoed you can still be part of program. You will be requested to complete 7 questionnaires at the start of the program, 6 weeks and 6 months after the workshop. Each participant will be reminded about this by a text message.

Please indicate below if you are interested in taking part in this study. Your participation will be assessed via a consultation with your obstetrician/ gynaecologist before you enrol. Your obstetrician/gynaecologist will decide whether you are suitable to benefit from the study and whether there is any medical condition which may put you at risk e.g. pre-eclampsia, potential miscarriage due to frequent bleeding, or recurrent pregnancy loss as per latest antenatal check-up.

If agreed, you will be given a sealed envelope containing further information of your group, date and venue of the workshop. The first questionnaire will be enclosed for you to complete. You can return it on the first day of the workshop.

Please note:

- Taking part is voluntary and you can discontinue at any time. Your decision to withdraw from the study will not affect your future treatment in any way
- Your privacy is will be strictly respected
- The researcher has signed a confidentiality form and will not share any information about you with other people.
- All data will be stored in a secured cabinet at Curtin University.

If you have any questions before, during or after the workshop, please contact Josephine Ratna on 0811327812 (Indonesian mobile number), Dr Sri Idaiani, SpKJ (The Ministry of Health Republic of Indonesia – Centre of Applied Health Technology and Clinical Epidemiology) on +62 21 4245386 or +628121177658 or Dr Clare Roberts on +61 8 9266 7992.

Thank you very much for your time. Please keep this letter for your information.

This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR164/2011 – dated 13 January 2012).The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au. This study also has been approved by The Health Research Ethics Committee – The Indonesian Ministry of Health (Approval Number KE.01.02/EC/057/2012 – dated 1 March 2012).

---------- cut here ----------

Please tick √ your response below and return this slip to the Nurse/Research Assistant at the Reception desk:

□ **I am interested** □ **I am not interested**

Name : _____ Contact number : _____

Primary Health Care Clinic : _____

Appendix P

Lembar Informasi Partisipan

Menjadi ibu yang sehat fisik dan mental adalah investasi yang begitu berharga dalam membangun generasi yang sehat berkualitas di masa mendatang. Peran seorang ibu dipengaruhi oleh aspek budaya, sosial dan diri sendiri. Hal ini berkaitan dengan bagaimana persepsi akan hidup berkeluarga,serta harapan atas tanggungjawab keluarga. Mayoritas ibu dan keluarga di Indonesia masih mengang-gap peran utama seorang wanita adalah menjadi ibu rumah tangga dan bertanggungjawab penuh pada pengasuhan anak-anak.

Masa kehamilan semestinya merupakan salah satu saat yang paling membahagiakan dalam kehidupan seorang wanita, namun cukup banyak wanita yang justru mengalami kebingungan, ketakutan, kesedihan, ketegangan dan bahkan depresi. Sangat penting bagi ibu hamil untuk menyadari keadaan fisik dan psikologis mereka saat ini demi mempersiapkan diri lebih baik menyambut kehadiran anggota keluarga yang baru.

Untuk membantu ibu hamil mendapatkan pemahaman lebih baik tentang liku-liku masa hamil, tentang bagaimana mengembangkan dan menjaga ketrampilan yang dibutuhkan untuk menjalankan peran sebagai orangtua dengan baik sebelum kelahiran bayi, kami menawarkan **kesempatan untuk mengikuti workshop gratis 2 hari "Menjadi Ibu Tangguh dan Optimis" (kira-kira 6 jam tiap harinya) yang akan dilangsungkan di Surabaya**. Workshop ini sendiri merupakan tambahan dari perawatan kehamilan yang Anda ikuti.

Keikutsertaan dalam studi ini melibatkan pemeriksaan awal dimana Anda akan diminta untuk mengisi sejumlah kuesioner untuk membantu kami mengetahui kondisi Anda saat ini. Dalam workshop 2 hari tersebut, peserta dilibatkan dalam **berbagai aktivitas, diskusi kelompok, melakukan refleksi individual dan menjawab pertanyaan pengandaian yang berhubungan dengan kehamilan dan peran menjadi ibu**. Workshop dan pengukuran dalam studi ini akan disampaikan oleh **Psikolog Klinis Ibu Josephine Ratna bersama sejawat dan asistennya.**

Workshop 2 hari ini **akan direkam** untuk memastikan bahwa kami memberikan program ketangguhan yang benar. Video akan dipergunakan **untuk mengevaluasi proses selama workshop berlangsung dan memenuhi prosedur dokumentasi penelitian** di Indonesia. Video akan ditunjukkan ke Kementrian Kesehatan Indonesia untuk mendemonstrasikan pelaksanaan program dan membantu pelaksanaan training bila proses intervensi ini dinilai berhasil. Jika Anda tidak berkenan di rekam, Anda tetap masih dapat mengikuti workshop ini. **Anda akan diminta untuk mengisi 7 kuesioner di awal, kemudian 6 minggu dan 6 bulan setelah workshop** dan tiap peserta akan diingatkan melalui pesan sms.

Mohon menuliskan di bawah ini jika Anda tertarik untuk ikutserta dalam studi ini. **Keikutsertaan Anda akan dipertimbangkan melalui konsultasi dengan dokter kandungan yang merawat Anda sebelum Anda secara resmi terdaftar**. Dokter kandungan Anda akan menentukan apakah keikutsertaan Anda dalam studi ini akan memberikan manfaat dan tidak ada kondisi medis yang beresiko berdasarkan pemeriksaan kehamilan terakhir seperti *pre-eclampsia*, kemungkinan keguguran karena pendarahan atau telah terjadi keguguran pada beberapa kehamilan sebelumnya. **Jika disetujui, maka Anda akan menerima amplop tertutup berisi informasi lebih lanjut tentang kelompok, tanggal dan tempat pelaksanaan workshop**.

