

**The impact of relationship separation on suicidality  
and mental health**

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## Declaration

I declare that this thesis has not been previously submitted for a degree or diploma to any higher education institution. All material contained in this thesis reports my original work, except where it is declared below. To the best of my knowledge, this thesis contains no material previously published or written by another person, except where due reference is made.

The systematic review reported in Chapter 2 was conducted with assistance from A/Prof. Philip J Batterham, A/Prof. Alison L. Calear and Dr Daniel Fassnacht, who assisted in cross-coding included papers for the review. The systematic review reported in Chapter 5 was conducted with assistance from A/Prof. Philip J Batterham, A/Prof. Alison L. Calear and Dr Bregje van Spijker, who assisted in cross-coding included papers for the review. A/Prof. Alison L. Calear and A/Prof. Philip J Batterham were both instrumental in the overall research design, direction and final evaluation of chapter data.

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## Abstract

**Introduction:** Relationship separation is common and can be a significant risk factor for suicidal thoughts and behaviours. However, there exists a paucity of research that explores the relationship between suicidality and separation, and even less focusing on accessible interventions for separated individuals.

**Methods:** A systematic review was conducted to establish the impact of intimate partner relationships on suicidality, specifically how relationship separation contributes to suicidal thoughts and behaviours. An online cross-sectional survey was developed to explore potential predictors of suicidality and to identify challenges, benefits and help-seeking strategies following a relationship separation. A final systematic review was conducted to assess the impact of existing separation interventions on mental health, specifically focusing on suicidal thoughts and behaviours. The results from these studies guided the development of *MindCast*, a six-session, online podcast program based on Brief Interpersonal Psychotherapy (IPT-B), designed for people who have separated from a relationship. The effectiveness of this intervention was evaluated through a randomised controlled trial of 124 Australian participants who had separated in the last six months.

**Results:** The results of the systematic reviews highlighted that relationship separation and poor quality relationships are likely to be important risk factors for suicidal thoughts and behaviours and are a frequent trigger for a suicide attempt. However, there exists a paucity of trials that adequately assess the effects of non-marital relationship separation interventions on mental health outcomes and none that consider suicidal thoughts and/or behaviours. The cross-sectional study identified greater symptoms of antagonism and disinhibition and less active coping, decreased positive family support, less negative friends and lower self-esteem as being significantly associated with increased odds of suicidal ideation. Qualitative

analyses revealed that males were significantly more likely to report “no benefit” to the separation, compared with females who were significantly more likely to report “leaving an abusive and/or negative relationship” and “moving on” as benefits to the relationship break-up. Although the *MindCast* intervention did not have a significant effect on depression or suicidal ideation, across time, between group effects sizes (post,  $d = 0.50$  and follow-up,  $d = 0.10$ ) indicated that the *MindCast* intervention may have the potential to decrease depressive symptoms in people who have separated from a relationship, compared to a control condition. Low post-intervention ( $n = 30$ ) and follow-up ( $n = 20$ ) response rates were a primary limitation.

**Conclusion:** The *MindCast* podcast represents the first self-directed, online podcast developed for people who have separated from an intimate partner relationship. It was also the first study of its kind to adapt IPT, of any form, to a podcast format and to explore the influence of such an intervention on suicidal ideation and broader psychosocial targets. Although the results did not indicate that the intervention was effective in terms of targeting primary mental health outcomes, qualitative feedback suggests that participants were keen to engage in the content. Further, the small to moderate between group effect sizes were encouraging and suggest that significant effects may be observed in an adequately powered trial. Research focusing on suicide prevention and early intervention is needed to continue to identify risk factors and key intervention areas.

# Publications and Conference Presentations Arising From This Thesis

## Peer reviewed publications:

- Kazan, D., Calear, A. L., Batterham, P. J. (2016). The impact of intimate partner relationships on suicidal thoughts and behaviours: A systematic review. *Journal of Affective Disorders*, 190, 585-598.
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- Kazan, D., Calear, A. L., Batterham, P. J. (2016). Oral presentation: “Separation from intimate partner relationships: Identifying risk factors for suicidal thoughts and behaviours”. International Association for Relationships Research (IARR), Toronto: Canada.
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- Kazan, D., Calear, A. L., Batterham, P. J. (2018). Factors predicting suicidal thoughts and behaviours following a relationship separation (in submission).



- Kazan, D., Calear, A. L., Batterham, P. J., Van Spijker, B. A. J. (2018). An examination of adjustment following a relationship separation and its link to suicidal ideation (in submission).
- Kazan, D., Calear, A. L., Batterham, P. J. (2018). MindCast: A randomised controlled trial of a podcast intervention for relationship separation (in submission).

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# Chapter 1. Introduction and rationale

## 1.1. Introduction

Suicide is currently the leading cause of death for Australians aged between 15 and 44 years (Australian Bureau of Statistics [ABS], 2016a), and is the second leading cause of death globally among 15 to 29-yearolds (World Health Organisation [WHO], 2015). Australia's suicide rate (approximately 11 per 100,000) exceeds that of a number of European countries including the United Kingdom, Spain and the Netherlands (WHO, 2014), and is more common than deaths from motor vehicle accidents or skin cancer (Aleman & Denys, 2014). Each year over 3,000 people die from suicide in Australia and more than 65,000 make an attempt (Christensen, 2016). In Australia, approximately 13.3% of adults experience suicidal thoughts at some stage in their lives, 4.0% make a suicide plan, and approximately 3.2% of adults attempt suicide (Johnston, Pirkis, & Burgess, 2009; van Spijker et al., 2015). The present value of the economic costs of suicide and non-fatal suicidal behaviour in the Australian workforce is estimated at \$6.73 billion (Kinchin & Doran, 2017). Based on the estimated number of suicides, and the approximate costs per suicide, the total direct economic cost (coronial enquiries, police and ambulance services and counselling) and indirect economic cost (income a person would have received from the age of death until retirement) was \$1.7 billion for 2012, with approximately 90% of the total economic cost of suicide attributable to male suicide (KPMG Health Economics, 2013).

The World Health Organisation has found that suicides often occur impulsively and in reaction to a moment of crisis, resulting in a breakdown in the ability to deal with life stressors (WHO, 2015). An experience of a recent negative life event (i.e., in the last 6 to 12 months) can be perceived as a precipitating event, a risk factor and a potential trigger for suicide (Heikkinen, Aro, & Lönnqvist, 1992a; Liu & Miller,

2014). An experience of a negative life event can be an unexpected change in a person's situation, an actual or threatened loss, or failure at home or at work (Wasserman, 2016). Examples of common negative life events include financial problems, family/relational discord, unemployment, separation and illness (Wasserman, 2016). Individuals have reported to experience increased odds of attempting suicide soon after experiencing a negative life event, driven by the presence of an interpersonal negative life event, specifically those involving a romantic partner (Bagge, Glenn, & Lee, 2013).

A relationship breakdown can be classified as a significant negative life event with relationship separation contributing significantly to suicidal thoughts and behaviours (Kazan, Calear, & Batterham, 2016). Even though Australia's divorce rate (approximately 1.9 per 1,000 estimated resident population) has declined since the 1980s (approximately 2.7 per 1,000 estimated resident population) (ABS, 2016b), divorce continues to be a feature of Australian social life with 32% of current marriages expected to end in divorce, which is predicted to rise to 45% over the next few decades (Baxter & Hewitt, 2014; Carmichael, Webster, & McDonald, 1997). There have been significant changes to the characteristics of marriage with most Australians choosing to cohabit before marriage (80.8%), with the rate of marriage declining (6.1 marriages per 1,000 people in 1995, to 5.2 in 2014 and 4.9 in 2016) (ABS, 2016b). Data gathered by The Household, Income and Labour Dynamics in Australia (HILDA) survey indicated that cohabitating relationships that do not end in marriage have a higher likelihood of dissolution (69.3%; Baxter & Hewitt, 2014). Baxter and Hewitt (2014) reason that many of the marriages that may have ended in the first few years of marriage have been replaced by cohabitating relationships. Further, research comparing cohabitating relationships across Europe found that cohabiters are more likely to have plans to break-up than married couples (Aarskaug

Wiik, Keizer, & Lappegård, 2012). Although many people appear to adjust to their circumstances following a separation, a proportion of the population will experience mental and physical health difficulties (Baxter & Hewitt, 2014; Halford & Sweeper, 2012). There is significant heterogeneity in individual adjustment following a separation which provides continued opportunity for researchers to better understand the process across the population (Amato, 2010; Knöpfli, Morselli, & Perrig-Chiello, 2016).

There is a paucity of research available which details the progression from relationship separation to suicidality, and no published research exists which explores psychosocial interventions designed to support individuals who may be at risk of suicidal thoughts and behaviours following a relationship separation (Kazan, Calear, & Batterham, 2017). Population-based interventions need to fill the gap created by low levels of help-seeking for suicidality. Significant barriers to help seeking by suicidal individuals include stigma, shame, access and recognition of need (Czyz, Horwitz, Eisenberg, Kramer, & King, 2013; Hom, Stanley, & Joiner, 2015; Reynders, Kerkhof, Molenberghs, & Van Audenhove, 2016). Mental health service use among individuals with suicidal thoughts and behaviour is low (Hom et al., 2015). However, research has suggested that increasing low-cost options and leveraging web-based treatment modalities may improve treatment engagement among these individuals (Hom et al., 2015). As a relationship separation is a ubiquitous, cross-cultural experience, online treatment options may serve as socially acceptable gateways to accessing support designed to reduce the risk of increased suicidal thoughts or behaviours.

### **1.1.1. Relationship separation and suicidality**

For the purpose of maintaining a consistent definition for primary terms used throughout this thesis, an *intimate partner relationship* can be defined as an

interpersonal relationship between heterosexual and same-sex spouses, girlfriends or boyfriends (current and former) that involves physical and emotional intimacy.

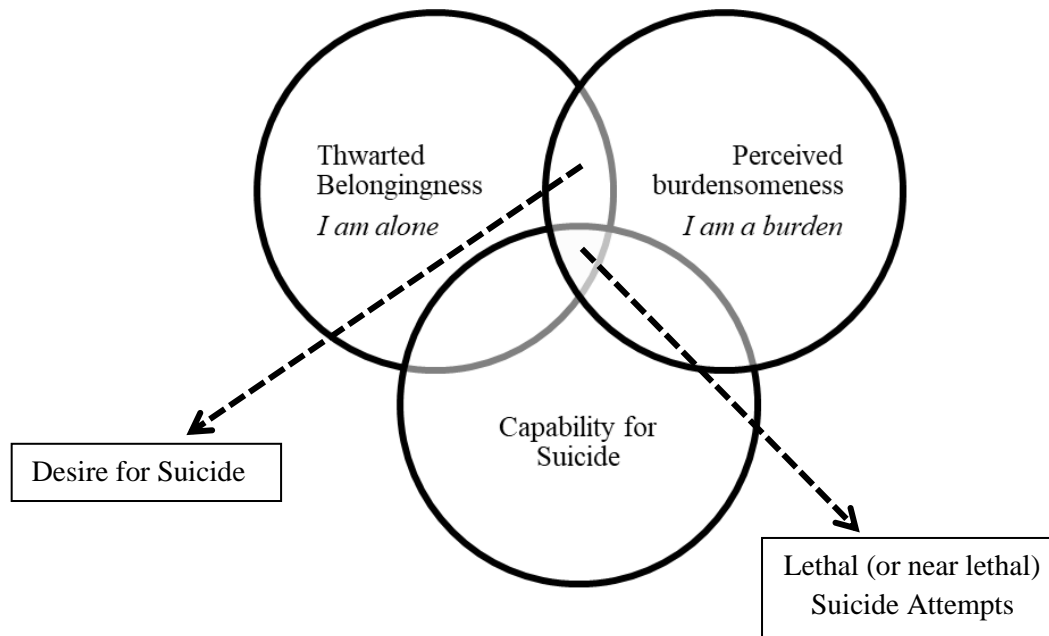
*Separation* involves the dissolution of the intimate partner relationship between non-cohabiting, cohabiting or marital partners. *Suicidal ideation* is defined as “thinking about, considering, or planning suicide”, *suicidal behaviour* as “a non-fatal, self-directed, potentially injurious behaviour with intent to die as a result of the behaviour” and *suicide* as “death caused by self-directed injurious behaviour with intent to die as a result of the behaviour” (Centers for Disease Control and Prevention [CDC], 2016).

A link between relationship separation and suicidality has been established in the literature (Batterham et al., 2014; Fieldsend & Lowenstein, 1981; Heikkinen et al., 1992a, 1992b; Ide, Wyder, Kőlves, & De Leo, 2010; Kőlves, Ide, & De Leo, 2011, 2012; Wyder, Ward, & De Leo, 2009). A systematic review examining the possible role of separation on suicidal behaviours (Ide et al., 2010) highlighted the lack of studies focusing on the impact of relationship separation on the development of suicidal behaviour, and the interaction between psychosocial factors influencing suicidality in the context of a marital and cohabitating separation. The review found that divorce and separation contributed to an increased risk of suicide, particularly in males (Ide et al., 2010). These findings supported earlier research which reported that the acute stage of the relationship separation and relationship difficulties in general, are strong risk factors for suicide (Wyder et al., 2009). There have been no other studies which have identified factors within intimate partner relationships that influence suicidal ideation, attempts and deaths, nor have there been any studies which attempt to predict the factors (demographic and psychosocial) that influence suicidal thoughts and behaviours following a relationship separation. Considering the risk of suicidality following a relationship separation, further synthesis of existing

research, additional population-based research, and the development and trialling of interventions designed to provide support for separated individuals are therefore warranted.

### **1.1.2. Theoretical and therapeutic frameworks**

Risk factors for suicidality can be viewed through a multifaceted perspective; the idea that a multitude of factors combine to exacerbate vulnerability and limit choice. Specifically, following a relationship separation, a sense of interpersonal vulnerability is increased as an individual works to separate from the confines of the relationship and re-establish equanimity. The increased interpersonal vulnerability feeds into Joiner's (2005) Interpersonal Theory of Suicide which proposes that in order to develop a desire to die by suicide, individuals must hold two simultaneous psychological mind-states; these two states being perceived burdensomeness and a sense of thwarted belongingness or social alienation. Further, Joiner asserts that in order to die by suicide the acquired capability to enact lethal self-injury must be present (see figure 1.1). This capability allows an individual to overcome a sense of self-preservation through the repeated experience of painful and otherwise provocative events. The feeling that one does not belong to valued relationships or groups (e.g., friends taking sides after a break-up) and the perception that one is a burden on others (e.g., being the only single person in a friendship group/family), can be hypothesised to be psychological consequences following a relationship breakdown. Further, the repeated experience of low quality intimate relationships, coupled with threats of or actual separation, may qualify as precipitating factors to repeated events that may enable an individual to overcome a sense of self-preservation and attempt or ultimately die by suicide.

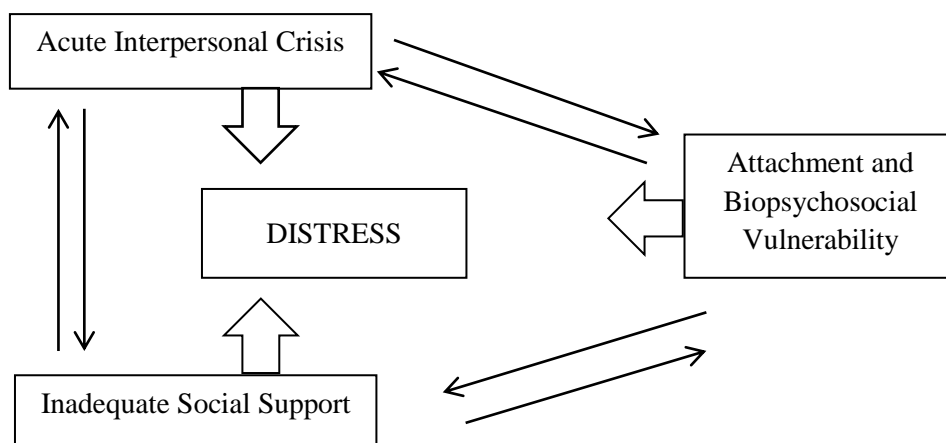


**Figure 1.1. Assumptions of the Interpersonal Theory of Suicide**

Interpersonal Psychotherapy (IPT) has been suggested as a suitable therapy modality that can be modified to target the constructs of thwarted belongingness and perceived burdensomeness (Van Orden, Talbot, & King, 2012). Interpersonal Psychotherapy is a brief, attachment-focused therapy that centres on resolving interpersonal problems to provide symptom relief and improve social functioning within 12 to 16 weeks (Wurm, Robertson, & Rushton, 2008). To target recovery in a shorter timeframe, Brief Interpersonal Psychotherapy (IPT-B) was developed as an eight-session brief intervention (Swartz, Grote, & Graham, 2014). The key difference is in the length of sessions and duration of intervention, with IPT-B reducing the need for the standard 16 one-hour session framework. The rationale for IPT-B is to provide an opportunity for time and resource poor individuals to access the benefits of traditional IPT who may not necessarily be able to commit to a full 16-session intervention. Both traditional IPT and IPT-B use the same theoretical concepts, with IPT-B demonstrating therapeutic feasibility (Grote, Bledsoe, Swartz, & Frank, 2004; Grote et al., 2009; Swartz et al., 2004; Swartz et al., 2008a). Figure 1.2 demonstrates



the interconnectivity associated with an individual’s biopsychosocial and attachment experience, an interpersonal crisis and a lack of social support. An IPT perspective acknowledges that the interplay between these elements exacerbates individual distress, and if left untreated, may lead to poor mental health outcomes. The link between IPT and the Interpersonal Theory of Suicide is the focus on the interpersonal, connective and social elements of the therapy. IPT focuses on social problem-solving deficits and difficulties with interpersonal functioning. By increasing awareness and understanding in these specific areas, it is hypothesised that perceived burdensomeness and thwarted belongingness may be reduced, leading to a reduction in suicidal ideation.



**Figure 1.2. Interpersonal Triad**

A case study illustrated by Van Orden et al. (2012) demonstrated that there is potential to interweave specific IPT techniques and key constructs of the Interpersonal Theory of Suicide to reduce suicidal ideation. The study applied IPT, informed by the Interpersonal Theory of Suicide, to an older adult with elevated suicide risk (increased suicidal ideation). The result from the individual case study demonstrated the complete reduction of suicidal thoughts at the end of treatment and at two-month follow-up (Van Orden, et al., 2012). Heisel, Talbot, King, Tu, and Duberstein (2015), replicated this result in a pilot intervention adapting a 16-session

course of IPT for older adults at risk for suicide. The authors found that IPT can feasibly be delivered to this suicidal population and may decrease and/or resolve their suicidal ideation and depressive symptoms, and increase perceived meaning in life, social adjustment and perceived social support (Heisel, Duberstein, Talbot, King, & Tu, 2009; Heisel et al., 2015).

The function of IPT is to focus on interpersonal issues in order to achieve improved interpersonal functioning and increased social support (Weissman, 2015). This therapeutic intervention is based on attachment theory and has a strong evidence base in its treatment of depression (Law, 2011; Wurm et al., 2008). No existing work has adapted IPT-B for use within relationship separation and suicidal populations. These populations may benefit from access to a therapy that focuses on interpersonal functioning, social cohesion and delivers benefits in a time-limited manner (Law, 2011). Inconsistencies in research on separation adjustment likely reflects limitations within methodologies and requires further study to explore whether psychological interventions, like IPT-B, can target correlates of distress (e.g., low social support) to enhance recovery from a relationship separation (Halford & Sweeper, 2013).

### **1.1.3. Adjustment to a relationship separation**

The experience of a relationship separation is not uniform across individual circumstances. There exists significant variability in how an individual reacts, copes with and adjusts to the separation. Individuals may experience feeling angry, hurt, frustrated, resentful, lonely and/or depressed following a relationship separation (Frazier & Cook, 1993; Sprecher, 1994). However, separation may also be an opportunity for personal growth with the experience potentially improving the quality of future romantic relationships (Tashiro & Frazier, 2003). Relationship separations differ from other distressing events in that most people will be exposed to several different romantic relationships and subsequent breakups over a lifetime

(Tashiro & Frazier, 2003). As relationship separations may be a primary impetus for seeking help through more formalised counselling channels, understanding the correlates of distress following relationship separation has important clinical implications.

Within the relationship literature, the trajectory of adjustment to separation suggests that adjustment issues are similar for both formerly married, cohabitating and dating couples, with low social support and high anxious attachment predicting continued attachment to the former partner, loneliness and psychological distress (Davis, Shaver, & Vernon, 2003; Halford & Sweeper, 2013). Research has identified that most people in the population display a resilient response to a separation (Perrig-Chiello, Hutchison, & Morselli, 2015; Sbarra, Hasselmo, & Bourassa, 2015), however, approximately 15% to 20% will experience difficulties in adjustment once their relationship comes to an end (Mancini, Bonanno, & Clark, 2011). For approximately 6 out of 10 people with a history of major depressive disorder, a divorce may trigger a subsequent depressive episode (Sbarra et al., 2015). Further, in a general population sample, in the two years following separation participants had a three-fold increase in their odds of suicidal ideation and an eight-fold increase in their odds of suicide plans/attempts (Batterham et al., 2014).

#### **1.1.4. Online interventions and mental health**

The development of an intervention which focuses on a relationship separation as the rationale for help-seeking is influenced by research showing that suicidal individuals may not always recognise that they have a problem (Czyz et al., 2013; Hom et al., 2015), with seeking treatment negatively affected by a low perceived need of support (Bruffaerts et al., 2011). Further, preference for self-management, structural factors (including convenience and availability), mistrust of

providers and stigma combine to justify the use of online mental health options (Hom et al., 2015).