Kuesioner pertama akan dilampirkan dalam amplop tersebut untuk dilengkapi dan dikembalikan kepada petugas di Puskesmas sebelum workshop.

Mohon dicatat:

- **Keikutsertaan dalam studi bersifat sukarela** dan Anda dapat mengundurkan diri setiap saat. Keputusan ini tidak akan mempengaruhi pengobatan/ perawatan yang Anda terima selanjutnya.
- **Kerahasiaan Anda akan kami junjung tinggi**
- Peneliti telah menandatangani formulir kesediaan untuk menjaga kerahasiaan Anda dan tidak akan membagi informasi tentang Anda kepada siapaun di luar studi ini
- Semua data akan disimpan pada tempat terkunci di Curtin University.

Jika Anda mempunyai pertanyaan sebelum, selama dan setelah workshop berlangsung, hubungi Psikolog Josephine Ratna di 0811327812 (no hp Indonesia), Dr. Sri Idaiani, SpKJ (Kementrian Kesehatan Republik Indonesia – Pusat Teknologi Terapan Kesehatan dan Epidemiologi Klinik) di +62 21 4245386 atau +628121177658 atau Dr. Clare Roberts di +61 8 9266 7992. Terima kasih telah meluangkan waktu. Harap lembar ini disimpan untuk informasi Anda.

Studi ini telah disetujui oleh Curtin University Human Research Ethics Committee (No HR 164/2011-tertanggal 13 Januari 2012). Komite ini terdiri dari anggota masyarakat, akademisi, ahli hukum, dokter dan layanan pastoral. Peran mereka adalah untuk melindungi partisipan. Jika dibutuhkan, verifikasi persetujuan ini dapat diperoleh dengan menghubungi Curtin University Human Research Ethic Committee, c/- di Office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 atau menghubungi +618 9266 2784 atau mengirimkan email ke hrec@curtin.edu.au. Studi ini juga telah disetujui oleh Komisi Etik Badan Penelitian dan Pengembangan Kesehatan – Kementrian Kesehatan Indonesia (No.KE.01.02/EC/057/2012 – tertanggal 1 Maret 2012).

----------gunting di sini --------

Beri tanda √ dan kumpulkan pada perawat/asisten riset di meja pendaftaran

☐ **Saya tertarik** ☐ **Saya Tidak Tertarik**

Nama : _____ No telpon/hp _____

Asal Puskesmas : _____

Appendix Q

Consent Form

- I understand the purpose and procedures of the study and workshop "Be Resilient and Optimistic Mothers" as explained in the Participation Information Sheet
- I have been provided with the participant information sheet.
- I understand that my involvement is voluntary and I can discontinue at any time. My decision to withdraw from the study will not affect me from receiving antenatal and postnatal care
- I am aware that I will be asked to complete a total of seven questionnaires each time during and following pregnancy (6 week and 6 month).
- I am aware that I will attend a full 2-day workshop as part of the study.
- I am aware that the 2-day workshop will be videotaped to be used for further training purposes and documentation to meet the requirement from the Indonesian Ministry of Health
- I understand that I can opt out of the video, but continue with the workshop.
- I will receive a standard local transport fee given the same to all participants, a workbook and meals during the workshop.
- I understand that my personal information will be treated confidential and will be securely stored.
- I have been given a telephone number and an email address if I have any question.
- I agree to participate in the study outlined to me.

Signature : _____ Date : _____

Signature of Witness :_____ Date : _____

Signature of Researcher : _____ Date : _____

Copy to : Subject/Researcher/Primary Health Care Clinic

Appendix R

Pernyataan Kesediaan

- Saya memahami tujuan dan prosedur dari studi dan workshop "Menjadi Ibu Tangguh dan Optimis" sebagaimana yang dijelaskan dalam Lembar Informasi Partisipan.
- Saya telah menerima Lembar Informasi Partisipan untuk berpartisipasi dalam studi ini
- Saya paham bahwa keterlibatan saya dalam studi ini bersifat sukarela dan saya dapat memutuskan untuk mengundurkan diri kapanpun. Keputusan berhenti dari studi ini tidak akan mempengaruhi layanan selama dan pasca kehamilan.
- Saya sadar bahwa saya akan diminta mengisi total tujuh kuesioner setiap kali pemeriksaan selama masa kehamilan dan setelahnya (6 minggu dan 6 bulan)
- Saya sadar bahwa saya akan mengikuti workshop 2 hari penuh sebagai bagian dari studi ini
- Saya sadar bahwa workshop 2 hari ini akan direkam untuk keperluan training selanjutnya dan dokumentasi sebagai persyaratan dari Kementrian Kesehatan Indonesia
- Saya paham saya dapat memilih untuk tidak direkam dalam video tetapi masih bisa melanjutkan workshop
- Saya akan menerima biaya pengganti transport yang jumlahnya sama dengan peserta lain dari dan ke tempat workshop, buku kerja dan konsumsi selama mengikuti workshop ini
- Saya paham bahwa informasi tentang diri saya akan diperlakukan secara rahasia dan disimpan di tempat yang aman.
- Saya sudah diberikan nomor telepon dan alamat email jika saya ingin mengajukan pertanyaan
- Saya setuju untuk berpartisipasi penuh dalam studi yang telah dijelaskan pada saya

  _____

Tandatangan : _____ Tanggal : _____

Tandatangan Saksi: _____ Tanggal : _____

Tandatangan Peneliti : _____ Tanggal : _____

Tembusan : Subyek yang bersangkutan/Peneliti/Klinik

Appendix S

Poster Presentation