The use of web-based interventions to influence health behaviour change is not new. There is evidence to suggest that web-based tailored intervention programs provide differential benefits in improving health outcomes across a variety of medical conditions and patient populations (Lustria et al., 2013). The efficacy of web-based interventions for mental health problems has been evidenced by a large number of trials exploring depression, anxiety, substance use, psychosis and insomnia (Alvarez-Jimenez et al., 2014; Arnberg, Linton, Hultcrantz, Heintz, & Jonsson, 2014; Cheng & Dizon, 2012; Christensen, Batterham, & Calear, 2014; Dedy, Mills, Teesson, & Kay-Lambkin, 2016; Tait, Spijkerman, & Riper, 2013).

In the area of suicide prevention, a number of studies have reviewed existing research suggesting that internet-delivered programs have the potential to produce positive outcomes for individuals with suicide risk (Christensen, Batterham, & O'Dea, 2014; Jacob, Scourfield, & Evans, 2014). There is also evidence to suggest that the specific targeting of suicidal content, rather than the associated symptoms, may be more effective (Christensen et al., 2014). However, studies have highlighted the paucity of current evidence for online and mobile interventions for suicide prevention (Larsen, Nicholas, & Christensen, 2016; Perry et al., 2015). The existing literature supports the continued development and evaluation of empirical evidence to determine the effectiveness of online novel approaches to improving suicide outcomes in the community.

There is limited research on the applicability of adapting IPT to an online format. Although, internet delivered IPT self-help interventions for depression are shown to be effective (Cuijpers et al., 2011; Donker et al., 2013), there is a limited amount of empirical data to demonstrate whether online versions of IPT could be

applied to broader populations. From the small selection of studies available, a mobile phone adaptation of IPT was found to demonstrate significant improvements on a scale of social anxiety ( $d = 0.43$ ). However, the mobile version of Cognitive Behavioural Therapy (mCBT) performed significantly better (between group  $d = 0.64$ ) (Dagöo et al., 2014). Although the results are interpreted with caution, the authors concluded that CBT provides more psychoeducation information regarding social anxiety when compared with IPT, which may have led to overall improvement (Dagöo et al., 2014). A randomised controlled trial examining IPT and CBT found that younger people appeared to prefer IPT to the CBT-based intervention with the study indicating that internet delivered self-guided IPT is effective in reducing depressive symptoms ( $d = 0.76$ ) (Donker et al., 2013). The high responsiveness from a younger age group may be related to a higher level of perceived interpersonal conflict during adolescence and emerging adulthood, which aligns with the key IPT treatment modalities (Donker et al., 2013; Tang, Jou, Ko, Huang, & Yen, 2009). There appears to be an opportunity to demonstrate the potential efficacy of an IPT-based online intervention for separated individuals that reduces cost and accessibility barriers and focuses on key areas of adjustment.

There are many advantages to internet interventions, when compared with face-to-face intervention, including reduction of overall costs, maintenance of program fidelity through automation, simplification of outcome and progress monitoring and the fact that interactivity and visual attractiveness may increase adherence (Calear & Christensen, 2010; Khanna, Aschenbrand, & Kendall, 2007). However, the lack of portability, restricted delivery and expected levels of high literacy can be perceived as barriers to facilitating widespread use (Turner-McGrievy et al., 2009). Further, an issue with adherence to treatment may also stem from the lack of human contact, with patterns of lower compliance identified with online self-

directed interventions (Newman, Szkodny, Llera, & Przeworski, 2011). New technologies including Skype or Voice over Internet Protocol (VoIP) have offered therapists a wider variety of options for distal contact with clients, but this type of intervention is difficult to deliver at scale (Newman et al., 2011). A gap in service delivery exists which suggests that people may prefer a level of engagement and rapport with a health care provider but also be able to have the time and space to work through an intervention on their own terms. To further address the gap in terms of population reach, the use of audio podcasts might offer a novel solution, providing users with a sense of human contact using a highly scalable format.

## **1.2. The present study**

### **1.2.1. Aims**

The area of relationship separation research, while broad, has tended to focus on divorce, forgiveness and adjustment, with less emphasis on health outcomes. There exists a paucity of research that explores the relationship between suicidality and separation and even less focusing on accessible interventions for separated individuals. To date, no intervention has explored suicidality as an outcome for a separation intervention (Kazan et al., 2017). With relationship separation being a seminal life event for a significant proportion of the population, there exists a need to develop intervention strategies that will support people who have experienced a relationship separation and are at risk of developing suicidal thoughts and/or behaviours. The program of work described in this thesis primarily aimed to:

1. Identify and synthesise existing evidence on the impact and influence of intimate partner relationships on suicidality, specifically how relationship separation contributes to suicidality.

2. Measure and explore psychosocial and relationship factors that are associated with suicidal ideation and suicide attempts in a large sample of separated Australian adults.
3. Examine existing relationship separation interventions, focusing on mental health and suicide prevention outcomes.
4. Determine the feasibility and effectiveness of a new web-based, audio podcast intervention based on IPT-B to improve adjustment for adults who have recently separated from an intimate partner relationship.

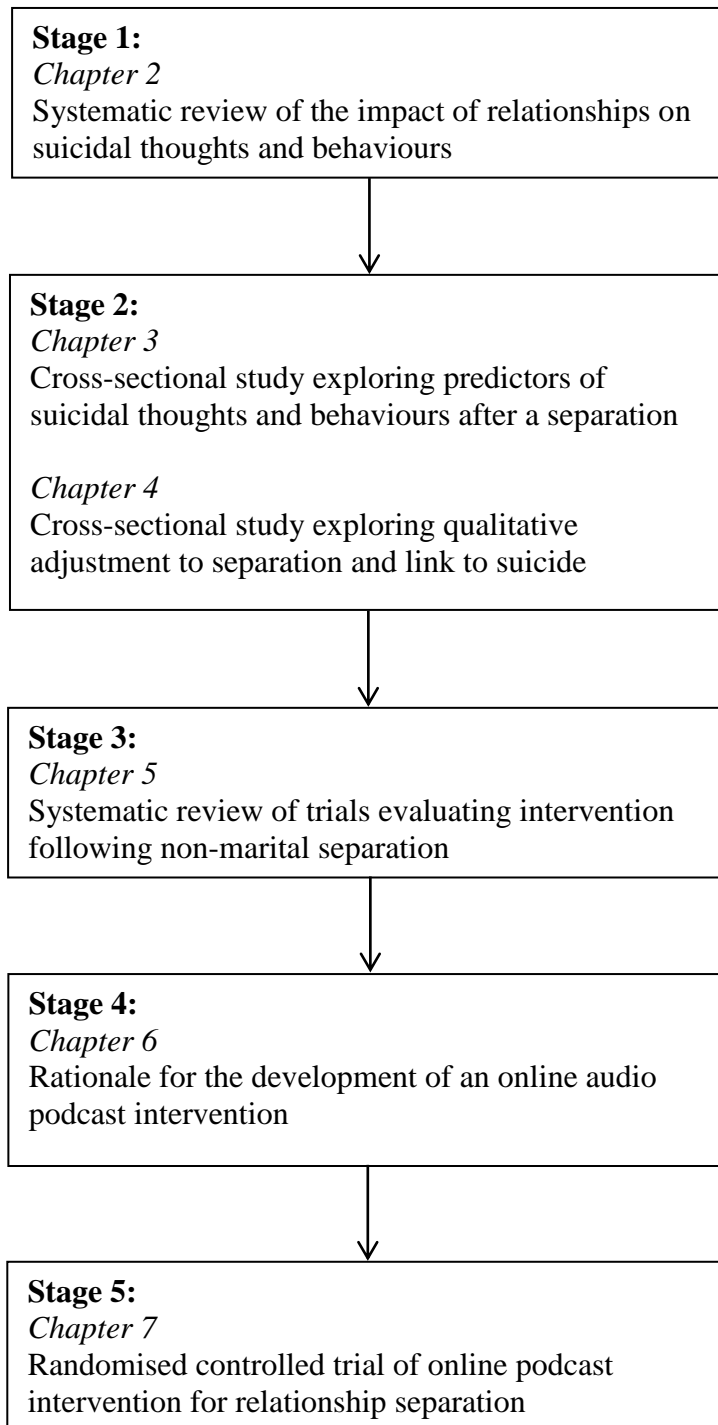
The current study will be the first to explore the applicability of a brief version of IPT in targeting the constructs of thwarted belongingness and perceived burdensomeness to reduce suicidal ideation in a separated population.

### **1.2.2. Structure of the thesis**

A mixed methods approach was utilised in the compilation of this thesis including two systematic reviews focusing on existing publications and qualitative and quantitative primary research. The structure of this thesis is presented in Figure 1.3. Following the introduction (Chapter 1), the thesis explores the impact of intimate partner relationships on suicidal thoughts and behaviours through a systematic review of existing literature (Chapter 2). Next, a cross-sectional survey was developed and implemented, with the following chapter exploring factors predicting suicidal thoughts and behaviours following a relationship separation (Chapter 3). Chapter 4 analyses the qualitative data generated by the cross-sectional survey and examines adjustment following a relationship separation and its link to suicidality. Considering the findings derived from the initial review and cross-sectional results, the following chapter uses a systematic approach to highlight the lack of available interventions for individuals separated from a non-marital relationship (Chapter 5). Informed by the systematic reviews and cross-sectional data, Chapter 6 chronicles

the rationale behind the development of an online mental health intervention using IPT-B and podcast audio technology. Chapter 7 investigates the effectiveness of this web-based, audio podcast intervention to improve adjustment for Australian adults who have recently separated from an intimate partner relationship. This chapter also outlines the effects of the intervention on primary outcomes (suicidal ideation and depression), as well as secondary outcomes (interpersonal needs, benefit finding, adjustment, and attitudes toward professional help-seeking). The final chapter (Chapter 8) provides a synthesis of the thesis findings. Limitations and directions for future research are also explored.





**Figure 1.3. Stages of the thesis project**



## **Chapter 2. The impact of intimate partner relationships on suicidal thoughts and behaviours: A systematic review**

### **2.1. Introduction**

Intimate partner relationships are an integral factor in the lives of many individuals, influencing the dynamic interplay between individual mental health and overall well-being (Whisman & Baucom, 2012). Just below half (48.1%) of the Australian population, aged 15 years and older, are married (ABS, 2016b) while the proportion of persons cohabiting has increased progressively from 6% in 1986 to 16% in 2011 (Australian Institute of Family Studies [AIFS], 2014). For Australian adults aged 18 and over, 84% have had at least one intimate partner relationship (ABS, 2009) The United States of America reported a marriage rate of 6.9 per 1000 and a divorce rate of 3.2 per 1000 in 2014 (CDC, 2014), with an increase of 14% in the rate of cohabitation since 1995 to 2010 (Copen, Daniels, Vespa, & Mosher, 2012). In comparison, demographic data for the European Union shows that there has been a decline in the crude marriage rate, while the number of divorces has increased (Eurostat, 2014). Further, the proportion of births outside of marriage has increased across the European Union with an approximate 12% increase in births since 2000 (Eurostat, 2014). Although it is clear that trends in couple formation have changed dramatically over the twentieth century, the constant nature of the formation and dissolution of intimate partner relationships is a perpetual feature in the community landscape.

The purported association between suicidality and intimate partner relationships is grounded in empirical research that documents the influence of relationship factors on suicidality. For instance, studies have shown that low quality intimate partner relationships (Arcel, Mantonakis, Petersson, Jemos, & Kaliteraki,

1992), interpersonal conflict (Choi et al., 2013) and separation and/or divorce (Wyder et al., 2009) are common precipitating factors to suicide.

Researchers have increasingly found that spouse or partner negative life events contribute significantly to suicidality (Bagge et al., 2013). Specifically, the effect of a relationship separation has been shown to have a significant increase in suicidal ideation and plans and/or attempts in the two years following separation (Batterham et al., 2014), with the risk particularly high for males aged 15 to 24 years (Wyder et al., 2009). These results are significant as the divorce rate in Australia is highest in the under 30 age group for both men and women (Weston & Qu, 2013), comparatively the average age for a first divorce in America is 30 years (Copen et al., 2012).

The influence that a positive intimate partner relationship has on reciprocal mental health states can be significant. Studies have demonstrated that marital quality is positively associated with subjective well-being (Carr, Freedman, Cornman, & Schwarz, 2014), and that positive romantic relationships influence physical health (Robles & Kiecolt-Glaser, 2003) and can be psychologically protective (Bookwala & Schulz, 1996; Markey, Markey, & Gray, 2007). However, relationship discord is associated with the onset or maintenance of mental health problems, including depression (Whisman & Uebelacker, 2009) and subsequently poorer treatment outcomes (Whisman, 2013).

### **2.1.1. Aims and scope of this study**

Several systematic reviews have been conducted to investigate specific elements of intimate partner relationships that are associated with suicidality, including intimate partner violence and abuse (Devries et al., 2013; McLaughlin, O'Carroll, & O'Connor, 2012) and separation (Ide et al., 2010). No review, however, has focused more broadly on intimate partner relationships and their influence on

suicidality. The current systematic review aims to identify the factors within intimate partner relationships that influence suicidal ideation, attempts and completion.

Potential differences in gender, age and relationship status will also be explored. This review aims to assist in identifying gaps in the research literature and isolate potential targets for suicide prevention research in this area.

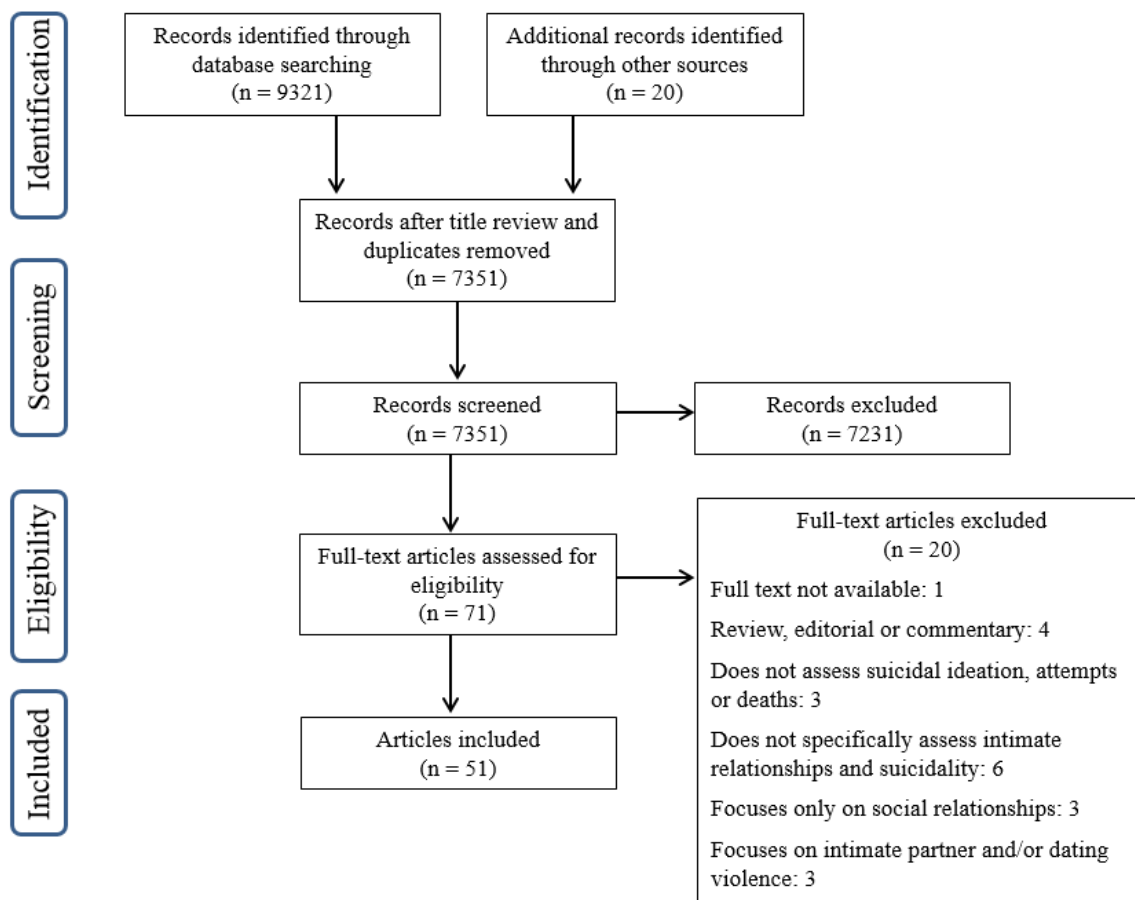
For the purpose of this review, a broad definition of intimate partner relationships was adopted to capture the multifaceted nature of these relationships. As such, an intimate partner relationship is defined as: An interpersonal relationship between heterosexual and same-sex spouses, girlfriends or boyfriends (current and former) which involves physical or emotional intimacy.

## **2.2. Method**

### **2.2.1. Search and screening procedures**

A systematic review of the literature was conducted to identify published studies that explore intimate partner relationships in the context of suicidality. Scopus, PubMed and PsycINFO databases were electronically searched, up to October 2014, with one or more of the following sets of terms: (i) partner relationship or intimate relationship or personal relationship or romantic relationship or dating AND suicid\*; (ii) marriage or marital or divorce or separ\* or relationship breakup or spouse AND suicid\*; (iii) love or relationship disruption or relationship difficult\* or relationship problem\* AND suicid\*. The titles and abstracts of the 9321 articles initially identified by these searches were screened by the author (DK) to determine their relevance to the review. Completely irrelevant articles that were unrelated to the topic of this review (i.e., that did not discuss intimate partner relationships or suicide) were excluded at this stage, while relevant studies and reviews were retained, and the full-text article examined. Additional articles were

obtained from reference list searches. Figure 2.1 presents a flowchart detailing the review process.



**Figure 2.1. PRISMA flow diagram**

### 2.2.2. Study selection

The inclusion criteria for the current review included (i) measurement of intimate partner relationship factors (i.e., separation, conflict, and/or quality); (ii) measure of suicidal behaviours (ideation, plan, attempt and/or completion); (iii) tested the association between intimate partner relationships and suicidality; and (iv) the article was published in a peer-reviewed English language journal. Articles exploring intimate partner abuse and violence were excluded from the current review due to the recency of two systematic reviews (Devries et al., 2013; McLaughlin et al., 2012) explicitly exploring the relationship between these two factors. Articles were also excluded if intimate partner relationships were not distinguished from

other general types of relationships (e.g., family, social or professional). Studies that fulfilled the inclusion criteria were coded by the author and one of three independent reviewers, with all relevant data collected and recorded.

### **2.3. Results**

Overall, 51 empirical studies were identified that fulfilled the inclusion criteria. Of these, 18 (35%) were retrospective studies, 15 (29%) were cross-sectional, five (10%) were qualitative, five (10%) were longitudinal or prospective and eight (16%) were case control or case crossover studies (see Tables 2.1, 2.2, 2.3, 2.4, and 2.5). Due to the heterogeneity among the included studies, analysis of the data was completed in the form of a narrative synthesis. This approach is considered appropriate for synthesizing the results of studies with disparate study designs and aims (Hilari, Needle, & Harrison, 2012; Popay et al., 2006). The themes were extracted according to key words used to describe the measure of relationship factors located within the reviewed articles. The themes were ordered to depict the progression of relationship factors found to contribute to suicidality.

**Table 2.1. Retrospective studies of intimate partner relationships and suicidality**

<b>Author (published year) Nation</b>	<b>Participants and settings</b>	<b>Size</b>	<b>Age % female</b>	<b>Intimate partner relationship</b>	<b>Measure of relationship factors</b>	<b>Measure of suicidality</b>	<b>Results</b>
Busuttil et al. (1994) UK (Scotland)	Community	79	19-74 10.1%	Married, de facto	Quality, conflict	Suicide death	Psychiatric illness (30.7%), problems in marriage or relationships (28.2%) and financial difficulties (16.7%) were the major factors associated with suicide death.
Canetto et al. (2002) USA	Community (suicide letter)	56	Males: <i>M</i> =30.4 Female: <i>M</i> =36.6 25%	Not specified	Conflict, separation, quality	Suicide death	Love themes were significantly more common in suicide notes than achievement themes, independent of sex and age.
Cantor et al. (1995) Australia	Community	1375	15-55+ 21.2%	Married, de facto, widowed	Separation	Suicide death	Separated males were six times more likely to suicide, and this was greater in younger age groups. In the divorce phase both male and female rates were similarly elevated. Males may be particularly vulnerable to suicide associated with interpersonal conflict in the separation phase.
Chia et al (2008) Singapore	Community	1721	Letter: <i>M</i> =40.8 <i>SD</i> =16.4 35%	Married and widowed	Separation, conflict	Suicide death	Relationship problems in the age group 10-24 years were mainly between family members. In the age group 25-59 years, marital problems were more common, often associated with social problems or infidelity.



Author (published year) Nation	Participants and settings	Size	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
Cupina (2009) New Zealand	Community (retrospective)	70	18-65 <i>M</i> =39.1 <i>SD</i> =12.3 51.4%	Not specified	Separation, conflict	Self-report	For 86% of women and 85% of men, separation from their partners and relationship conflicts were the main stressors precipitating suicidal behaviours. No gender differences in suicidal behaviours.
Davis et al. (2009) USA	Community (suicide letter)	53 (USA) 264 (AUS)	Not specified	Married, widowed, de facto	Quality	Suicide death	Those under age 30 were almost twice as likely to die by suicide in response to perceived relationship inequity, whereas those over 65 seldom mentioned relationship inequities as a reason for dying by suicide. Relationship based suicides were the highest among those who were either separated or divorced.
Heikkinen et al. (1992)a Finland	Community	400	Not specified 21%	Dating, de facto, married	Separation	Suicide death	Separation during the preceding three months was the life event most often perceived as precipitating the suicide. In 68% these cases, the partners also rated it as a precipitant. When death and/or separation were condensed into a broader category of interpersonal loss, men had more often encountered such losses during the last three months.
Heikkinen et al. (1992)b Finland	Community	388	Not specified 21.4%	Dating, de facto, married	Separation, conflict	Suicide death	Interpersonal losses and conflicts were regarded as precipitant stressors during the lifetime of 40% of male and 35% of female suicides. Separation and interpersonal discord, were more commonly judged to be precipitant

Author (published year) Nation	Participants and settings	Size	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
							stressors for younger men than older men whereas, no significant age differences were found in these stressors among women.
Kaplan et al. (2012) USA	Veterans	8440	18-65+ 0%	Married, single	Conflict	Suicide death	Nearly one of every two younger veteran suicide decedents (18 - 34 years) experienced relationship problems shortly before death. By contrast, older veteran decedents were more likely to have had health problems.
Karch et al. (2013) USA	Community	1046	10-17 24.8%	Dating	Conflict	Suicide death	Intimate partner problems were evident for more than 25% of decedents. However, intimate partner problems were not significantly associated circumstances of suicide.
Kurtaş et al. (2012) Turkey	Community (suicide letter)	51	16-72 <i>M</i> =29.9 <i>SD</i> =13.6 45.1%	Dating, de facto, married, widowed	Separation, conflict	Suicide death	The most common event was separation from a spouse or a lover, being cheated on or disagreement (25.5%). In letters written by males, suicide was mostly related to financial problems, while for women it related to interpersonal relationship problems with a spouse or boyfriend.
Lester et al. (2004) Australia	Community (suicide letter)	262	<i>M</i> =41.9 <i>SD</i> =17.3 25.2%	Not specified	Not specified	Suicide death	Men more often had love/romantic problems. Women were significantly more likely to have escape from unbearable pain as a motive in their suicides. The suicides of older persons were more often motivated by escape

Author (published year) Nation	Participants and settings	Size	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
							from pain and less often had love/romantic problems.
Logan et al. (2011) USA	Community	28703	Not specified	Intimate partner	Conflict	Suicide death	Many decedents had a recent crisis with interpersonal or other relationship problems in the absence of having known mental health conditions, as indicated by classes 7 (criminal legal crises) and 8 (interpersonal crises). Further, class 7 had the highest proportion of decedents younger than 20 years.
Martin et al. (2013) USA	Community	100	19-59 <i>M</i> =31.6 <i>SD</i> =8.4 6%	Married, divorced, single	Conflict, separation, infidelity	SDIT	In the 24 hours prior to suicide 34% experienced the end of a romantic relationship, 31% an argument with spouse, 17% argument with a significant other, 9% infidelity of a spouse, 5% infidelity of the decedent and 2% physical fight with the spouse. The odds that a decedent had interpersonal conflict in the 24 hours prior to death were over twice as high among married individuals.
Séguin et al. (2014) Canada	Community	214	<i>M</i> =37 15%	Married, de facto, divorced, single	Separation	Suicide death	Individuals in one trajectory (high adversity, died earlier) were more likely to have ended a love relationship than those in another trajectory (lower burden of adversity).
Shiner et al. (2009) UK	Community	100	<i>M</i> =46 20%	Married, de facto, divorced, single	Separation	Suicide death	Relationship breakdown commonly occurs prior to suicide and is often a trigger. But it has a lesser impact on older adults and women than on younger

Author (published year) Nation	Participants and settings	Size	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
							adults/men.
Runyan et al. (2003) USA	Community	882	15-89 <i>M</i> =41 100%	Married, separated/divorced, widowed, single	Conflict	Suicide death	Being involved in interpersonal conflict was noted in 17.7% of cases overall, and 33.6% of cases among women aged 15–24 years. In addition, interpersonal conflict was the second most common precursor noted by law enforcement officers (37.8%) for all the cases.
Wyder et al. (2009) Australia	Community	6062	15-65+ Not specified	De facto, married	Separation	Suicide death	For both males and females' separation created a risk of suicide at least four times higher than any other marital status. The risk was particularly high for males aged 15 to 24.

*Notes.* *M* = mean; *SD* = standard deviation; SDIT = Suicide Death Investigation Template

**Table 2.2. Cross-sectional studies of intimate partner relationships and suicidality**

<b>Author (published year) Nation</b>	<b>Participants and settings</b>	<b>Size</b>	<b>Age % female</b>	<b>Intimate partner relationship</b>	<b>Measure of relationship factors</b>	<b>Measure of suicidality</b>	<b>Results</b>
Arcel et al. (1992) Greece and Denmark	Inpatient	56	15-45 100%	Married and steady relationships	Quality	Self-report	Quality of the intimate relationships was very low. A socially and emotionally grounded inability to leave resulted in a suicide attempt.
Bonnar et al. (1977) USA	Community	44	N/A 50%	Married	MCI	Self-report	Quality of interpersonal communication between spouses significantly deteriorated across the groups as the degree of suicidal behaviour increased.
Canetto et al. (1989) USA	Inpatient	21	20-68 71%	Married and de-facto	MCI	SCL-90 and self- report	Perceived communication was significantly more dysfunctional than that of the normative sample.
Choi et al. (2013) Singapore	Inpatient	228	1 <sup>st</sup> attempt (64.9%): 45.3 years Multi attempt: (35.1%) 36.7 years	Married, divorced, separated, single and widowed	Conflict	BERSA	53.6% of first attempters and 69.1% of multi-attempters reported interpersonal conflict/stress as a significant precipitating event to their suicide attempt. Conflicting interpersonal relationships were a significant predictor to multiple suicide attempts.
Edwards et al. (1981) India	Inpatient	100	<i>M</i> =24.4 11-60 75%	Married, dating	Conflict, dispute	Self-report	One of the major precipitants of parasuicide, and found in all cases, was an interpersonal dispute. This involved marital or romantic relationships in 81 of the cases.

Author (published year) Nation	Participants and settings	Size	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
Fieldsend et al. (1981) UK	Inpatient	103	N/A 81%	Married, de-facto, separated divorced, widowed	Separation, quarrels	Self-report	Quarrels were the most common key person event (35%) with a two-fold frequency difference between men and women (M 20% and F 39%). Separations were less common but were more frequent in men (M 25% and F5%).
Haw et al. (2008)	Inpatient	4391	15-55+ 53%	Not specified	Conflict	SIS	The most frequent life problem reported was the relationship with spouse or partner.
Hyman et al. (2012) USA	Military (active duty)	Not specified	0%	Married, divorced	Separation, divorce	Self-report, suicide death	Separation or divorce showed consistent association with suicide across active duty personnel.
Krajnc et al. (1998) Slovenia	Inpatient	374	9 – 18 89.5%	Dating	Separation	Self-report	21% of all participants ascribed an attempted suicide to disappointments, such as being abandoned by a boyfriend or falling in love with the wrong person.
Lorensini et al. (2002) Australia	Inpatient	130	N/A 55%	Married, de-facto, separated divorced, widowed	Separation, conflict and quality	Self-report	The threat of or actual separation was the most frequent reason given for their suicide attempt for both men and women (38.4%). The second most frequent reason was partner conflict (24.6%).
Mandal et al. (2012) Poland	Inpatient	35	<i>M</i> =36.2 <i>SD</i> =9.88 100%	Married, single, divorced, widowed	Attachment Style Test	Self-report	The least frequently signalled type of difficulty was conflicts between partners of a strong, but emotionally stormy relationship (8.57%).
Osvath et al. (2004)	Inpatient	101	17-75	Married, de-facto,	Conflict and quality	Self-report	The most reported traumatic life event preceding suicide was 'relationship

Author (published year) Nation	Participants and settings	Size	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
WHO/EURO			$M=33.4$ $SD=12.6$ 62%	separated divorced, widowed			problems and conflicts' (94. 1%).The majority of adult participants had serious marital conflicts with 61.4% of participants reporting 'relationship problems' and 38.6% reporting 'divorce' as 'the most stressful event'.
Soller (2014) USA	Inpatient	5316	$M=15.9$ $SD=1.5$ 54.6%	Dating	Quality and relationship inauthenticity	Self-report	Relationship inauthenticity was associated with greater ideation and attempts for females only. Having an ongoing relationship reduced ideation and attempts in females only.
Whisman et al. (2006) USA	Inpatient	2677	15-54 $M=53.9$ $SD=8.84$ 53.9%	Married, de- facto	Quality (relationship discord)	Self-report	Participants with relationship discord had significantly higher rates of suicidal ideation. However, the association between discord and suicidal ideation was not significant when controlled for a psychiatric disorder.
Weyrauch et al. (2001) USA	Inpatient	99	16-76 $M=33.2$ $SD=10.7$ 40%	Married, de- facto, dating	Life Stressors/Precipitants Score Sheet	SIS, The Risk Rescue Rating Scale	Most common type of interpersonal conflict was with a boyfriend, girlfriend, or spouse (47%). Three or more interpersonal losses were associated with less impulsive suicide attempts. The pattern was not gender specific, nor was it associated.

Notes.  $M$  = mean;  $SD$  = standard deviation; MCI = Marital Communication Inventory; BERSA = Brief Emergency Room Suicide Risk Assessment; SCL-90 = Symptom Check List-90; SIS = Suicide Intent Scale.

**Table 2.3. Qualitative studies of intimate partner relationships and suicidality**

<b>Author (published year) Nation</b>	<b>Participants and settings</b>	<b>Sample Size</b>	<b>Age % female</b>	<b>Intimate partner relationship</b>	<b>Measure of relationship factors</b>	<b>Measure of suicidality</b>	<b>Results</b>
Barber et al. (2004) Australia	Community	409	15-64 49.9%	Not specified	Separation, quality	Lifeline Australia Record for a Suicide Call Checklist	Young males (under 35 years) were around 75% more likely to report relationship breakdown as the cause of their suicidal ideation than were young females. The vast majority of suicide callers expressed dissatisfaction with the quality of their intimate relationships.
Keyvanara et al. (2010) Iran	Inpatient	50	15-46 100%	Married and dating	Separation, conflict	Self-report	Conflict between marital partners emerged as a prominent theme in the reasons for attempting suicide. Failure in premarital relationships appeared to be one of the triggers of attempting suicide among women in Iran.
Keyvanara et al. (2011) Iran	Inpatient	25	14-17 64%	Dating	Separation, conflict	Self-report	Participants expressed difficulties in love as their main reason for attempting suicide.
Stephens (1985) USA	Community	50	18-63 <i>M</i> =34 100%	Dating, de-facto and married	Separation, conflict, quality	Self-report	Four major themes dominated the relationships of the women interviewed and contributed significantly to suicidal behaviour: smothering love, infidelity, partner violence and denial of affection.
Tavite et al. (2009) Tokelau Islands	Community	142	15-45 68%	Married, de- facto, divorced, separated, widowed	Separation, conflict, quality	Self-report	Self-reported reasons for suicide attempts and ideation included marriage breakdown, affairs/betrayals and lack of spousal support.

Notes. *M* = mean.



**Table 2.4. Longitudinal and prospective studies of intimate partner relationships and suicidality**

Author (published year) Nation	Participants and settings	Sample Size	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
Batterham et al. (2014) Australia	Community	6616	24-68 52.2%	Married, de facto	Separation	PSF	The effects of separation were strongest soon after separation, with a nearly three-fold increase in ideation and an eight-fold increase in plans/attempts in the two years following separation. Effects were modified by age, gender or parental status.
Daradkeh et al. (1988) Saudi Arabia	Inpatient	33	<i>M</i> =24 72.7%	Married, widowed, divorced, single	Disordered interpersonal relationships	Self-report	Disordered interpersonal relationships between the patients and significant others such as spouses and parents stand out prominently as a precipitating factor in suicidal behaviour.
Hawton et al. (1988) UK	Inpatient	1959	10-60+ 67%	Not specified	Separation, conflict	Self-report	Recent disruption of a relationship with a partner was rare in the suicide groups, as was a major row during the period immediately preceding the index attempt. However, evidence of disruption in the relationship with a partner during the previous year was age-related, having occurred more often in younger subjects.
Sandberg-Thoma et al. (2014) USA	School	14146	<i>M</i> =21.7 <i>SD</i> =1.83 Wave 3 46%	Dating, de facto, married	Romantic relationships	Self-report	Adolescent suicidal ideation was not significantly associated with the number of romantic relationships in emerging adulthood. Suicidal ideation significantly decreased the likelihood of dissolution of cohabitation.

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Kölves et al. (2012) Australia	Community	217	Males: <i>M</i> =44.7 Female: <i>M</i> =38.9 40.1%	Married, de- facto	Relationship Breakdown and Stressor Questionnaire	Self-report	Separated males who showed an increase or stability in suicidality were more affected by stressful experiences than males who were not suicidal in either assessment. In both genders, suicidal behaviour was higher during the acute phase of separation and decreased significantly during the 6-month follow-up.
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*Notes.* *M* = mean; *SD* = standard deviation; PSF = Psychiatric Symptom Frequency Scale

**Table 2.5. Case-control and case crossover studies of intimate partner relationships and suicidality**

<b>Author (published year) Nation</b>	<b>Participants and settings</b>	<b>Age % female</b>	<b>Intimate partner relationship</b>	<b>Measure of relationship factors</b>	<b>Measure of suicidality</b>	<b>Results</b>
Beautrais et al. (1997) New Zealand	129 suicide attempts admitted to hospital (153 randomly selected community controls)	13-24 <i>M</i> =19.4 <i>SD</i> =3.0 54.3%	Dating	List of Threatening Experiences	Self-report	With cases restricted to those aged 18 and older, using self-report data, odds of serious suicide attempt were elevated for those reporting interpersonal issues.
Brent et al. (1993) USA	67 families of suicide victims (decedents). 67 matched community controls.	<i>M</i> =17.1 <i>SD</i> =1.9 85.1%	Dating	Interpersonal discord, loss	Suicide death	In the year before death, suicide completers were significantly more likely to have experienced interpersonal conflict with boy/girlfriends (30.3% compared to 16.7% of controls) or disruption of a romantic attachment (40% compared to 20% of controls).
Houston et al. (2001) UK	27 subjects whose deaths received a verdict of suicide or undetermined cause. 22 male self-harm control group subjects.	15-24 13.5%	Dating	Separation, conflict	Suicide death	A substantial proportion of participants reported disruption in the relationship with a partner as an influence on suicide (44.4%). The most frequent precipitants within the week prior to death were difficulties in, or the end of, a relationship.

Author (published year) Nation	Participants and settings	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
Kölves et al. (2011) Australia	228 males (study group) and 142 females (control group 1) who were separated in the previous 18-months and 174 males who were married/ de facto or single (control group 2)	M (228) $M=43.3$ $SD=10.0$	Separation	The Relationship Breakdown Stressor Questionnaire	Paykel Suicide Items	The correlation between state shame and suicidality was significantly lower for separated females compared with separated males. Separated males were more vulnerable to the experience of state shame in the context of separation, which might lead to the development of suicidality.
Paykel et al. (1975) USA	53 suicide attempts (hospital admission), 53 depression and 53 community participants	18-65 70%	Married, separated/divorced/widowed	Conflict	Self-report	The frequency of 'serious arguments with spouse' was reported significantly more by suicide attempters compared with the general population and individuals with depression.
Zhang et al. (2012) China	392 suicide cases (decedents) and 416 community living controls of the same age range and from the same counties were	15-34 Suicide: 45.4% Control: 51.4%	Dating, de-facto and married	Paykel's Interview for Recent Life Events	Suicide death	Marriage/love (51.3%) life events were most commonly reported for both suicides and community living controls. For suicide victims, the most frequent item in the marriage/love item was 'quarrelling with partner (22.2%)'.

Author (published year) Nation	Participants and settings	Age % female	Intimate partner relationship	Measure of relationship factors	Measure of suicidality	Results
	entered for study					
Skerrett et al. (2014) Australia	35 gay, bisexual and transgender suicide cases were identified from the Queensland Suicide Register. Three comparison cases of non- LGBT suicides for each LGBT suicide were matched.	$M=36.7$ 28%	Same-sex dating, de facto	Separation, conflict	Suicide death	In terms of relationship problems overall, LGBT individuals experienced such problems in most of the cases (65.7%) compared with exactly one-third in comparison cases. Within the category of relationship problems, relationship conflict was significantly more common in LGBT than in non-LGBT cases.
<b>Case Crossover</b>						
Bagge et al. (2013) USA	Inpatient	110  $M=36.39$ $SD=11.3$ 59%	18-64 Spouse, partner	Negative life event	SIS	An interpersonal NLE was uniquely related to a suicide attempt when controlling for a non- interpersonal NLE. However, only a spouse/partner NLE uniquely predicted suicide attempts when controlling for other specific NLE categories.

Notes.  $M$  = mean;  $SD$  = standard deviation; SIS = Suicide Intent Scale; NLE = Negative Life Event.

### 2.3.1. Quality

From the outset of a relationship, the perceived level of relational quality will influence all facets of intimate interaction. Although the concept of 'quality' is difficult to define within the broad context of intimate partner relationships, the studies identified highlighted inequity, lack of perceived authenticity, poor communication and overall low quality as indicators for suicidal thoughts, behaviours and completion.

Reporting on suicide death, Davis, Callanan, Lester, & Haines(2009) found that people under 30 years were almost twice as likely to die by suicide in response to a perceived relationship inequity (i.e., the unequal contribution made to the relationship by each person), compared to those over 65 years who seldom mentioned relationship inequity as a reason for completing suicide. Canetto and Lester (2002) also found that love themes were significantly more common within suicide letters compared to achievement motives, independent of sex and age.

Soller (2014) reported that perceived relationship authenticity (incongruence between thoughts, feelings and actions within relational contexts) was associated with greater ideation and attempts, but only for females. He argued that the verification of interpersonal relationships has a heightened salience within the female role-identity, significantly influencing mental health. Also analysing a younger cohort, Sandberg-Thoma and Kamp Dush (2014) reported that adolescent suicidal ideation was not significantly associated with the number of romantic relationships in adulthood. Interestingly, participants who had initially reported suicidal ideation had a significantly decreased likelihood of future dissolution of cohabitation (Sandberg-Thoma & Kamp Dush, 2014). However, this study did not prospectively examine the quality of relationships or separation on later suicidal behaviours.

A specific factor pertinent to relationship quality was interpersonal communication between partners. Bonnar & McGee (1977) reported that the overall quality of interpersonal communication between spouses significantly contributed to the degree of suicidal behaviours. They observed that as the quality of interpersonal communication between spouses deteriorated (as perceived by the couple), the degree of suicidal behaviour increased (Bonnar & McGee, 1977). In support of this finding, Canetto, Feldman, & Lupei (1989) also reported 'moderate to severely' dysfunctional communication occurring in couples where a partner had identified high risk suicidal thoughts and/or behaviours. They argue that a lack of positive communication leads to an adoption of rigid defensive roles within the relationship, with suicidal behaviour occurring as a response to a series of interpersonal events (Canetto et al., 1989).

Overall poor or low quality intimate partner relationships were identified as a predominant factor in the suicide attempts of women hospitalised in Greece and Denmark (Arcel et al., 1992). Low quality was characterised by a high degree of psychological and physical violence, creating a sense of entrapment fuelled by shame, and ultimately leading to a suicide attempt as a means of escape (Arcel et al., 1992).

### **2.3.2. Relationship problems**

Problems in the context of an intimate partner relationship can focus on an issue that is difficult to deal with and often a source of concern. Intrinsically linked with poor quality relationships, tangible relationship problems (i.e., infidelity, rejection and abandonment) appear to manifest over time and may be perceived as insurmountable by partners in the relationship.

Problems in a marriage or relationship were a major risk factor associated with suicide death within a number of retrospective studies (Busuttil, Obafunwa,

& Ahmed, 1994; Logan, Hall, & Karch, 2011). Kurtaş et al. (2012) observed that suicide letters written by men focused on financial problems, while for women interpersonal relationship problems with a spouse or boyfriend were more dominant. However, the contrary was reported by Lester, Wood, Williams, & Haines (2004) who found that men more frequently reported love or romantic problems, whereas women were more likely to have “escape from unbearable pain” as a motive in their suicides (p. 34). They also found that older people were more often motivated by “escape from pain” than had love or romantic problems (Lester et al., 2004, p.34).

In terms of age, consistent associations between relationship problems and suicidal behaviour were reported. Although non-intimate partner relationship problems (e.g., one or both parents or friends) tended to play a significant role in suicidal behaviours among 10 to 24-year olds (Chia, Chia, & Tai, 2008; Karch, Logan, McDaniel, Floyd, & Vagi, 2013), disruption in the partner relationship was frequently reported as a common contributory antecedent to suicide death among 15 to 24 year olds (Houston, Hawton, & Shepperd, 2001). This finding was also culturally reflected in a sample of Iranian youth (14 to 17 years) who also expressed “difficulties in love” as their primary reason for attempting suicide (Keyvanara & Haghshenas, 2011, p.531). Further, relationship problems with a partner (Haw & Hawton, 2008) and chronic relationship difficulties with a spouse (Daradkeh & Al-Zayer, 1988) were reported as common contributory factors for individuals around the age of 25 years. Of the one study focusing on an all-male veteran sample, one out of every two younger (18 to 34 years) veteran suicide decedents experienced intimate partner relationship problems shortly before death (Kaplan, McFarland, Huguet, & Valenstein, 2012).

Osvath, Vörös, and Fekete (2004) reported that relationship problems and conflict with a partner were rated as the most common traumatic life event preceding



a suicide attempt (94.1%), outnumbering death and experience of losses (79.2%) and mental (77.2%) or physical abuse (65.3%). Tavite and Tavite (2009) examined social factors contributing to suicidality on the small territory of Tokelau (a territory of New Zealand with significant suicide rates) and found that self-reported relationship problems including “marriage breakdown, affairs/betrayals and lack of spousal support” contributed to suicidal ideation and subsequent attempts (p. 72). Themes such as smothering love, infidelity, partner violence and denial of affection also contributed significantly to suicidal behaviour in Stephens’ (1985) study. Stephens (1985) also observed that younger participants tended to react to specific events by attempting suicide, whereas the older participants were more likely to be responding to long-term conflicts with their partners.

Beautrais, Joyce, and Mulder(1997) reported that beyond antecedent social, family or personality factors, suicide attempts were elevated by interpersonal relationship problems experienced during the previous year. In fact, the study reported that population attributable risk (PAR) estimates suggested that a potential decrease of up to 23% of suicide risk could be achieved if interpersonal difficulties were resolved. Bagge et al. (2013) reported that only spouse/partner negative life events uniquely predicted suicide attempts when controlling for other specific negative life event categories. The study used a case crossover design to demonstrate that interpersonal negative life events are specific triggers for suicide attempts. More importantly, these results showed that interpersonal negative life events, involving a romantic partner, served as a trigger for engaging in suicidal behaviour for individuals not currently planning an attempt (Bagge et al., 2013).

### **2.3.3. Conflict**

Conflict featured as a predominant theme leading to suicidality within intimate partner relationships. Interpersonal conflict (Runyan, Moracco, Dulli,

&Butts, 2003), quarrels (Fieldsend & Lowenstein, 1981) and relationship discord (Whisman & Uebelacker, 2006) were identified as known risk factors for suicidal thoughts and behaviours. Conflict was often protracted and an experience of a build-up of problems within the intimate partnership.

Disruption in the partner relationship was frequently reported as a precipitating factor to suicide death (Houston et al., 2001), with participants categorising quarrelling with a partner (Zhang & Ma, 2012), interpersonal conflict with boy/girlfriends (Brent et al., 1993), and serious arguments with spouse (Paykel, Prusoff, & Myers, 1975) as significant precipitants of suicide death when compared with control groups. Interpersonal conflict was the second most common precursor to suicide death with conflict predominantly occurring between the victim and their current or former intimate partner (Runyan et al., 2003). With Martin et al. (2013) reporting the odds that a decedent had interpersonal conflict in the 24 hours prior to death were over twice as high among married individuals.

Interpersonal disputes as a major precipitant of parasuicide were found in all cases interviewed by Edwards, Cheetham, Naidoo, and Griffiths (1981), with intimate partner conflict more frequent in the week preceding the attempt (Weyrauch, Roy-Byrne, Katon, & Wilson, 2001). In addition, Paykel et al. (1975) reported that there was a marked peak of events in the month prior to the suicide attempt suggesting a particularly immediate link between event and reaction. Further, Brent et al. (1993) suggested that in the year before death, suicide completers were significantly more likely to have experienced interpersonal conflict or disruption of a romantic attachment compared to community controls. Findings of particular interest also included the report that conflicting interpersonal relationships were a significant predictor to multiple suicide attempts (Choi et al., 2013).

Mandal and Zalewska (2012) found that conflicts between partners of a “strong, but emotionally stormy relationship” were the least frequently signalled type of difficulty. However, the participants reported severe developmental trauma and adult experiences of intimate partner violence which could minimise the presence of relational conflict. Hawton and Fagg (1988) also reported that recent disruption of a relationship with a partner was rare in the suicide groups, as was a major row during the period immediately preceding the attempt. They further reported that physical health issues were more persistent and difficult to resolve, compared to relationship difficulties, and more often preceded a suicide attempt (Haw & Hawton, 2008). However, Hawton and Fagg (1988) did acknowledge that the evidence of disruption in the relationship with a partner was age-related and occurred more often in younger participants and more predominantly in males. In comparison, a study examining Iranian females aged 15 to 46 years also demonstrated that “conflict between marital partners” and “failure in premarital relationships” emerged as prominent themes in the reasoning for attempting suicide – irrespective of law and traditional values (Keyvanara & Haghshenas, 2010, p.777). Interestingly, only one study examined LGBT intimate partner relationships and suicidality. This study found that intimate partner relationship conflict was a significantly more common precipitant to suicide when compared to non-LGBT cases (Skerrett, Kølves, & De Leo, 2014).

#### **2.3.4. Separation**

Relationship separation featured as the most prominent factor contributing to increased suicidality across the review. The threat of, or actual, separation was the most frequent reason given for a suicide attempt among both genders (Lorensini & Bates, 2002) with Fieldsend and Lowenstein (1981) finding that separation, as a reason for suicide, was more frequent in men. Separation or divorce also showed consistent association with suicide across active duty personnel (Hyman, Ireland,

Frost, & Cottrell, 2012), with younger age samples also attributing the attempted suicide to disappointments such as “being abandoned by a boyfriend”(Schmidt Krajnc, Schmidt, Gregoric, & Dogsa, 1998). Furthermore, Weyrauch et al. (2001) reported that for all of their participants, a background of interpersonal loss and disruption occurred in the year preceding the suicide attempt. In Australia, the collection of data derived from calls made to a telephone counselling service showed that young males (under 35 years) were 75% more likely to report a relationship breakdown than were young females, with the majority of suicide calls pertaining to broken, strained or inadequate intimate relationships (Barber, Blackman, Talbot, & Saebel, 2004).

Additional findings of interest included studies exploring the specific impact of relationship separation on subsequent suicidality. Retrospective examination of patient files reported that for both women and men, separation from their partners was one of the main precipitants of suicidal behaviour (Cupina, 2009; Martin et al., 2013). Relationship separation was echoed as a critical precipitant to suicide death within the last three months prior to suicide (Heikkinen et al.,1992b) and if the participant experienced a high burden of adversity (Seguin, Beauchamp, Robert, DiMambro, & Turecki, 2014).

Of particular note, males were six times more likely to suicide following separation and were more vulnerable to experience associated interpersonal conflict during this phase (Cantor & Slater, 1995; Heikkinen et al., 1992b). Deceased males were reported to be of younger age (Heikkinen et al.,1992a; Shiner, Scourfield, Fincham, & Langer, 2009), with the risk particularly high for males aged 15 to 24 years (Wyder et al., 2009). Males more likely identified relationship breakdown as the main trigger, rather than as a contributory factor to suicide, whereas females were more evenly divided between these two categories (Shiner et al., 2009). Marriage

was reported as a protective factor in regard to suicidality (Cantor & Slater, 1995; Wyder et al., 2009), with divorced men also at a substantially higher risk of suicide, although this decreased with age (Wyder et al., 2009).

In terms of relationship separation, Batterham et al. (2014) reported that the effects of separation were strongest soon after the separation with nearly a three-fold increase in ideation and an eight-fold increase in plans/attempts in the two years following separation. Kőlves et al. (2012) echoed this finding reporting that the acute stage of marital/de facto separation increased the risk of developing suicidal behaviours. The period up to four years before a separation, when a relationship may be deteriorating, was also found to be a time of increased risk for suicidal thoughts and behaviours (Batterham et al., 2014). Furthermore, Batterham et al. (2014) observed that the “decrease of suicidal ideation and plans/attempts among individuals more distal from separation suggest that the process of separation likely precipitates elevated risk for suicidality, rather than being a consequence of suicidality” (p.62). Kőlves et al. (2012) also reported that males presented higher levels of suicidality than females following separation. They observed that males who identified as being more affected by stressful experiences, exhibited an increase in suicidality (Kőlves et al., 2012). In support of previous research regarding separation, Houston et al.(2001) reported that the most frequent precipitants within the week prior to death were difficulties in, or the end of a relationship. Separation or disruption of a romantic attachment was significantly more common for young adult suicide victims when compared to controls (Brent et al., 1993). Also, separated males at risk of developing suicidal thoughts and behaviours were found to be more susceptible to the experience of ‘state shame’ which focuses on shame relating directly to the separation (Kőlves et al., 2011).

## 2.4. Discussion

The importance of reviewing relationship factors in the context of suicidality was evident across a broad range of cultural contexts, clinical settings and retrospective studies. The review highlighted the pervasiveness of relationships issues, regardless of cultural or ethnic background, and the precipitant effect on suicidality. However, it is acknowledged that the reviewed evidence is not sufficiently robust to determine, with confidence, the factors that precede and predict suicide due to the limited number of prospective studies in the specified area.

The key findings from this review support the assertions made by existing systematic reviews examining suicidality and intimate partner abuse and violence. The associations between relationship separation and conflict, and suicidal ideation and/or behaviours, may be mediated by intimate partner violence with McLaughlin et al. (2012) reporting that irrespective of study design, there was a strong and consistent association between intimate partner abuse and suicidality. The findings that low-quality relationships characterised by conflict, problems and arguments contribute to an increased risk of suicidality, is more acutely evidenced by the fact that these factors can quickly create an environment of abuse and violence. The pervasive influence of low quality relationships can render an individual helpless and hopeless, exacerbating vulnerability, particularly in females, which may lead to an increased risk of overall suicidality.

It is difficult to conclude with certainty the differentiating risk factors that distinguish whether a partner will develop suicidal ideation or engage in a suicide attempt or completion. The presence of an intimate partner relationship, where two individuals with unique personal backgrounds share an intimate emotional and physical bond, can be argued to be a risk factor if other conditions are met, including trauma history, mental illness, personality and complex attachment patterns. This is

further complicated by past suicide history, the presence of intimate partner violence, social networks/support, socio-economic status, age, and sexual orientation. To place this information in context, the Diathesis Stress Model of Suicidal Behaviour (van Heeringen, 2012) can be applied to better formulate biological/genetic traits alongside environmental influences which may increase risk for suicidal behaviours. Yaseen, Fisher, Morales, and Galynker (2012) reported a positive association between “intense feelings of love, particularly in the absence of protective feelings of calm or positive self-view” and a resulting suicide attempt (p.7). The results suggesting that the interaction between internalised attachment representations, level of distress, and coping mechanisms are all important mechanisms in understanding the interplay between emotional reactivity to intimate partner events and suicidality (Yaseen et al., 2012). It also highlights the way in which a psychosocial crisis, such as a relationship separation, can be a contributing factor to suicidal behaviours, contingent on predispositional vulnerability.

Due to the rapid changes in composition and size of an individual’s social network following an intimate partner disruption, the Interpersonal Theory of Suicide is a useful theoretical framework to assess impact and suicide risk (Joiner, 2005; Van Orden et al., 2010). Poor relationship quality, increasing problems, chronic conflict and separation are all mechanisms which may exacerbate a lack of belongingness and self-blame which may lead to and/or intensify a sense of perceived burdensomeness and thwarted belongingness. Further, although more studies are needed to investigate intimate relationship quality as a predictor to suicide attempts, Choi et al. (2013) reported that conflicting interpersonal relationships were a significant predictor to multiple suicide attempts which may increase an individual’s acquired capability for suicide, leading to more lethal attempts and suicide death (Harris & Barraclough, 1997; Owens, Horrocks, & House, 2002). It is not news for

clinicians that multiple suicide attempts are the primary predictor of suicide completion. However, applying the Interpersonal Theory of Suicide to clinical practice may provide a framework for organising client data and may assist in identifying exacerbating factors.

The likely mechanisms through which intimate partner relationship issues contribute to suicide risk appears to be shaped by age, the nature of relationship problems, and time (including length of relationship and proximity to separation). Specifically, the review suggests that a younger cohort (under 35 years) tend to adopt a more impulsive reaction to relationship discord and partners of a separated relationship are also more likely to experience a sense of hopelessness which may lead to suicidality. These findings support research by Stack and Scourfield (2015) who reported that after controlling for psychiatric, social, and economic predictors of suicide completions, the odds of suicide increased by 60% one year after divorce, compared to a 30% increase for distal divorce. The prominence of relationship separation as a risk factor for suicide also supports findings from Ide et al. (2010) systematic review which asserts that the acute stage of separation and relationship difficulties in general are high risk factors for suicide. This provides a more distinct clinical focus on individuals who no longer identify as being part of a marriage and who have separated, divorced, or is single.

It is also worthwhile to consider that there is a possibility that the emergence of suicidality in a relationship might impact on quality or lead to conflict and/or separation, that is, a bidirectional effect may exist. However, Batterham et al. (2014) found that the association between separation and suicidality did not reflect a selection effect. They reported that following a period of time post-separation, suicidal ideation and behaviours decreased, emphasising that the process of separation precipitates elevated risk and was not solely as a result of existing



suicidality. Further, Sandberg-Thoma and Kamp Dush (2014) observed that individuals, who experienced suicidal ideation, also experienced a decrease in the likelihood of cohabitation dissolution, which suggests that the association between suicidal thoughts and behaviours may be unidirectional. Nevertheless, little additional research has evaluated the impact of suicidal thoughts and behaviours on the initiation, quality or maintenance of intimate partner relationships.

Associations between gender and relationship impact on suicidality were less clear, with the results inconsistently demonstrating gender differences. However, while more studies found males to be at a heightened risk of suicidal thoughts and behaviours following a recent separation compared to females, it is difficult to make the assertion that males are at an overall heightened risk of suicide as a result of broader relationship issues. The inconclusive gender finding supports a review conducted by Evans, Scourfield, and Moore (2014), who also stated that no definitive conclusion could be made regarding gender differentials in suicide risk following an intimate relationship breakdown.

Age appeared to influence the likelihood or emergence of suicidal thoughts and behaviours in response to relationship factors. Younger individuals tended to react to specific and more recent events involving partners, whereas older individuals were more likely to be responding to long-term partner conflicts (Stephens, 1985). Spousal relationship problems tended to become more prominent over the age of 25, with a distinct drop in relationship issues and suicidal ideation and behaviours after the age of 60 (Batterham et al., 2014; Davis et al., 2009; Shiner et al., 2009). As young people continue to develop mentally, physically and emotionally, coupled with a lack of relationship experience, a move toward suicidal thoughts and behaviours may be indicative of a lack of support mechanisms or under-developed problem-solving skills.

### **2.4.1. Mental health**

From the current review it is difficult to draw conclusions regarding the mediating relationship between mental health issues and relationship factors and their independent or interrelated influence on suicidality. The heterogeneous nature of the studies did not allow a consistent view to measure the strength of this relationship. However, research suggests that relationship functioning significantly impacts individual mental-health and overall well-being (Whisman & Baucom, 2012).

A number of the studies suggested that existing mental health issues play an integral role in the increased risk of suicidality with Kőlves et al. (2012) reporting an association between marital and de facto separation, mental illness and suicidality. Busuttill et al. (1994) reported that psychiatric illness accounted for 30.7% of the reasoning for suicide death, ahead of problems in marriage or relationships. Whisman and Uebelacker (2006) found that relationship discord was associated with elevated risk for mood and anxiety disorders and substance use disorders. However, when controlled for psychiatric disorders, the relationship between discord and suicidal ideation was not significant (Whisman & Uebelacker, 2006).

The idea that culminations of negative life stressors combine to either exacerbate existing mental illness or trigger new illness appears to be a contributory finding arising from this review. Individuals who attempted or completed suicide were observed to have reported higher incidence of external stressors in the year prior to death (Beautrais et al., 1997) with a marked peak of events also culminating in the month prior to the attempt (Paykel et al., 1975). This observation was maintained when compared with control groups (Brent et al., 1993; Zhang & Ma, 2012) and was motivated by the presence of a negative interpersonal life event (Bagge et al., 2013). Furthermore, experiencing an acute negative life event was a

trigger for a suicide attempt among individuals not currently planning their attempt, suggesting that clinicians need to be vigilant in monitoring recently assessed ‘non-suicidal’ individuals if their situation precipitates a likely occurrence of a negative interpersonal life event (Bagge et al., 2013).

Interestingly, Haw and Hawton (2008) observed that for both males and females, those without a psychiatric disorder were more likely to later have a relationship problem compared to those with a psychiatric disorder. This finding was similar to that reported by Logan et al. (2011) who observed that decedents experienced a recent crisis with interpersonal relationship problems in the absence of having a known mental health condition. The occurrence of a psychiatric or personality disorder may engage individuals toward more immediate life issues with a mental health worker already assisting individuals with existing disorders to manage relationship problems. The interrelationship between life stressors and suicide was found to ultimately be dependent on the nature of the stressor and underlying psychiatric disorders (Brent et al., 1993).

#### **2.4.2. Methodological considerations**

The studies reviewed were both heterogeneous and broad in nature. Although study quality was not directly assessed, variations in study design, sample size and measurement meant that not all studies were of high quality, which made it difficult to find consistent and comparative patterns within the studies. The measures of intimate partner relationship factors were varied throughout the studies. The majority of studies focused on interpreting self-report information in relation to the status, quality and level of conflict within the interpersonal relationship. The studies included for review had different definitions of intimate partner relationships and this lack of a clear definition made it difficult to generalise and compare results. The inability to distinctly measure the level of relationship quality and define it as a

separate variable from personal and/or situational bias interferes with the quality of association made between relationship factors and suicidality. The lack of an operational definition of an intimate partner relationship can create further difficulties when analysing the risk of acute and long-term relationship factors on suicidality.

The measures of suicidality also presented a number of limitations. The majority of studies examining presentations to hospital relied on single self-report items with some studies measuring only presenting suicide attempts and not suicidal ideation. Only nine studies used a more formalised measure of suicidal ideation or attempts. The measures of suicidality also recorded varying time periods from recent to lifetime exposure.

Different inclusion/exclusion criteria were used across the studies making it difficult to isolate intimate partner relationships as a separate factor contributing to suicidality. It is also possible that publication bias was present in the current review, due to the risk that only articles reporting significant results may have been accessible and that the author may have inadvertently not identified all potential papers.

### **2.4.3. Future research**

As intimate partner relationships are an implicit component in the daily lives of many individuals, further research to understand the association between relationship factors, specific target groups (i.e., males, LGBTI community) and suicidality is warranted. The creation of a relationship factors interview schedule would allow for a more rigorous overview of the relationships factors involved in the lead up to suicidal ideation and behaviours. Further research examining the association of relationship factors and suicidality from a longitudinal perspective is also necessary to be able to track changes and behavioural developments across time.

The need for accessible and effective interventions to support individuals' experiencing suicidal thoughts and/or behaviours following the disruption of an intimate partner relationship merits further investigation. Due to the proximal nature of a perceived negative intimate partner event and suicidal behaviours, further research aimed at providing more immediate support for individuals experiencing intimate partner relationship problems could also be explored. The integration of new technologies including mobile applications may provide rapid, real-time access to therapeutic interventions.

#### **2.4.4. Clinical implications**

Of clinical significance is the finding that interpersonal negative life events involving a romantic partner served as a trigger for engaging in suicidal behaviour for individuals not currently planning an attempt (Bagge et al., 2013). Furthermore, conflicting interpersonal relationships were found to be a significant predictor to multiple suicide attempts (Choi et al., 2013). These findings indicate an increase in suicide risk for individuals who may not present with a typical suicide risk profile. Additionally, the apparent suicidal impulsivity following a negative intimate partner event for younger people (Stephens, 1985) and a marked peak of negative events in the month prior to the suicide attempt, highlights the critical and immediate link between the event and the reaction (Paykel, 1975). The emphasis on a brief solution focused therapy outcome may be of particular clinical relevance due to the recency of triggering interpersonal negative life events and the consequent elevation of suicide risk.

Although it is acknowledged that only one study involving the LGBT community was identified, it is important to note the potential clinical relevance in the context of this review. Existing research in the area offers mixed conclusions regarding risk for suicide in LGBT individuals. However, recent research has

suggested that sexual minorities are at a higher risk for suicidal behaviours (Skerrett, Kõlves, & De Leo, 2015). The increased sense of emotional and relational upheaval due to existing stigma, shame, increased risk of substance use and perceived obstacles to support, are clinically important factors to consider when working with members of the LGBT community (McDaniel, Purcell, & D'Augelli, 2001).

The cross-cultural impact that intimate partner relationships have on suicidality is also of considerable clinical significance as the association transcends cultural and language boundaries in terms of communicating distress and allows clinicians to have a clear access point to understanding risk factors (separation, disputes, low support etc.).

## **2.5. Conclusion**

Intimate partner relationships play an integral role in influencing the development and exacerbation of suicidal ideation, attempts and completion. Results of the review indicate that relationship separation and poor-quality relationships are likely to be important risk factors for suicidal thoughts and behaviours and are frequent triggers for a suicide attempt. The strong association between intimate partner relationships and suicidality that has been demonstrated further emphasises that those people who have indicated that they are experiencing issues with an intimate partner relationship should additionally be screened for suicidal thoughts and behaviours. This systematic review establishes a need to explore factors that may predict suicidal thoughts and behaviours following a relationship separation. Chapters 2 and 3 will detail the results from a cross-sectional survey designed to further explore potential factors that may be targeted as part of an intervention to support separated individuals and lower potential suicide risk.



## **Chapter 3: Factors predicting suicidal thoughts and behaviours following a relationship separation**

### **3.1. Introduction**

Chapter 1 established that there is an important gap in evidence and practice for suicide prevention strategies aimed at people experiencing a relationship breakup. Building on this research agenda, the systematic review conducted in Chapter 2 highlighted important risk factors and identified the need to review the role of intimate partner relationships more broadly in order to assess how relationship factors may contribute to an increased risk of suicidal thoughts and behaviours. Relationship separation was found to be an important risk factor for suicidal thoughts and behaviours and may serve as a trigger for individuals not currently planning an attempt (Bagge et al., 2013). Further exploration regarding the identification of specific risk factors unique to relationship separation and suicidality will be addressed in the proceeding chapter.

#### **3.1.1. Negative life events**

A negative life event can be perceived as a precipitating event, a risk factor and a potential trigger for suicide (Heikkinen et al., 1992b). Individuals have been reported to experience increased odds of attempting suicide soon after experiencing a negative life event, driven by the presence of an interpersonal negative life event, specifically those involving a romantic partner (Bagge et al., 2013). Negative life events have also been found to be associated with the intensity and duration of suicidal crises among never and first attempters (Joiner Jr & Rudd, 2000). Further research has suggested that interpersonal negative life events may be more of a relevant trigger for suicidal ideation when compared to other life stressors (Weyrauch et al., 2001), and can predict subsequent increases in suicidal ideation 24 hours prior to an attempt (Bagge, Littlefield, Conner, Schumacher, & Lee, 2014).



Research on interpersonal negative life events is further corroborated by studies which have demonstrated that the effect of a relationship separation on suicidal thoughts and behaviours is time critical, with increased risk of suicidality between three months and up to four years before separation (Batterham et al., 2014; Heikkinen et al., 1992a, 1992b; Stack & Scourfield, 2015), with a further three-fold increase in suicidal ideation and an eight-fold increase in suicide plans and/or attempts in the two years following a separation (Batterham et al., 2014). Further, individuals who had divorced in the year prior to death, increased their odds of suicide by 60%, compared to a 30% increase for individuals who had divorced less recently (Stack & Scourfield, 2015).

The literature regarding interpersonal negative life events, specifically studies identifying separation and suicide risk, have explored a number of potential risk factors including gender (Evans et al., 2016; Kposowa, 2003; Wyder et al., 2009), age (Luoma & Pearson, 2002; Wyder et al., 2009), sexuality (Chen, Li, Wang, & Zhang, 2015; Skerrett et al., 2015), alcohol use (Conner et al., 2012), coping mechanisms, grief cognitions and cognitive-emotional regulation (Mirsu-Paun, 2016), shame, employment, legal proceedings (Köves et al., 2011), mental health problems and previous suicide attempt (Gibb, Fergusson, & Horwood, 2011; Kölves et al., 2011). The role of social support within the framework of Joiner's (2005) Interpersonal Theory of Suicide has also been highlighted as a risk factor, with marital discord and subsequent separation potentially engendering feelings of less belongingness and greater perceived burdensomeness – two constructs argued to increase suicidal ideation (Bagge et al., 2013; Robustelli, Trytko, Li, & Whisman, 2015). Further, the role of forgiveness has played a part in the implementation of interventions for separated individuals (Kazan et al., 2017). In a broader context, greater forgiveness of others and the self has been linked to lower levels of suicidal

behaviour exclusive of the effects of depression (Hirsch, Webb, & Jeglic, 2011, 2012). However, individuals who had reported past suicide attempts were less likely to believe they would be forgiven by others, less likely to forgive themselves and to a lesser degree, be less forgiving of others (Ho, Yip, Chiu, & Halliday, 1998; Sansone, Kelley, & Forbis, 2013).

### **3.1.2. Separation adjustment**

Research has suggested that adjustment problems following a relationship separation are similar in those formerly married or cohabitating, with low social support and high anxious attachment predicting psychological distress following a relationship separation (Halford & Sweeper, 2013; Symoens, Van de Velde, Colman, & Bracke, 2014). However, factors found to have an association with greater well-being post separation include benefit finding (finding positive growth after a challenging life event; Samios, Henson, & Simpson, 2014), finding meaning post-divorce (Bevino & Sharkin, 2003), initiator status (Symoens, Bastait, Mortelmans, & Bracke, 2013; Wang & Amato, 2000), leaving a poor quality relationship (Gustavson, Nilsen, Ørstavik, & Røysamb, 2014), and moving on with a new partner (Symoens et al., 2013; Wang & Amato, 2000). Further, men and women who identified as living together with a new partner also reported higher levels of self-esteem and mastery and felt less depressed (Symoens et al., 2014). Similarly, a secure attachment was found to mitigate the negative effects of divorce on mental health with research suggesting that positive beliefs about the world and oneself and constructive attitudes (problem-solving coping) supported the post-separation adjustment process (Birnbaum, Orr, Mikulincer, & Florian, 1997).

### **3.1.3. Aims and scope of this study**

This study aimed to explore and identify psychosocial, relationship and demographic factors associated with the development of suicidal ideation and transition to suicide attempt after a separation. A comprehensive range of potential factors selected from the broader literature regarding risk factors for psychological distress after a separation were tested. This study contributes to the current literature by examining the association between the selected risk factors and suicidal thoughts and behaviour within an understudied population, and by examining these risk factors to assess their impact on the likelihood of experiencing suicidal ideation or a suicide attempt. The identification of potential risk factors will inform the design and implementation of a more targeted intervention that addresses these factors in order to reduce the risk of suicidal thoughts and behaviour in people who have recently separated from an intimate partner relationship.

## **3.2. Method**

### **3.2.1. Participants and procedures**

The sample consisted of 533 participants who were registered Australian users of the social media platform Facebook. Of the 533 participants recruited, 160 (30%) identified as male and 373 (70%) identified as female, with participant age ranging from 18 to 70 years ( $M = 36.88$ ,  $SD = 12.40$ ). All participants identified that they had experienced a relationship separation in the past two years, see Table 3.1 for demographic information.

**Table 3.1. Demographic characteristics by presence or absence of suicidal thoughts or behaviours**

<b>Demographic Variable</b>	<b>No suicidality (N = 300)</b>	<b>Indicated suicidal ideation or attempts (N = 233)</b>	<b><i>p</i></b>
Female, N (%)	225 (75.0%)	148 (63.5%)	.004**
Age, mean ( <i>SD</i> )	38.6 (13.1)	35.5 (12.2)	.229
Children (yes)	177 (59%)	111 (47.6%)	.009**
<u>Education</u>			.107
Not finished school	30 (10.0%)	35 (15.2%)	
Completed high school	69 (23.1%)	56 (24.3%)	
Certificate/Diploma/Associate	81 (27.1%)	68 (29.6%)	
University Degree	119 (39.8%)	71 (30.9%)	
<u>Employment</u>			.010**
Full-time	152 (50.7%)	99 (42.7%)	
Part-time	48 (16.0%)	24 (10.3%)	
Casual	33 (11.0%)	40 (17.2%)	
Unemployed	67 (22.3%)	69 (29.7%)	
<u>Status of previous relationship</u>			.084
Married	99 (33.0%)	66 (28.3%)	
De facto	86 (28.7%)	88 (37.8%)	
Not living together	115 (38.3%)	79 (33.9%)	
<u>Length of the relationship</u>			.139
Less than two years	94 (31.4%)	73 (31.3%)	
2 – 10 years	99 (33.0%)	94 (40.3%)	
10+ years	106 (35.3%)	66 (28.3%)	
<u>Time since breakup</u>			.017*
0-6 months	152 (51.2%)	120 (51.7%)	
6-12 months	47 (15.8%)	56 (24.1%)	
12-24 months	98 (32.7%)	56 (24.1%)	
<u>Who initiated the breakup</u>			.959
Me	87 (29.0%)	64 (27.5%)	
Ex-partner	159 (53.0%)	129 (55.4%)	
Both	33 (11.0%)	24 (10.3%)	
Other	21 (7.0%)	16 (6.9%)	

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Participants were recruited to complete a cross-sectional survey through paid online advertising on Facebook over six weeks from 21 September to 29 October 2015. The paid advertisements appeared on the personal pages of individuals that met the inclusion criteria for age (18 to 65 years), and location (Australia), see Appendix 1 for recruitment material. The advertisement linked directly to the survey, which was preceded by an information page and online consent form (see Appendix 2). The text on the advert read, “*Relationship Separation and Mental Health: Recently separated? Complete a 40-minute survey now to share your experiences of a relationship break-up*”. Eligible participants were required to identify themselves as being over the age of 18, an Australian resident and having experienced a relationship separation in the past two years. The survey took participants approximately 40 minutes to complete. No incentives were provided to the participants and all participants were provided with help-seeking contacts following the completion of the survey. Ethical approval for the study was obtained from the ANU Human Research Ethics Committee (2015/408), see Appendix 3.

### **3.2.2. Measures**

Information regarding demographics, relationship history, coping/adjustment outcomes and mental health was obtained using a variety of self-report and structured interview measures, which are detailed below. See Appendix 4 for the full online survey presented to participants.

#### **3.2.2.1. Demographics**

Participants reported gender (male, female, other), age (continuous scale), sexuality (heterosexual or straight, gay or lesbian, bisexual, other, prefer not to say), location (metropolitan, regional or rural/remote), education status (have not completed high school, completed high school, certificate/diploma/associate degree,

bachelor's degree, higher degree), employment status (full-time, part-time, casual, unemployed, not in the labour force) and number of children (1, 2, 3, 4+).

### **3.2.2.2. Relationship History**

Questions measuring relationship history were rated along a 5-point Likert scale or through relevant response categories. Questions included, "What was the status of this relationship?", "How long have you been separated from your (previous) partner?" and, "Who would you say initiated the separation?".

### **3.2.2.3. Outcome Variable**

#### ***Psychiatric Symptom Frequency Scale (PSF)***

The Psychiatric Symptom Frequency Scale (PSF; Lindelow, Hardy, & Rodgers, 1997) was the primary outcome measure used to assess suicidal thoughts and behaviour. The PSF is an 18-item scale measuring psychiatric symptoms, including symptoms of depression and anxiety, over the last year. For the present study only six items were used to assess suicidal symptom frequency over the last year. Questions included, "Thought about taking your own life?", "Made plans to take your own life?" and, "Attempted to take your own life?". Items required yes (0) or no (1) responses. The PSF scale has shown high internal in previous studies (Cronbach's alpha = 0.88; Lindelow et al., 1997). The total score is a flexible measure which can be used in continuous or binary form (Lindelow et al., 1997). A good level of internal consistency was obtained in the current study (Cronbach's  $\alpha = 0.85$ ).

### **3.2.2.4. Adjustment/Coping Variables**

An extensive battery of measures was administered to assess adjustment/coping variables, known or hypothesised, to be related to suicidality and/or relationship separation. An exploratory approach was deemed appropriate due

to the lack of consistency regarding predictive factors for suicidal thoughts and behaviours following a relationship separation. A brief description of each construct is given below.

### ***Patient Health Questionnaire (PHQ-9)***

The Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001) is a 9-item self-report measure used to assess depression in the past two weeks. The PHQ-9 requires respondents to indicate how often they have been bothered by symptoms such as, “Feeling down, depressed or hopeless” and “Feeling tired or having little energy”, on a four-point scale ranging from 1 (*not at all*) to 4 (*nearly every day*). Responses are coded from 0-3 and summed to calculate a total score ranging from 0 to 27. PHQ-9 scores of 5, 10, 15, and 20 represent mild, moderate, moderately severe and severe depression. The internal reliability of the PHQ-9 is excellent with Cronbach’s  $\alpha$  ranging from 0.86 to 0.89 in previous research (Kroenke et al., 2001) and good test re-test reliability (intraclass correlation coefficient=0.92; Gelaye et al., 2013). Cronbach’s  $\alpha$  for the current study was high ( $\alpha = 0.92$ ).

### ***Generalised Anxiety Disorder 7-item Scale (GAD-7)***

The Generalised Anxiety Disorder 7-item Scale (GAD-7; Spitzer, Kroenke, Williams, & Löwe, 2006) is a 7-item self-report measure used to assess anxiety in the past two weeks. The GAD-7 requires respondents to indicate how often they have been bothered by problems including, “Feeling nervous, anxious or on edge” and “Being so restless that it’s hard to sit still”, on a four-point scale ranging from 1 (*not at all*) to 4 (*nearly every day*). Responses were summed to create a total scale score ranging from 0 to 21. Scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate and severe anxiety, respectively. The GAD-7 has good internal consistency (Cronbach’s  $\alpha = 0.92$ ) and test-retest reliability, as well as criterion, construct,

factorial, and procedural validity (Spitzer et al., 2006). A high level of internal consistency was obtained in the current study (Cronbach's  $\alpha = 0.93$ ).

### ***State Shame***

The measure of shame in response to a relationship breakdown was adapted from Kőlves et al.(2011), as there was no validated scale measuring shame in response to separation. State shame was measured through the following three items: “My separation made me feel like a failure”, “My separation made me question my abilities as a man/woman”, and “I was ashamed to tell people about my separation”. Items were rated on a five-point scale ranging from 1 (*never*) to 5 (*always*). Final scores were calculated by adding the scores for the three questions and calculating the overall mean score. Higher mean scores indicated an increased experience of shame in response to the relationship separation. Kőlves et al. (2011) reported a Cronbach's  $\alpha = 0.79$ . Similar levels of internal consistency were reported in the current study (Cronbach's  $\alpha = 0.79$ ).

### ***The Personality Inventory – Brief Form (PID-5-BF)***

The Personality Inventory for DSM-5 Brief Form-Adult (PID-5-BF; Krueger, Derringer, Markon, Watson, & Skodol, 2013), is a 25-item self-rated personality trait assessment scale for adults. It assesses five personality trait domains including negative affect, detachment, antagonism, disinhibition, and psychoticism. Items are rated on a four-point scale ranging from 0 (*very false or often false*) to 3 (*very true or often true*). Each trait domain ranges in score from 0 to 15, with higher scores indicating greater dysfunction in the specific personality trait domain. The average domain score is calculated by dividing the raw domain score by the number of items in the domain. Internal consistency of the scales has been found to be adequate in previous research ( $\alpha = 0.70$  [Negative Affectivity], 0.75 [Disinhibition]), 0.68 [Antagonism], 0.78 [Psychoticism]), 0.69 [Detachment]; Anderson, Sellbom, &



Salekin, 2016). The intraclass correlations across discriminant validity profiles compared to the Original PID-5 was .92 for the Brief PID-5 (Bach et al., 2016). An adequate level of internal consistency was obtained in the current study ( $\alpha = 0.76$  [Negative Affectivity], 0.81 [Disinhibition], 0.66 [Antagonism], 0.83 [Psychoticism], 0.77 [Detachment]).

### ***The Psychological Adjustment to Separation Test (PAST)***

The Psychological Adjustment to Separation Test (PAST; Sweeper & Halford, 2006) was developed as a self-report measure of three key dimensions of separation adjustment problems, lonely negativity, former partner attachment and co-parenting conflict. Part A of the PAST contains the items that form the lonely negativity and the former partner attachment subscales, and part B is composed by the items of the co-parenting conflict subscale (shared by adults who are parents). PAST-A and PAST-B can be administered autonomously (Lamela, Figueiredo, & Bastos, 2014). For the present study, only the lonely negativity and former partner attachment scales were used (19 items in total). The PAST requires respondents to rate how much they agree or disagree with statements relating to their ex-partner over the last two weeks. Examples of questions presented to the respondents included, “I find it hard to do things without a partner”, “I feel isolated” and “I feel rejected by my former partner”. Items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Responses were summed to create a total score ranging from 19 to 95. Higher scores reflected more problems in psychological adjustment to a separation or divorce. The subscales of the Australian version of the PAST-A revealed good internal consistency, ranging from 0.88 to 0.90 (Lamela et al., 2014). Test-retest reliability was assessed and was high, ICC = .85, .93, and .89, respectively, for lonely negativity, former partner attachment, and co-parenting conflict (Sweeper & Halford, 2006). A high level of internal consistency was

obtained in the current study ( $\alpha = 0.90$  for lonely negativity and  $\alpha = 0.88$  for former partner attachment).

### ***Schuster's Social Support Scale***

The Schuster Social Support Scale (Schuster, Kessler, & Aseltine, 1990) is a 15-item measure of social support used to examine an individual's social relationships with others and the associated impact on their emotional functioning. Each item is rated on a four-point scale from 0 (*not at all*) through to 3 (*all the time*). The scale consists of three subscales, support from friends, support from family and support from partner. For the present study only the support from friends and support from family scales were used (10 items in total). The scales investigate both the influence of supportive and negative interactions between family (e.g., "How often do your family make you feel cared for?" and "How often do family criticise you?") and friends (e.g., "How often do friends make too many demands on you?" and "how often do friends express interest in how you are doing?"). Supportive and negative interactions were summed separately for family and friends. Scores ranges from 0 to 6 for the friend and family positive facets, and from 0 to 9 for the friend and family negative facets. The final score is derived by adding up responses separately for two sets of items. Higher scores indicate higher levels of incidences of that social interaction, both positive and negative. Internal reliability properties for the scale have been reported by Schuster et al. (1990) in an adult population for positive friend interaction ( $\alpha = .64$ ), negative friend interaction ( $\alpha = .56$ ), positive family interaction ( $\alpha = .75$ ), and negative family interaction ( $\alpha = .74$ ). Cronbach's  $\alpha$  for the current study were good, 0.74 (negative friends), 0.83 (negative family), 0.88 (positive friends) and 0.91 (positive family).

### ***Rosenberg's Self-Esteem Scale***

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item measure used to measure global self-worth by measuring both positive and negative feelings about the self. The scale has five negatively worded items (e.g., “I feel I do not have much to be proud of”) and five positively worded items (e.g., “I feel that I have a number of good qualities”). Each item is rated on a four-point scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Scores are summed to calculate a total score for all ten items. The scale ranges from 0-30. Scores between 15 and 25 are within normal range and scores below 15 suggest low self-esteem. The Rosenberg Self-Esteem Scale has demonstrated high reliability; internal consistency was 0.77, minimum Coefficient of Reproducibility was 0.90 (Rosenberg, 1965). Cronbach's  $\alpha$  for the current study was high ( $\alpha = 0.93$ ).

### ***Pearlin Mastery Scale***

The Pearlin Mastery Scale (Pearlin & Schooler, 1978) is a 7-item scale used to measure participants' perceived sense of mastery over life outcomes. Respondents are required to rate how strongly they agree or disagree with a list of statements on a four-point scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Examples of questions presented to the respondents included, “I have little control over the things that happen to me” and “I can do just about anything I really set my mind to”. Items are summed to achieve an overall score ranging from 7 to 28 (negatively worded items are reversed scored). Higher ratings are indicative of a higher level of self-mastery, or control of the forces that affect their lives. The Scale has strong structural validity, with principal component factor loadings ranging from  $-0.47$  to  $0.76$  (Pearlin & Schooler, 1978). Cronbach's  $\alpha$  for the current study was good ( $\alpha = 0.85$ ).

### ***Brief COPE Scale***

The Brief COPE Scale (Carver, 1997) consists of 28 items to assess 14 coping domains. Each of the 14 scales is captured by two items and responses are made on four-point scales from 1 (*I haven't been doing this at all*) to 4 (*I've been doing this a lot*). The higher score represents greater coping strategies used by the respondent. The coping strategies measured are self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion and self-blame. A previous report to establish the reliability and validity of the scale indicated a high Cronbach's alpha values for domains such as religion ( $\alpha = 0.82$ ) and substance use ( $\alpha = 0.90$ ). Other domains indicated acceptable values of Cronbach's alpha: active coping ( $\alpha = 0.68$ ), planning ( $\alpha = 0.73$ ), positive reframing ( $\alpha = 0.64$ ), acceptance ( $\alpha = 0.57$ ), humour ( $\alpha = 0.73$ ), using emotional support ( $\alpha = 0.71$ ), using instrumental support ( $\alpha = 0.64$ ), self-distraction ( $\alpha = 0.71$ ), denial ( $\alpha = 0.54$ ), venting ( $\alpha = 0.50$ ), behavioural disengagement ( $\alpha = 0.65$ ) and self-blame ( $\alpha = 0.69$ ) (Yusoff, Low, & Yip, 2010). Internal consistency for the current study was acceptable across the 14 domains: religion ( $\alpha = 0.84$ ) and substance use ( $\alpha = 0.96$ ), active coping ( $\alpha = 0.71$ ), planning ( $\alpha = 0.66$ ), positive reframing ( $\alpha = 0.72$ ), acceptance ( $\alpha = 0.74$ ), humour ( $\alpha = 0.84$ ), using emotional support ( $\alpha = 0.77$ ), using instrumental support ( $\alpha = 0.83$ ), self-distraction ( $\alpha = 0.47$ ), denial ( $\alpha = 0.71$ ), venting ( $\alpha = 0.50$ ), behavioural disengagement ( $\alpha = 0.66$ ) and self-blame ( $\alpha = 0.81$ ).

### ***The Forgiveness Scale***

The Forgiveness Scale (Rye et al., 2001) is a 15-item Likert-type scale designed to measure forgiveness toward an offender. The presenting question encouraged the respondent to think of how they have responded to the person who has wronged or mistreated them. Examples of questions presented to the respondents

included, “I can’t stop thinking about how I was wronged by this person” and “I have compassion for the person who wronged me”. Items are rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A final score is derived from the summation of all responses, scores ranged from 15 to 75. Higher scores on this scale reflect increased willingness to forgive. Previous research demonstrated good internal consistency for the overall scale ( $\alpha = 0.87$ ; Rye et al., 2001).

Cronbach’s  $\alpha$  for the current study was good ( $\alpha = 0.89$ ).

### ***Distress Tolerance Scale (DTS)***

The Distress Tolerance Scale (DTS; Simons & Gaher, 2005) is a 15 item self-report measure of emotional distress tolerance. The DTS requires respondents to indicate an item that best describes their beliefs about feeling distressed or upset, for example, “Feeling distressed or upset is unbearable to me” and “I can tolerate being distressed or upset as well as most people”. Items are rated on a five-point scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). Scores range from 15 to 75 with high scores on the DTS indicating that an individual can tolerate high levels of distress whereas low scores reflect low distress tolerance. Previous research has demonstrated good internal consistency for the DTS ( $\alpha = 0.89$ ). Cronbach’s  $\alpha$  for the current study was high ( $\alpha = 0.90$ ).

### ***Emotion Regulation Questionnaire (ERQ)***

The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) is a 10-item measure that assesses individual differences in the dispositional use of two emotion regulation strategies: cognitive reappraisal (i.e., changing the meaning of an emotion eliciting situation in order to reduce negative feelings) and expressive suppression (i.e., inhibiting ongoing emotion-expressive behaviour). The ERQ requires that respondents think about how they control their emotions. Examples of questions presented to the respondents included, “I keep my emotions to myself” and

“When I am feeling negative emotions, I make sure not to express them”. Items are scored on a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with scores ranging from 7 to 70. Higher scores indicate more use of a strategy. The ERQ has demonstrated generally acceptable internal consistency for both the reappraisal and suppression scales (Vuorela & Nummenmaa, 2004). Cronbach’s  $\alpha$  for the current study was acceptable, cognitive reappraisal = 0.89 and expressive suppression = 0.79.

### **3.3. Data analysis**

Group differences in the prevalence of potential risk factors were evaluated using cross-tabulations and *t*-tests. Specifically, differences in demographic characteristics (except age) were examined using chi-square analyses and differences in mean scores for psychosocial variables were examined using *t*-tests, with alpha set at  $p < .05$  (two tailed). Due to non-normal distribution (extreme skews) or low cell counts, a number of demographic and relationship variables (gender, sexuality, children, length of relationship, time since break up, in love, initiator status, and feelings for ex) were recoded to form dichotomous and trichotomous variables in order to facilitate more meaningful interpretation. Multiple statistical comparisons may have led to some spuriously significant results in cases of marginal effects due to an increase in the probability of type I error.

Two logistic regression analyses were performed with two dichotomous outcome variables: suicidal ideation (presence vs. absence) and suicide attempt (ideation with attempt vs. ideation with no attempt). The dichotomous variable used to identify participants with suicidal ideation was sourced from the PSF item, “Thoughts about taking your own life” (yes/no) and the variable used to identify participants who had engaged in a suicide attempt was sourced from the PSF item, “Attempted to take your own life” (yes/no). The regression on attempt excluded

participants without ideation to capture the risk factors associated with progression to attempt using a relatively homogeneous comparison group consisting of participants who experienced ideation. The regression models only included those variables that reached a  $p < .01$  level of significance in univariate analyses as candidate independent variables. The significant individual risk factors were examined in a forward stepwise logistic regression to determine the most parsimonious set of independent predictors of suicidal ideation and attempt following a relationship separation, with the selection of added variables based on the significance of the change in the log-likelihood ratio statistic. Data were analysed using SPSS release 22 for Windows (IBM Corp, Chicago IL).

An exploratory approach using stepwise analyses was deemed appropriate due to limited theory available to guide the selection terms for the models, and the study's intention to identify a subset of independent predictors from the large pool of tested variables that provided a good fit to the outcomes. Goodness of fit for the final models was assessed using the Nagelkerke  $R^2$ , and chi-squared statistics and parameter estimates were used to examine the effects of predictor variables within each comparison.

### **3.4. Results**

#### **3.4.1. Sample characteristics and univariate associations with suicidal ideation**

Of the 533 participants, 56.3% ( $n = 300$ ) reported no suicidal ideation or attempts post relationship separation, compared with 43.7% ( $n = 233$ ) who reported experiencing suicidal ideation and/or attempts. The characteristics of the sample, broken down by the presence of suicidality, are reported in Table 3.1. Men, the unemployed, participants with no children and participants who separated 6 to 12 months ago were significantly more likely to experience suicidal ideation and/or

attempts following a relationship separation. Univariate analyses indicated that participants who reported suicidal ideation or attempts had significantly greater state shame, anxiety, depression, personality disorder symptoms, loneliness, former partner attachment, denial, substance abuse, behavioural disengagement, self-blame, forgiveness and expressive suppression. In addition, participants reporting suicidality had significantly lower mastery, active coping, emotional support, positive reframing, acceptance, distress tolerance and cognitive reappraisal, see table 3.2.



**Table 3.2. Mean and standard deviation of psychosocial variables by presence or absence of suicidal thoughts or behaviours**

Psychosocial variable	No suicidality (N = 300)	Indicated suicidal ideation or attempts (N = 233)	<i>p</i>	<i>α</i>
State shame	9.22 (3.00)	10.98 (2.71)	<.001***	0.79
Psychiatric Symptom Frequency (PSF)	17.71 (6.69)	23.53 (7.15)	<.001***	0.85
Anxiety (GAD-7)	13.89 (5.47)	17.97 (6.22)	<.001***	0.93
Depression (PHQ-9)	4.32 (0.59)	5.18 (1.11)	<.001***	0.92
Negative affect (PID-5-BF)	2.30 (0.73)	2.71 (0.68)	<.001***	0.76
Detachment (PID-5-BF)	1.99 (0.68)	2.54 (0.74)	<.001***	0.77
Antagonism (PID-5-BF)	1.47 (0.43)	1.65 (0.60)	<.001***	0.66
Disinhibition (PID-5-BF)	1.69 (0.61)	2.19 (0.77)	<.001***	0.81
Psychoticism (PID-5-BF)	1.76 (0.70)	2.28 (0.75)	<.001***	0.83
Lonely negativity (PAST)	31.66 (9.95)	38.42 (8.86)	<.001***	0.90
Former partner attachment (PAST)	24.46 (8.51)	27.27 (7.83)	.001**	0.88
Pearlin Mastery Scale	19.63 (3.79)	17.44 (4.09)	<.001***	0.85
Rosenberg Self-Esteem Scale	28.52 (6.19)	23.05 (6.68)	<.001***	0.93
Positive Friends (Social)	3.38 (0.67)	3.04 (0.84)	<.001***	0.88
Negative Friends (Social)	1.92 (0.60)	2.01 (0.64)	.161	0.74
Positive Family (Social)	3.41 (0.77)	2.97 (0.90)	<.001***	0.91
Negative Family (Social)	2.19 (0.78)	2.49 (0.85)	<.001***	0.83
Self-distract (Cope)	5.33 (1.70)	5.23 (1.62)	.672	0.47
Active (Cope)	5.48 (1.59)	4.71 (1.72)	<.001***	0.71
Denying (Cope)	2.97 (1.46)	3.54 (1.69)	.001**	0.71
Abusing substances (Cope)	3.48 (1.80)	4.30 (2.33)	<.001***	0.96
Emotional support (Cope)	5.23(1.70)	4.65 (1.83)	.001**	0.77
Instrumental support (Cope)	5.07 (1.84)	4.74 (1.96)	.088	0.83
Behaviour disengagement (Cope)	3.13 (1.29)	4.12 (1.67)	<.001***	0.66
Venting (Cope)	4.44 (1.49)	4.62 (1.67)	.270	0.50
Positively reframing (Cope)	5.13 (1.74)	4.58 (1.66)	.003**	0.72
Planning (Cope)	5.50 (1.70)	5.16 (1.69)	.081	0.66

Psychosocial variable	No suicidality (N = 300)	Indicated suicidal ideation or attempts (N = 233)	<i>p</i>	<i>α</i>
Humour (Cope)	3.70 (1.72)	3.60 (1.79)	.575	0.84
Acceptance (Cope)	6.16 (1.66)	5.60 (1.79)	.001**	0.74
Religion (Cope)	3.24 (1.74)	3.16 (1.84)	.863	0.84
Self-blame (Cope)	4.37 (1.87)	5.52 (1.94)	<.001***	0.81
Forgiveness Scale	41.69 (10.15)	46.10 (11.28)	<.001***	0.89
Distress tolerance (DTS)	3.06 (0.89)	2.45 (0.84)	<.001***	0.90
Cognitive reappraisal (ERQ)	4.77 (1.17)	4.21 (1.32)	<.001***	0.89
Expressive suppression (ERQ)	3.45 (1.36)	3.84 (1.48)	.013*	0.79

Note. \**p* < .05, \*\**p* < .01, \*\*\**p* < .001, PSF = Psychiatric Symptom Frequency, PAST = Psychological Adjustment to Separation Test, Social = Schuster's Social Support Scale, Cope = Brief COPE Scale, DTS = Distress Tolerance Scale, ERQ = Emotion Regulation Questionnaire.

### 3.4.2. Factors predicting suicidal thoughts

Two forward stepwise logistic regression analyses were conducted to identify demographic, relationship and psychosocial factors that independently differentiated (i) participants who reported suicidal ideation from those who did not, and (ii) participants who only reported suicidal ideation from those who had also made a suicide attempt.

Table 3.3 presents the outcome of the forward stepwise logistic regression comparing participants who reported suicidal ideation with those who did not. The final model, resulting from 13 iterations, indicated that greater symptoms of antagonism and disinhibition and less active coping, decreased positive family support, less negative friends and lower self-esteem were independently associated with significantly higher odds of suicidal thoughts and behaviours. There was good model fit on the basis of the final predictor variables, [ $\chi^2$  (1, N= 221) = 197.76, *p* = .033], indicating that the predictor variables reliably discriminated between groups.

The resulting model accounted for a significant proportion of variance (Nagelkerke  $R^2 = 0.51$ ) and resulted in an overall correct classification rate of 81.9%.

**Table 3.3. Final model as identified in a stepwise logistic regression exploring predictors of suicidal ideation following relationship separation**

Variable	df	B	OR	p	95% CI for Odds Ratio	
					Lower	Upper
<b>Final Step</b>						
Antagonism	1	1.05	2.86	.019	1.19	6.88
Disinhibition	1	0.76	2.15	.038	1.04	4.44
Active coping	1	-0.35	0.70	.033	0.51	0.97
Positive family	1	-0.62	0.53	.010	0.34	0.86
Negative friends	1	-0.89	0.40	.020	0.19	0.87
Self-esteem	1	-0.11	0.89	.045	0.80	0.97

A second forward stepwise logistic regression was conducted to identify if specific demographic (gender, age, sexuality, children, relationship), relationship (relationship status, new relationship, initiator status, time since break-up), or psychosocial factors (personality factors, PHQ, self-esteem, mastery, shame, former partner attachment, lonely negativity, coping, social family/friends) could distinguish ideators from attempters. These factors were identified through a univariate analysis to determine which factors were predictive of a suicide attempt (based on  $p < .01$ ) and were then included as candidates in the regression analysis. The results of this analysis are presented in Table 3.4. In the final outcome, after one iteration, psychoticism was found to be the only significant independent predictor of a suicide attempt among individuals reporting ideation. A one-unit increase in psychoticism was associated with a 3.6-fold increase in the odds of a suicide attempt among

individuals with ideation. The resulting model was significant [ $\chi^2 (1, N=97) = 79.30$ ,  $p = .001$ ] and accounted for a moderate proportion of variance (Nagelkerke  $R^2 = 0.17$ ), with an overall correct classification rate of 83.5%.

**Table 3.4. Final model as identified in a stepwise logistic regression exploring predictors of suicidal ideation versus suicide attempt following relationship separation.**

Variable	df	B	OR	p	95% CI for Odds Ratio	
					Lower	Upper
Psychoticism	1	1.29	3.65	.002	1.60	8.38

### 3.5. Discussion

The aim of this study was to explore and identify demographic, relationship and psychosocial factors that were associated with suicidal ideation and suicide attempts in a sample of adults who had separated from an intimate partner in the past two years. Results suggested that several risk factors differentiated people who had experienced suicidal ideation from people who had not experienced ideation following a separation. The final results indicated that greater symptoms of antagonism and disinhibition and less active coping, decreased positive family support, less negative friends and lower self-esteem were independently associated with significantly higher odds of suicidal thoughts and behaviours. In addition, psychoticism was independently associated with significantly higher odds of progression to suicide attempt. A number of other demographic and psychosocial factors also demonstrated strong univariate associations with suicidal thoughts and behaviours.

### **3.5.1. Factors associated with suicidal ideation**

The current study found that an increase in antagonism and disinhibition predicted an increase in the likelihood of suicidal ideation post separation.

Impairments in antagonism include angry outbursts, aggression and hostility, with the trait of disinhibition implying increased impulsivity and failure to engage in reflective thinking which can often lead to risk-taking or overt self-destructiveness (Ripoll, 2012). The elevation of such traits, post-separation, makes sense in light of the personal turmoil experienced by the individual, but it is the degree of elevation and subsequent impairment that may be a defining factor in increased suicidality. Research has suggested that partner-relationship disruptions amplified imminent risk for suicide among ‘reactive’ aggressive and impulsive individuals with psychiatric disorders (Conner, Duberstein, Conwell, & Caine, 2003; Giegling et al., 2009).

The current findings suggest that perhaps the presence of antagonistic and disinhibited traits may play a precipitating role in the development of suicidality following a relationship separation for some individuals. A number of studies have also suggested that existing mental health issues play an integral role in the increased risk of suicidality, with Kőlves et al. (2012) reporting an association between marital and de facto separation, mental illness and suicidality. Research has also suggested that a culmination of negative life stressors, including a relationship separation, can combine to either exacerbate existing mental illness or trigger new illness (Kazan et al., 2017), with individuals who attempted or completed suicide reporting higher incidence of external stressors in the year prior to death (Beautrais et al., 1997).

Positive social support is an integral protective factor in suicide (Kleiman & Liu, 2013; Kleiman & Riskind, 2013), and was a significant univariate and multivariate factor in the current study. Specifically, a one unit decrease in positive family support was associated with 89% increased odds of suicidal thoughts and

behaviours following a relationship separation. This finding is consistent with the literature with a number of studies arguing that better family support weakens the relationship between depression and suicidal ideation (Au, Lau, & Lee, 2009), and is a relevant cross-cultural protective factor (Harris & Molock, 2000). Greater family connectedness was also found to be a significant protective factor against suicidal ideation in older populations, with the effect strongest for those living with others (Purcell et al., 2012).

Interestingly, the results suggested that less negative friends actually increased risk for suicidal ideation post-separation. A study by Bertera (2007) reported that negative exchanges from peers were not associated with adolescent suicidal ideation. The results suggested that the informal, non-obligatory nature of peer relationships may not have such a significant impact when compared to family relationships (Bertera, 2007). In more recent studies, perceived social support from family has also been found to reduce suicide ideation while support from friends was not found to be statistically significant (Park, Cuijpers, Straten, and Reynold, 2014; Wang, Joel Wong, Tran, Nyutu, & Spears, 2013). The current results may suggest that having friends who challenge an individual post separation (as opposed to mindlessly affirming their experience) may be somewhat helpful in times of specific separation distress.

Also consistent with the literature, increased active coping skills may be a protective factor for suicidal thoughts and behaviours following separation. In terms of suicidal ideation and behaviours, an external locus of control, less reliance on problem-focused coping skills and difficulty coping with stressful events, have also been reported to be more prevalent among suicidal individuals (Lauer, De Man, Marquez, & Ades, 2008; Raubenheimer & Jenkins, 2015). Active coping often refers to the ability to use personal resources to deal with a problem situation (Zeidner &

Endler, 1996). The pro-active and future-focused nature of active coping may help decrease hopelessness and strengthen personal resolve, thus helping to soften the impact of the separation on an individual's sense of self and promote moving on.

The finding that low self-esteem was associated with an increase in suicidal ideation is supported within the existing self-esteem literature, which has identified that individuals with lower self-esteem experience a breakup as more stressful, feel less recovered and have more adjustment problems (Frazier & Cook, 1993). Further, Bloom, Asher, & White (1978), in studying divorced individuals, suggested that those with lower self-esteem have more difficulty adjusting post-divorce. Park, Sanchez, & Brynildsen, (2011) also argued that individuals who base their self-worth on being in a romantic relationship may be more intensely affected by the loss of such a relationship. Subsequent analyses reported that basing self-worth on a previous relationship was predictive of heightened emotional distress and obsessive pursuit of an ex-partner following a breakup (Park et al., 2011). In addition, these findings complement studies among bereaved people that have shown that grief severity is stronger when the lost person is more central to self-identity (Boelen, 2009; Maccallum & Bryant, 2008).

### **3.5.2. Factors associated with progression to suicide attempt**

One predictor, psychoticism, was found to be independently significant in differentiating those who experienced suicidal ideation from those who made an attempt following a relationship separation. The result suggested that the risk of a suicide attempt increased more than three-fold in the presence of psychotic personality traits (marked by scales of Eccentricity, Perceptual Dysregulation, and Unusual Beliefs; Wright et al., 2012). This finding supports research that has reported a strong association between psychotic symptoms and suicide risk (Hirvikoski & Jokinen, 2012; Kelleher et al., 2013). Limited research, however, is

available which explores the role of personality in the context of separation.

However, the findings are consistent with research suggesting that marriage impairment and divorces are more frequent among couples who score highly in psychoticism (Zaleski, 1981). The current findings reiterate the suggestion of the precipitant role of psychotic traits and mental health in the development of suicidality following a relationship separation.

One possible explanation for why the factors associated with ideation were not associated with attempts, may be the low number of participants in the current study who reported a suicide attempt. This would have resulted in insufficient power to detect factors associated with a suicide attempt. Suicidal ideation is a substantially more common experience than suicide attempt. Perhaps individuals who had identified experiencing suicidal ideation were still at a stage where they had a level of insight into their interactions with the people around them (friends and family) and their relationship to themselves, whereas individuals who have recently attempted suicide may have greater disconnection and functional impairment.

In terms of the implications of these findings for intervention types and targets, it is clear that without a well powered study, with a sufficient number of individuals reporting suicidal ideation and suicide attempts, it will be difficult to rigorously evaluate the efficacy of interventions which target these populations. This is one of the first studies to attempt to bridge this empirical gap, although recruiting a sufficient sample of people who have attempted suicide remains a challenge.

### **3.5.3. Implications for intervention**

A number of existing interventions for separated individual's focus on forgiveness as a key indicator of recovery (Rye & Pargament, 2002; Rye et al., 2005; Zhang, Fu, & Wan, 2014). Interestingly, the present study found that people who indicated suicidal thoughts and behaviours following a relationship separation had a



greater sense of forgiveness following the breakup based on the univariate comparison. A possible explanation for this difference may be that people who ‘forgive’ their ex-partner may have a tendency to engage in self-blame (which was a significant univariate coping strategy) and may solely attribute the separation to themselves, absolving their partner of any wrong-doing. It is important to note that previous intervention research has not considered suicidality as an outcome variable. However, the current findings suggest forgiveness may not be a suitable target for reducing suicide risk among separated individuals. It is also noted that respondents may have attributed the forgiveness scale more generally toward *any* offender (the scale instructed participants to think about how they have responded to the person who has wronged or mistreated them) and that the results need to be interpreted with caution. There is also a growing body of recent literature which has started to explore the concept of self-forgiveness and its relationship to suicide risk, as opposed to the forgiveness of the ‘offender’. Self-forgiveness has been defined as “a deliberate, volitional process initiated in response to one’s own negative feelings in the context of a personally acknowledged self-instigated wrong, that results in ready accountability for said wrong and a fundamental, constructive shift in one’s relationship to, reconciliation with, and acceptance of the self through human-connectedness and commitment to change” (Webb, Bumgarner, Conway-Williams, Dangel, & Hall, 2017, p. 220). Self-forgiveness has been found to benefit general mental health and was inversely related to lifetime history of a suicide attempt, suicidal ideation in the past year, and likelihood of making a future suicide attempt (Hirsch, Webb, & Toussaint, 2017; Peterson et al., 2017).

Exploring differences between people with and without suicidal ideation on the basis of demographic and relationship factors may be used to identify groups of individuals who would most benefit from intervention. Univariate results suggested

that males may be more likely to experience suicidal ideation or an attempt following a relationship separation. This finding is consistent with previous research suggesting a gender difference in suicidal behaviours following a relationship separation (Cantor & Slater, 1995; Heikkinen et al., 1992b; Kõlves et al. 2012; Wyder et al., 2009).

Other factors, including whether the person had children or status of employment, were also significantly associated univariately with suicidality. Children and/or impending pregnancy have been shown to be a protective factor, lowering the risk of suicidal behaviours (Marzuk et al., 1997; Qin & Mortensen, 2003). However, unemployment was associated with a two to three-fold increased relative risk of death by suicide when compared with being employed (Blakely, Collings, & Atkinson, 2003; Pompili et al., 2014).

Interestingly, initiator status (who initiated the breakup) or physical violence or conflict did not demonstrate significant univariate relationships with suicidality in the current study. These results conflict with existing research which suggests that non-initiators suffer more adverse consequences because the expectable support of the relationship is suddenly withdrawn leaving them with a sense of emotional and cognitive disorganisation (Baumeister, Wotman, & Stillwell, 1993). However, these findings have been mixed with the role of the initiator still remaining unclear, particularly when former couples cannot agree on who broke up with whom (Locker Jr, McIntosh, Hackney, Wilson, & Wiegand, 2010). Also, in terms of physical violence, a number of reviews have reported a strong and consistent association between intimate partner abuse and suicidality (Devries et al., 2013; McLaughlin et al., 2012). However, as the study examined individuals who had already separated from a partner, the temporal effect of separation alongside the probable decrease in ongoing violence and increase in supports may alleviate possible suicidality. Further,

the limited sample size of people who indicated physical violence in the study would suggest that this population was not adequately covered.

#### **3.5.4. Clinical implications**

The lack of interventions targeting potential and current suicidality following separation promotes a critical opportunity in the clinical practice framework.

Consistent with previous research, it is more difficult to predict individuals who are at increased risk of attempt (after accounting for ideation) than individuals who are at risk of ideation – very few variables are associated with the progression and account for a smaller proportion of variance in attempts versus ideation (May, Klonsky, & Klein, 2012). However, using the predictors found in this study, there is potential to develop better programs to support this population to understand, accept and recover from their experience and potentially decrease associated suicide risk. Interventions to improve self-esteem, reduce mental health symptoms and promote active coping may reduce suicide risk after a separation. These specific clinical/psychosocial targets suggest that a Cognitive Behavioural Therapy (CBT) or Interpersonal Psychotherapy (IPT) based approach may be effective. Interestingly, while distress tolerance had a strong significant univariate effect on suicidal ideation, this construct was not independently predictive of suicidal ideation in the regression model, suggesting other factors may be more important for suicide risk following a separation. This finding may have possible implications for the use of Dialectical Behaviour Therapy (DBT) as another therapeutic strategy, suggesting that only a subset of people at risk of suicidal behaviours following a relationship separation might benefit from DBT interventions.

The potential link between the Interpersonal Theory of Suicide (Joiner, 2005) and the current results suggests that social support may play an important role in the mitigation of suicidal ideation after a relationship separation. A number of studies

have identified that social support is a significant predictor for suicidal ideation in a diverse range of community samples including transgender individuals (Trujillo, Perrin, Sutter, Tabaac, & Benotsch, 2017), college-aged students (Lamis, Ballard, May, & Dvorak, 2016), and ethnically diverse sexual minority women (Rabinovitch, Perrin, Tabaac & Brester, 2015). Poor social relationships can lead to a sense of thwarted belongingness which may be caused by characteristics that are poorly interpreted and cause rejection, including psychoticism (Christensen, Batterham, Mackinnon, Donker, & Soubelet, 2014). The concept of perceived burdensomeness has also been found to be significantly related to depression symptoms, suicidal ideation and suicide attempts (Joiner et al., 2009), and is associated with stronger family or friendship relationships (Christensen et al., 2014). A focus on improving interpersonal relationships, post-separation, may be a potential future target for reducing potential suicide risk. Further, self-forgiveness has also been found to attenuate the link between perception of burdensomeness on others and suicidal ideation in a sample of older adults (Cheavens, Cukrowicz, Hansen, & Mitchell, 2016). This finding offers further support that the focus of forgiveness should not necessarily be on the ‘offender’ or ex-partner but on the separated individual.

### **3.5.5. Strengths and limitations**

Findings from this study must be considered in the context of the study’s limitations. Firstly, all of the risk factor measures relied on retrospective self-report, therefore, the responses may have been affected by individual biases, inaccuracies, and incomplete information. The length of the questionnaire may have affected response fatigue and influenced drop-out. The recruitment of participants via Facebook may also have resulted in a selection bias, with the sample not necessarily being representative of the population of people who have gone through a separation. Although validated scales were used to enhance validity and reliability, a

prospective, longitudinal study would provide stronger evidence of causal relationships for the investigated risk factors of suicidality. Given the cross-sectional nature of this study design, conclusions cannot be drawn regarding risk and protective factors in causing suicidal behaviour and reverse causation cannot be ruled out. Due to the constraints of the project, it was not feasible to explore the association between other mental health outcomes and their risk factors. Also, it is acknowledged that not all potential risk factors for suicide were assessed in the study. However, the results did account for a large proportion of variance, suggesting many of the key factors were accounted for in the present study. The difficulty in attributing the factors from the study specifically as a result of a relationship separation is understood. Whether existing suicidality was present prior to separation cannot be explored adequately through the current study. However, Batterham et al. (2014) found that the association between separation and suicidality did not reflect a selection effect. Nevertheless, little additional research has evaluated the impact of suicidal thoughts and behaviours on the initiation, quality or maintenance of intimate partner relationships. Despite these limitations, the study results provide important insights into the role of risk factors for suicide risk among separated individuals, laying the groundwork for future research and suggesting directions for prevention interventions.

### **3.6. Conclusion**

The results of the current cross-sectional study indicate that suicidality is prevalent among people who have recently experienced a relationship separation. Although the models accounted for a considerable proportion of variance in suicidal ideation and behaviours, the predictive value of the identified risk factors remains to be determined in prospective research. To our knowledge, there are presently no published intervention programs that focus on reducing risk after relationship

separation. Intervention efforts with this population should aim to target the identified risk factors, including areas of social support, active coping and self-esteem that are associated with increasing separated individuals' propensity to engage in suicidal thoughts and behaviour. In order to better understand the correlates of suicidality following a relationship separation, including strategies that could inform a potential intervention, an examination of the qualitative component of the cross-sectional study was deemed appropriate. Chapter 4 will examine a series of open-ended questions aimed at supporting the information gathered from the quantitative component of the cross-sectional study and providing direction and evidence for the development of an intervention.



## **Chapter 4: An examination of adjustment following a relationship separation and its link to suicidal ideation**

### **4.1. Introduction**

Chapter 3 introduced and discussed the quantitative results of the cross-sectional survey. The results suggested that several risk factors such as, greater symptoms of antagonism and disinhibition and less active coping, decreased positive family support, less negative friends and lower self-esteem were independently associated with significantly higher odds of suicidal thoughts and behaviours. A qualitative analysis was conducted to assist in identifying the subjective meaning that participants may construct and attach to their post-separation experience (Neuman, 2011; Rokach, Cohen, & Dreman, 2004). This chapter focuses on exploring the series of open-ended questions, included in the cross-sectional survey, to identify whether the differences observed in the quantitative results are reflected in participant descriptions of adjustment post-separation. The open-ended questions specifically focused on three areas of post-separation, the hardest aspects of life to deal with after the separation, the benefits experienced since the separation, and information or strategies that would help support a person experiencing a separation. The systematic review in Chapter 2 identified potential gender differences in suicide risk post-separation (i.e., males are at higher risk of suicidality post-separation). Although the quantitative results in Chapter 3 did not find a significant gender difference, it was considered worthwhile to continue to explore potential gender differences in the qualitative responses to help inform future intervention development.

#### **4.1.2. Adjustment following a relationship separation**

The term *adjustment*, as used throughout this Chapter, refers to a “self-reorganisation process that results in weaker feelings of emotional closeness to the



ex-partner, a perception of social integration and affective balance” (Lamela et al., 2014, p. 389). Adjustment can be positive, contributing to subjective wellbeing and the absence of psychopathology (Lamela et al., 2014), or it can be detrimental, leading to maladaptive coping strategies that may lead to an increased risk of suicidal thoughts and behaviours. Adjustment following a relationship separation, regardless of relationship status, is a variable experience (Perrig-Chiello et al., 2015), and for a large proportion of the population the experience will be transient, allowing for growth and development (Tashiro & Frazier, 2003). However, a portion of the population will experience ongoing adjustment difficulties. If unaddressed, these difficulties have the potential to manifest into significant mental health problems, including suicidal thoughts and behaviours (Kazan et al., 2016).

The outcomes of a relationship separation may be dependent on several factors, including attitudes, attachment and coping styles. Coping-related variables, perceptions of the controllability of the breakup, social support and self-esteem, have all been found to be significantly related to reports of the ‘stressfulness’ of a breakup, as well as current adjustment and recovery (Frazier & Cook, 1993). These findings have also been supported by the results provided in the preceding Chapters. Studies have demonstrated that anxiously attached people exhibit more difficulty recovering from sadness associated with a relationship breakup when compared with less anxiously attached people (Sbarra, 2006). Individuals who reported that they were still in love with a former partner were found to experience difficulty moving away from sadness, with continued love and non-acceptance of the relationship dissolution increasing experiences of depressive rumination (Sbarra & Emery, 2005). Avoidant coping strategies have also been associated with lower psychological well-being and post-traumatic stress symptoms following a relationship dissolution (Chung et al., 2003; Studley & Chung, 2015).

### 4.1.3. Suicidality and relationship separation

As highlighted in the results of Chapter 3, a lack of coping skills, problem solving abilities and difficulty coping with stressful events are also key precipitating factors associated with a suicide attempt (Raubenheimer & Jenkins, 2015). However, there appears to be a paucity of research which investigates separation distress in terms of potential suicide risk. If the ending of a relationship is reported to have the highest negative impact on overall happiness (Ballas & Dorling, 2007), the consequence of not adjusting to this new-found single status could potentially be devastating. It is well known that suicide is a multi-causal event, so the probability of its occurrence is determined by several factors (Bálint, Osváth, Rihmer, & Döme, 2016). Poor quality intimate partner relationships and separation have been found to be important risk factors for suicidal thoughts and behaviours (Kazan et al., 2016).

The Interpersonal Theory of Suicide (Joiner, 2005) offers a unique perspective on the potential juncture between separation and the potential for the development of suicidal ideation. The theory posits that suicidal ideation is driven by a sense of thwarted belongingness (a lack of connection and reciprocal relationships) and perceived burdensomeness (the perceived notion that one is a liability to others). The feeling that one does not belong to valued relationships or groups (i.e., friends taking sides after a break-up), and the perception that one is a burden on others (i.e., being the only single person in a friendship group/family), are realistic potential consequences of a relationship separation. The simultaneous presence of both interpersonal constructs is argued to produce the desire to suicide (Joiner, 2005). In the context of a relationship separation, a clinical application of the theory suggests that interventions need not target all risk factors but focus on those that create or magnify the constructs of the Interpersonal Theory of Suicide (Van Orden & Conwell, 2011). In the context of a relationship separation, the targeting of perceived

burdensomeness and thwarted belongingness through a pro-social and communicative therapeutic modality could be hypothesised to not only assist in adjustment but also target any existing suicidal ideation.

There is also continued ambiguity regarding gender adjustment differences post-separation (Kansky & Allen, 2017; Walzer & Oles, 2003). According to existing research, there exists a broad-ranging experience between the male-female break-up dyadic, with some studies reporting women suffering more distress (Demey, Berrington, Evandrou, & Falkingham, 2013; Liu & Umberson, 2008), men having more difficulty adjusting (Evans et al., 2016; Kposowa, 2003; Scourfield & Evans, 2015), or identifying no apparent gender differences (Gardner & Oswald, 2006; Stroschein, McDonough, Monette, & Shao, 2005), following a relationship separation. However, the risk of suicide was found to be four times higher for both males and females following a separation (Wyder et al., 2009). Although there are no definitive conclusions regarding gender differences adjustment post separation, Amato (2010) argued that it would be premature to abandon the search for gender effects on the outcomes of separation from marriages and other close relationships.

#### **4.1.4. Indicators of adjustment**

Key indicators for separation adjustment more broadly have included finding a new partner and transitioning to a high-quality relationship (Langlais, Anderson, & Greene, 2016; Perrig-Chiello et al., 2015; Symoens et al., 2013; Symoens, Colman, & Bracke, 2014), finding benefit in the breakup (Samios et al., 2014), forgiveness (Yárnoz-Yaben, 2015), and spiritual well-being for men (Steiner, Durand, Groves, & Rozzell, 2015). Qualitative research by Walzer and Oles (2003) identified that narrative congruence, self-responsibility and redefining the post-marital relationship, permit adaptive reorganisation of life after divorce, with similar experiences reported

by older divorcees (Canham, Mahmood, Stott, Sixsmith, & O'Rourke, 2014; Rokach, Cohen, & Dreman, 2004).

#### **4.1.5. Aims and scope of the study**

By being able to further identify and provide empirical support for existing adjustment indicators, it is suggested that targeting those experiencing a relationship separation may be a way to prevent suicide outcomes at a critical time point among an at-risk population who would not necessarily seek help. Limited trials exist which adequately assess separation interventions on mental health outcomes, and none that consider suicidal thoughts and behaviours (Kazan et al., 2017). This study aims to identify the challenges, benefits and help-seeking strategies associated with relationship separation and how these might relate to the presence of suicidal thoughts and behaviours following a separation. Male suicide rates are approximately three times higher than rates for females (ABS, 2016a), and it is hoped that by identifying potential gender differences in adjustment to a relationship separation, strategies may be developed that are tailored to support individual adjustment and improved well-being.

## **4.2. Method**

### **4.2.1. Participants**

Participants were 533 community members, recruited through the social media website Facebook, who had self-identified as experiencing a relationship separation in the past two years. The demographic characteristics of the sample are provided in Table 4.1. The sample was composed of 160 (30%) males and 373 (70%) females, who were on average 36.9 ( $SD = 12.40$ ) years of age. The majority of participants identified that they had at least one child (53.7%) and had experienced, on average, three relationship separations across their lifetime. Of the 533 participants, 43.7% ( $n = 233$ ) reported suicidal ideation.

**Table 4.1. Demographic characteristics by presence or absence of suicidal thoughts or behaviours**

<b>Demographic Variable</b>	<b>No suicidality (N = 300)</b>	<b>Indicated suicidal ideation or attempts (N = 233)</b>	<b><i>p</i></b>
Female, N (%)	225 (75.0%)	148 (63.5%)	.004**
Age, mean ( <i>SD</i> )	38.6 (13.1)	35.5 (12.2)	.229
Children (yes)	177 (59%)	111 (47.6%)	.009**
<u>Education</u>			.107
Not finished school	30 (10.0%)	35 (15.2%)	
Completed high school	69 (23.1%)	56 (24.3%)	
Certificate/Diploma/Associate	81 (27.1%)	68 (29.6%)	
University Degree	119 (39.8%)	71 (30.9%)	
<u>Employment</u>			.010**
Full-time	152 (50.7%)	99 (42.7%)	
Part-time	48 (16.0%)	24 (10.3%)	
Casual	33 (11.0%)	40 (17.2%)	
Unemployed	67 (22.3%)	69 (29.7%)	
<u>Status of previous relationship</u>			.084
Married	99 (33.0%)	66 (28.3%)	
De facto	86 (28.7%)	88 (37.8%)	
Not living together	115 (38.3%)	79 (33.9%)	

*Note.* \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

#### **4.2.2. Procedure**

Ethical approval for the study was obtained from the ANU Human Research Ethics Committee (2015/408), see Appendix 3. A cross-sectional online survey was conducted to explore suicidality following a relationship separation, see Appendix 4 for complete survey. Qualitative open-ended questions were embedded within the

survey, along with a range of quantitative measures. Participants were recruited through paid online advertising on Facebook over six weeks from 21 September to 29 October 2015. The paid advertisements appeared on the personal pages of individuals that met the inclusion criteria for age (18 to 65) and location (Australia). Facebook has been found to be an effective, flexible and cost-efficient recruitment method with online samples representative of traditionally recruited participant populations (Batterham, 2014; Thornton et al., 2016). A link to the survey was provided through an advertisement that redirected participants to an information page and online consent. Eligible participants had to identify themselves as being over the age of 18, an Australian resident and having experienced a relationship separation in the last two years. The survey took participants approximately 40 minutes to complete. No incentives were provided to the participants and all participants were provided with help-seeking contacts following the completion of the survey.

### **4.2.3. Measures**

#### **4.2.3.1. Relationship separation**

A series of open-ended questions were presented to the participants regarding their most recent relationship separation. These questions were based on preliminary hypotheses regarding the nature of relationship separations and intervention targets. Participants were asked to provide an answer to the following open-ended questions, “What, if anything, has been the hardest thing to deal with since the relationship ended?”, and “What, if any, have been the benefits since your relationship separation?”.

#### **4.2.3.2. Help-seeking**

To inform potential intervention targets, questions regarding help-seeking and the dissemination of advice for separated individuals were included. Participants

were asked the following open-ended question, “What information or strategies do you think would help support a person experiencing a relationship separation?”.

#### **4.2.3.3. Suicidal ideation**

For the purpose of this study, *suicidal ideation* was defined as “thinking about, considering, or planning suicide” and *suicidal behaviour* as “a non-fatal, self-directed, potentially injurious behaviour with intent to die as a result of the behaviour” (CDC, 2016). The dichotomous variable used to identify participants with suicidal ideation and history of attempt was sourced from the Psychiatric Symptom Frequency Scale (PSF; Lindelow, Hardy, & Rodgers, 1997). The questions included, “Thoughts about taking your own life” (yes/no) and “Attempted to take your own life” (yes/no).

#### **4.2.4. Statistical analyses**

All quantitative data analyses were conducted using SPSS Version 22 (IBM Corp, Chicago IL). Associations between groups were examined using chi-square analyses. Responses to the open-ended questions were analysed using thematic analysis. Responses to the questions were coded using a grounded theory approach (Martin & Turner, 1986), whereby similar ‘concerns’ within each response were grouped together into themes. Syntheses of statements were used to illustrate the emergent themes. The data was coded by the primary author (DK) and double-coded by one independent reviewer (BVS), with all relevant data collected and recorded. Discrepancies in coding were noted and a decision was agreed on by both coders. In order to adequately explore differences between participants, the responses were broken down to differentiate between gender (male vs. female) and reported suicidal thoughts (present vs. not present).

### **4.3. Results**

The results of the thematic analysis are described in Tables 4.2, 4.3 and 4.4. The first table describes the hardest aspects of life to deal with since the relationship separation, the second table presents the perceived benefits identified by participants as arising from the relationship separation and the third table details information or strategies suggested by participants that that would help support a person experiencing a relationship separation. Discussion topics are ordered by relative importance as judged by the number of words and ideas generated for each topic.



**Table 4.2. Thematic categories representing participant responses regarding the hardest aspect to deal with since the relationship separation**

Theme	Example quotes
Difficulty letting go/moving on	“seeing her with her new partner”, “knowing he’s suffering more”, “thinking of her with other people”, “knowing that I can’t have any kind of relationship with that person again”, “missing them”, “keep getting mixed messages”, “him being with someone else and public on social media”, “my ex not knowing what he really wants”, “no closure”, “not understanding why” “unanswered questions”
Loss of companionship/social connections	“Losing our mutual friends”, “not just losing the partner but the friendship”, “not having that person to talk to every day”, “feeling like I lost my best friend”, “not having them around all the time to talk to”, “losing my best friend and starting again at such a late and unexpected stage”
Loneliness/isolation	“being alone”, “loneliness”, “being single and lonely”, “emptiness”, “no one is there”, “feeling alone”, “coming home to an empty bed”, “waking up alone”, “sleeping alone”, “doing everything alone”
Experiencing difficult emotions	“sadness”, “feelings of resentment”, “thoughts of loss”, “guilt”, “jealousy”, “forgiveness”, “not feeling guilty”, “the mixture of anger and missing him”, “the craziness”, “rejection”, “failure”, “grief”, “loss”, “love”, “abandonment”, “feeling unloved”, “heartbreak”, “hopelessness” “trusting other people”, “feeling betrayed by the one I love” loss of self-worth”, “depression”, “anxiety”, “insecurity”,
Children	“our children’s reactions”, “telling children”, “ex not wanting anything to do with the kids”, “impact on children”, “missing my daughter”, “alienation from our children”, “not having children with her”, “dealing with another person in my children’s lives”, “single parenting”
Future/identity	“worry about the future and future relationships”, “the idea that I may never be in another relationship”, “dating again”, “thinking about the future”, “being independent again”, “new identity”, “finding myself again”, “the unknown”, “uncertainty of the future”, “rebuilding”, “motivation”
Lifestyle	“dividing family assets”, “finances”, “leaving our cat behind”, “lease ending”, “money”, “trying to find somewhere to live”, “property settlement”, “losing my home”, “legal proceedings”, “practical help”, “daily living”

**Table 4.3. Thematic categories representing perceived benefits since the relationship separation**

Theme	Example quotes
Improved sense of self/Increased self-care	“found self-value and sense of direction, I found motivation and purpose in life”, “I have become a better person”, “self-reflection and learning”, “I got a lot of my self-esteem back”, “perspective”, happier and more secure”, “knowing myself more”, personal achievements”, “confidence”, “doing more things now”, “more spare time”, “fitness and health”, “I have more time for friends and school”, “more time to focus on myself”, “me time”
Freedom/independence	“independence”, “freedom to do things I wouldn’t have done”, “feeling freer, exploring who I am alone”, “freedom of self”, “a better life direction and more independence”, “I feel relieved, like I can breathe again”, “I’m a free person now”, “my own space”, “I have my life back”
No benefits	“none”, “nothing”, “can’t answer this one”, “unsure”, “nil”, “can’t think of any”, “none yet”, “haven’t seen any yet”
Leaving an abusive/negative relationship	“I realised that I was heading to a bad place and changed”, “less toxicity in my life”, “I’ve slowly began to see her presence in my life as toxic”, “the relationship was a dictatorship”, “no more abuse”, “no longer exposed to rages or emotional abuse”, “less arguments”, “no fighting”
Moving on	“do not have to be in contact”, “fresh start”, “met my new partner”, “meeting someone new”, “met someone really nice”, “happy to find someone more compatible”, “finding a better partner”, “I fell in love and he cares so much about me”, “I moved to another country”, “new home”
Improved quality of life	“happier household”, “money in the bank”, “my health”, “financial freedom”, “my kids are safe”, “gone back to uni”, “sexual health”, “bought a house”, “mental health problems have improved”, “new life”, “healthy lifestyle”

**Table 4.4. Thematic categories representing information or strategies that would help support a person experiencing a relationship separation**

Theme	Example quotes
Counselling/Psychology/GP	“more ongoing psychological help”, “counselling”, “social worker”, “seek professional help early”, “separation groups”, “psychologist”, “lifeline”, “psychological help was imperative to changing negative cognitions that were impacting my daily life” , “good GP and affordable and available counsellors”
Spend time with friends and family	‘support from friends”, “friends and family keep in touch”, ‘friendship”, “family”, “talk to family and friends for support”, “emotional support”, “lean on those around you when you need to”
Talk about it	“others have been there and have experienced similar issues”, “talk to someone you trust”, “support groups”, “having someone to talk to who does not judge”, “speak to someone”, “speak to people who have been in the same situation and survived”
Next steps – online resources	“knowledge of the process”, “a mobile app that encompasses different types of relationship separation”, “information on ‘normal feelings’ you should expect”, “information kits on what steps to take”, “information on helping others”, “knowing where to get support from”, “practical advice if children are involved”, “moving on podcasts”, “online support”, “understanding the stages of grief”
Self-care	“relaxation and breathing”, “do something you want to do each week”, “self-development and meditation”, “self-care”, “giving yourself time to adjust to new circumstances”, “time”, “be patient”, “trust”, “time apart to find out who you really are”, “self-improvement strategies”, “building self-belief and value”, “learning your own strengths”, “insight”, “achievement planning”
Keep busy/distraction	“distraction/redirection”, “something to keep them busy and take their mind off what has happened”, “keep busy, socialise, go out and meet new people”, “not being alone”, “social outing programs”, “keep busy, focus on yourself, remind yourself of the reasons it didn’t work out, don’t speak to them”
Accept, let go and move on	“find someone else and move on”, “just cut the person out entirely”, “move out of the house”, “understanding that people rewrite history after a breakup”, “move forward and accept yourself”, “coping and acceptance”, “online dating”, “let go”, “be okay with not being okay”

### 4.3.1. Hardest things to deal with since the relationship separation

The majority of participants provided a response to the open-ended question concerning the ‘hardest things’ that they have had to deal with since the separation, with 353 females (95%) and 145 males (91%) responding. Overall, 33 responses did not constitute concerns. The remaining 465 responses were first divided into 29 discrete response categories and further reduced into 16 response categories. These responses categories were then clustered into seven themes, as shown in Table 4.5.

**Table 4.5. Hardest aspect of the relationship separation by gender and presence or absence of suicidal thoughts**

Theme	Females		Males	
	No reported suicidal thoughts	Reported suicidal thoughts	No reported suicidal thoughts	Reported suicidal thoughts
Difficulty letting go/moving on	28.1% (55)	25.4% (34)	32.3% (20)	27.4% (20)
Experiencing difficult emotions	23.0% (45)	29.1% (39)	22.6% (14)	27.4% (20)
Loneliness/isolation	12.2% (24)	14.9% (20)	11.3% (7)	17.8% (13)
Children	11.2% (22)	4.5% (6)	11.3% (7)	15.1% (11)
Loss of companionship	10.2% (20)	6.7% (9)	9.7% (6)	5.5% (4)
Material possessions/lifestyle	8.2% (16)	9.0% (12)	8.1% (5)	2.7% (2)
Future/self-identity	7.1% (14)	10.4% (14)	4.8% (3)	4.1% (3)
Total	196	134	62	73

A chi-square test was performed to examine the relation between gender and the hardest aspects that follow a relationship separation. The relationship between these variables was not significant  $\chi^2(6, N = 465) = 6.42, p = .378$ . No significant results were reported between individual themes. A further analysis examined the

relationship between all participants who reported a history of suicidal thoughts and behaviours and those who did not, finding no significant differences in primary difficulties reported following separation,  $\chi^2(6, N = 465) = 6.83, p = .337$ . No significant results were reported between individual themes. A final chi-square test to examine associations between reported suicidality and no reported history of suicidality, within the male and female groups, was also non-significant, males  $\chi^2(6, N = 135) = 4.57, p = .600$  and females  $\chi^2(6, N = 330) = 8.28, p = .218$ .

#### **4.3.2 What, if any, have been the benefits since your relationship separation?**

Regarding the question concerning 'benefits' after the relationship separation, 333 females (89%) and 138 males (86%) responded to this open-ended question. Overall, 22 did not constitute benefits and were excluded. The remaining 449 responses were divided into 35 response categories and were further condensed through an iterative process to leave six key themes, as shown in Table 4.6.

**Table 4.6. Perceived benefits of the relationship separation by gender and presence or absence of suicidal thoughts**

Theme	Females		Males	
	No reported suicidal thoughts	Reported suicidal thoughts	No reported suicidal thoughts	Reported suicidal thoughts
Improved sense of self/self-care	29.5% (56)	30.5% (39)	35.5% (22)	26.1% (18)
Freedom/Independence	16.8% (32)	14.1% (18)	12.9% (8)	13% (9)
No benefits	8.9% (17)	9.4% (12)	19.4% (12)	33.3% (23)
Leaving an abusive/negative relationship	15.3% (29)	13.3% (17)	11.3% (7)	4.3% (3)
Moving on	12.6% (24)	14.8% (19)	9.7% (6)	4.3% (3)
Improved quality of life	16.8% (32)	18.0% (23)	11.3% (7)	18.8% (13)
Total	190	128	62	69

The relationship between gender and reported benefits was significant  $\chi^2 (5, N = 449) = 27.89, p < .01$ . Post-hoc contrasts identified males as being significantly more likely to report 'no benefit' to the separation  $\chi^2 (1, N = 449) = 23.51, p < .01$ , and females as being significantly more likely to report leaving an abusive and/or negative relationship  $\chi^2 (1, N = 449) = 3.97, p = .046$ , and moving on after the separation  $\chi^2 (1, N = 449) = 4.01, p = .045$ , as benefits to the relationship break-up.

There was no statistically significant association between participants with reported suicidal thoughts and behaviours and those with no suicidality, and overall benefits,  $\chi^2 (5, N = 449) = 5.62, p = .345$ . No significant differences were found between individual themes on the basis of suicidality. Further, within the gender groups, no significant effects were found between reported suicidality and no reported history of suicidality, males  $\chi^2 (5, N = 131) = 7.97, p = .158$ , and females  $\chi^2$

(5,  $N = 318$ ) = .96,  $p = .966$ , with no significant differences between individual themes.

### 4.3.3 What information or strategies do you think would help support a person experiencing a relationship separation?

In regards to information and/or strategies that would help support a person experiencing a relationship separation, 402 participants responded to this open-ended question. Sixty-two responses were left blank or did not constitute information or a strategy and were excluded. The remaining 340 responses (66% of females and 59% of males) were divided into 42 response categories and were further condensed through an iterative process to leave seven key themes, as shown in Table 4.7.

**Table 4.7. Recommended information and strategies following a relationship separation by gender and presence or absence of suicidal thoughts**

Theme	Females		Males	
	No reported suicidal thoughts	Reported suicidal thoughts	No reported suicidal thoughts	Reported suicidal thoughts
Counselling/Psychology/GP	14.7% (23)	23.3% (21)	11.6% (5)	11.8% (6)
Spend time with friends and family	16.0% (25)	17.8% (16)	16.3% (7)	21.6% (11)
Talk about it	19.0% (30)	13.3% (12)	23.3% (10)	15.7% (8)
Next steps	14.7% (23)	17.8% (16)	16.3% (7)	21.6% (11)
Self-care	23.7% (37)	16.7% (15)	11.6% (5)	21.6% (11)
Keep busy/distraction	5.1% (8)	5.6% (5)	9.3% (4)	5.9% (3)
Accept, let go, move on	6.4% (10)	5.6% (5)	11.6% (5)	2.0% (1)
Total	156	90	43	51

The relationship between gender and supportive strategies was not significant  $\chi^2(6, N = 340) = 3.58, p = .733$ . No significant differences were identified between individual themes. The relationship between reported suicidality and no reported suicidality and strategies was also non-significant,  $\chi^2(6, N = 340) = 5.97, p = .427$ . Among gender groups, there was also no significant differences in reported strategies between those who did and did not report suicidality, for males  $\chi^2(6, N = 94) = 6.52, p = .368$  or females  $\chi^2(6, N = 246) = 5.38, p = .496$ .

#### **4.4. Discussion**

The results of the study indicated a significant difference between men and women regarding the perceived benefits following a relationship separation. The findings also suggested that there may be differences in how men and women cope and adjust to a relationship separation. These findings are in line with the literature, with varying evidence concerning the degree of gender difference in relation to adjustment (Amato, 2010; Choo, Levine, & Hatfield, 1996; Chung et al., 2002; Tashiro & Frazier, 2003). The results also indicated that certain aspects of adjustment may not be directly related to suicidal thoughts following a break-up. However, the qualitative findings offered insight into the potential to integrate adjustment experiences with the Interpersonal Theory of Suicide to mitigate possible suicide risk after a relationship separation. Overall, the results arising from this research capture the unique ways in which males and females experience a separation, and highlights potential opportunity to intervene with members of this population who experience suicidality.

An interesting result relates to the concept of ‘benefit finding’ following a relationship separation. Analyses revealed that a significant difference existed between men and women and the benefits identified. The results suggested that females were significantly more likely to see the exit from an abusive and/or



negative relationship and, having the opportunity to move on, as benefits of a separation; whereas men were significantly more likely to experience 'no benefit' from the separation. This finding echoes Bevvino and Sharkin (2003) who reported that the majority of divorced male participants either did not respond or reported 'no positive consequences' regarding benefits of their divorce. The process of grief following a separation or divorce appears to be different for men, who are also less likely to engage in help-seeking (Baum, 2004). Although no significant difference was found between the 'no suicidality' and 'suicidality' groups, more men who reported suicidality identified no benefit to the separation. This is consistent with the coping style of suppression which is a tendency to avoid threatening or uncomfortable situations, and has been found to be significantly and positively related to suicide risk (Josepho & Plutchik, 1994).

Consistent with the study's results, women have been found to generate significantly more positive consequences of their separation than men (Bevvino & Sharkin, 2003; Riessman, 1990a, 1990b), with more women characterising their experience as a change in self and identity and/or new opportunities for growth and autonomy (Bevvino & Sharkin, 2003; Tashiro & Frazier, 2003). In contrast, men have been found to be more concerned about social standing, regardless of relationship quality, and may base more of their self-worth on instrumental aspects of the relationship (Kwang, Crockett, Sanchez, & Swann Jr, 2013). If men find more security in the defining properties of a relationship, regardless of its quality, it may be fair to theorise that women, who tend to base their self-worth on the interdependent characteristics of the relationship (Kwang et al., 2013), may be more willing to initiate the break-up of a poor quality relationship, with initiators of divorce more likely to experience personal growth and maturity than non-initiators (Buehler, 1987; Hewitt, 2009; Kalmijn & Poortman, 2006). Benefit finding is also

associated with better adjustment following a non-marital relationship breakup, moderating the relationship between the impact of the event and adjustment outcomes (Samios et al., 2014).

Through the analysis of the qualitative data, a large proportion of the participants indicated that ‘letting go and moving on’ and, experiencing ‘difficult emotions’ constituted the hardest aspects of the separation. Research has found an association between moving on and progression to a new partner and recovery from a break-up (Locker Jr et al., 2010; Spielmann, MacDonald, & Wilson, 2009; Symoens et al., 2014; Wang & Amato, 2000), with partners who perceived a high-quality alternative relationship during the previous relationship being less distressed after the separation (Fine & Sacher, 1997). A new intimate relationship may be a useful form of social support in facilitating adjustment post-separation, strengthening economic standing (Shapiro, 1996), and weakening preoccupation with the ex-partner (Kitson & Holmes, 1992). A new partner may also mitigate risk associated with a sense of thwarted belongingness by offering a sense of companionship and connection. However, a number of factors may impede moving on including an anxious attachment style (Davis et al., 2003; Sbarra, 2006), experiencing the loss as central to self-identity (Boelen, 2009), and surveillance of online social media (Fox & Tokunaga, 2015).

The distress in experiencing difficult emotions following a separation may be indicative of existing mental health conditions and also highlights the utility of distress tolerance and emotional regulation strategies following separation, with more suicidal men than women indicating hardships associated with emotional experience. Existing attachment styles and related affect-regulation strategies have been found to be associated with emotional reactions to romantic relationship dissolution (Davis et al., 2003). Further, emotional distress relating to depression has

been found to be an indicator of suicide risk (Overholser, Freiheit, & DiFilippo, 1997). Individuals with poor emotion regulation, including low distress tolerance and high negative urgency have also been reported to demonstrate increased levels of suicidal desire, as indexed by perceived burdensomeness and thwarted belongingness (Anestis, Bagge, Tull, & Joiner, 2011).

Interestingly, more males compared to females with experiences of suicidal ideation or a suicide attempt, perceived issues with children as a difficult aspect of the separation. Studies have suggested that the presence of children can have negative effects on divorce adjustment (Wang & Amato, 2000), with losing custody representing one of the most stressful aspects of separation and divorce for fathers (Riessman, 1990a; Umberson & Williams, 1993). Further, separated fathers have been found to be at a higher risk of depression, unhealthy nutrition, hypertension and tobacco use when compared to fathers in complete families (Rueger, Schneider, Zier, Letzel, & Muenster, 2011). Research by Baum (2004) demonstrated the different way in which men mourn following a divorce. Baum (2004) argued that men tend to start the mourning process later than women, and they tend to express their grief over the loss of their children rather than the loss of their wives, manifesting their grief through activity rather than emotional expression and help-seeking (Choo et al., 1996). Kõlves et al. (2011) have also reported that separated males are more vulnerable to the experience of state shame in the context of separation, which might lead to the development of suicidality. For females, the presence of children or pregnancy has been shown to be a protective factor in lowering the risk of suicidal behaviours (Marzuk et al., 1997; Qin & Mortensen, 2003).

The qualitative analyses provided insight into the potential clinical utility of understanding challenges, benefits and coping strategies for people who have separated from a relationship. The assessment of responses appears to align with the

constructs of the Interpersonal Theory of Suicide. Specifically, in terms of addressing social support mechanisms for people at risk of suicidal ideation, the importance of integrating family and friend support post-separation appears to be an important consideration. Strategies including seeing a counsellor, psychologist or general practitioner, were rated most highly by women with reported suicidal ideation, with men indicating the importance of talking about the separation and spending time with friends and family. Perceived burdensomeness has been found to be a stronger indicator of suicidal ideation in contrast to thwarted belongingness (Donker, Batterham, Van Orden, & Christensen, 2014; Ma, Batterham, Callear, & Han, 2016) with higher levels of burdensomeness also increasing risk for suicidal ideation among males (Donker et al., 2014). Encouraging open communication with family and friends and conducting an assessment of distress levels associated with needing help and perceived reactions to meeting individual needs (Stellrecht et al., 2006), may facilitate increased reciprocal contact and lessen the sense of ‘being a burden’ on others after a break-up. Informal help-seeking, including support from family, friends and other non-medical sources, has also been found to be perceived as more ‘helpful’ by members of the public (Jorm et al., 1997), with severity of mental health problems associated with formal help-seeking (Brown et al., 2014).

#### **4.4.1. Future Directions**

The responses provided by participants in this study provide preliminary information regarding the different experiences and perspectives of men and women post-separation. Research demonstrates that males are more vulnerable to suicide after a relationship break-up (Kölves, Ide, & De Leo, 2010; Wyder et al., 2009), and that a relationship separation represents a significant situational risk factor for increased suicidality for both genders (Batterham et al., 2014; Ide et al., 2010; Kazan et al., 2016). There is further opportunity to explore the concept of ‘benefit finding’

as a mechanism for intervention following separation, specifically among males who report suicidal ideation or behaviours. An in-depth qualitative analysis of individual experiences of relationship separation was not undertaken in the current study. In future research it would be valuable to further explore the separation experience in the form of focus groups and/or individual face-to-face interviews in order to better understand the manifestation of depressive and suicidal symptoms resulting from a relationship separation.

In future research it would also be beneficial to explore the perceived value of newer delivery modes, such as podcasts, in addition to traditional e-health delivery platforms (e.g., mobile apps and web-based applications). The current evidence suggests that there is a lack of freely available psychosocial support services for individuals who have separated (Kazan et al., 2017). The current study may inform the development of future interventions that focus on social integration and interpersonal problem-solving as therapeutic goals (e.g., Interpersonal Psychotherapy). In the context of a relationship separation, the targeting of perceived burdensomeness and thwarted belongingness through a pro-social and communicative therapeutic modality such as Interpersonal Psychotherapy could be hypothesised to not only assist post-separation adjustment but target any existing suicidal ideation.

#### **4.4.2. Limitations**

The primary limitation of the study was that the sample was not representative of the population of people who have gone through a separation, so differences between males and females might reflect differences in willingness to participate in the research. Nevertheless, the thematic analyses identified specific areas of concern arising following a separation and suggest that there may be gender differences and issues that may be particularly pertinent to individuals experiencing

suicidal thoughts or behaviours after a separation. A further limitation of the study is the restriction of answers to the most important themes, meaning that only the most salient issues might have been reported, potentially influenced by time since separation (may change with recall/improvements over time). It should also be recognised that a longitudinal design is an advantageous mode of studying relationships and given the cross-sectional nature of this study, the conclusions that can be drawn regarding risk and protective factors in causing suicidal behaviour are limited and reverse causation cannot be ruled out. However, the data gathered from this study serves as a foundation for future research.

#### **4.5. Conclusion**

The current study found a significant difference between men and women in relation to the perceived benefits following a relationship separation. The study also highlighted potential adjustment and coping strategies that could be utilised following a separation, through a qualitative thematic analysis and comparison of men and women who reported suicidal ideation and behaviours. Chapters 3 and 4 have provided a synthesis of quantitative and qualitative data collected as part of a cross-sectional study. Together, the Chapters have illustrated the importance of identifying potential risk factors associated with suicidal thoughts and behaviours post-separation, and have identified opportunity for future intervention programs to integrate specific psychosocial targets, such as benefit finding and social support, that may be particularly salient for this group. The findings also further emphasise a need to find ways to integrate theory, experience and practice to provide more tailored support mechanisms for people experiencing a relationship separation. Chapter 5 will systematically review available controlled trials which evaluate interventions specifically targeting non-marital relationship separation and will

explore the outcomes assessed in comparison to the findings reported in Chapters 2, 3 and 4.

## **Chapter 5: A systematic review of controlled trials evaluating interventions following non-marital relationship separation**

### **5.1. Introduction**

Chapters 3 and 4 highlighted key findings from a cross-sectional study of Australian adults who had separated from a relationship. A number of significant factors were identified that could potentially be targeted in the form of an intervention for separated individuals, including active coping strategies, social support, self-esteem and benefit finding. The findings from the preceding chapters also highlight the need to actively target recently separated individuals to promote positive adjustment and decrease suicide risk. Therefore, the aim of this chapter is to review existing research to identify and explore interventions targeting non-marital relationship separation to ascertain if programs currently exist that target these factors and suicidal thoughts and behaviours.

#### **5.1.2. Separation of non-marital relationships**

As highlighted previously, the effect of a relationship separation on the well-being of an individual is substantial, with emotional, psychological and physical health affected (Chung et al., 2003). The negative consequences of divorce are well established, with research indicating that the psychological responses to the stress associated with separation may actually alter individual physiology (Hasselmo, Sbarra, O'Connor, & Moreno, 2015), and increase the risk for all-cause mortality (Sbarra, Law, & Portley, 2011). However, non-marital cohabitation dissolution can be just as distressing (Tavares & Aassve, 2013; Wu & Hart, 2002) with evidence that cohabitators have higher risks of union dissolution than people who married without prior cohabitation (Liefbroer & Dourleijn, 2006), and are more prone to experience relationship churning (relationships that end and renew) (Vennum, Lindstrom, Monk, & Adams, 2014).



As family structures continue to shift and traditional relationship definitions are no longer the norm, research exploring the negative effects of non-marital relationship separation warrants further investigation. Romantic relationships feature as a cyclical experience for many individuals as they progress through various stages of their lives, with up to 85% of individuals experiencing at least one intimate partner relationship separation in their lifetime (Morris, Reiber, & Roman, 2015). Increased psychological distress and a decline in life satisfaction are associated with a non-marital separation, with cohabitation and plans for marriage associated with even larger declines in life satisfaction (Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011). Further, relationship instability is reportedly 25% higher for cohabitators compared to reports by married couples (Brown, 2000), with non-marital couples who engage in cyclical dating, experiencing a greater chance of permanent separation, uncertainty and lower satisfaction (Vennum et al., 2014). The break-up of dating relationships has also been found to be associated with increased substance use (Fleming, White, & Catalano, 2010), with insecurely attached young adults reporting significantly higher anxiety, depression, loss of behavioural/emotional control and affect following a relationship break-up (Gilbert & Sifers, 2011).

### **5.1.3. Previous research**

The distinction between separation and divorce interventions relies on the area of service provision primarily conciliation, mediation or post-divorce adjustment, and the three major foci: adult-focused, child-focused and family-focused treatment (Lee, Picard, & Blain, 1994). A small number of reviews have been conducted that explore the efficacy of interventions for adults experiencing relationship separation. The primary focus of these reviews has been on divorce adjustment interventions (adult and child-focused), with all of the reviews finding consistent methodological issues including small sample sizes, inadequate study

design and a lack of standardised treatments (Lee et al., 1994; Sprenkle & Storm, 1983; Strouse & Roehrle, 2011; Zimpfer, 1990). Further, many of the reviewed studies only focused on divorce, with fewer studies examining cohabitation dissolution and fewer still investigating the effects of separation from dating relationships.

A large proportion of separation studies have explored mediatory divorce processes with traditional mediation services having been found to be an effective intervention for separating couples (Emery, Sbarra, & Grover, 2005). Integrative approaches such as the Conjoint Mediation and Therapy (CoMeT) Model have demonstrated initial support for parents engaged in high-conflict separations (Jacobs & Jaffe, 2010), and online e-mediated services reporting increased agreement rates and benefits for females (Bollen, Verbeke, & Euwema, 2014). However, from a mental health and adjustment perspective, interventions focusing on community-based groups, forgiveness approaches and expressive writing interventions have been found to be more widely used to impact overall adult adjustment. Forgiveness as a therapeutic post-separation intervention has gained momentum with studies exploring post-divorce dynamics including divorce adjustment (Rohde-Brown & Rudestam, 2011; Rye, Folck, Heim, Olszewski, & Traina, 2004; Yárnoz-Yaben, 2015), mental health (Rye et al., 2004), attachment style (Yárnoz Yaben, 2009), religiosity (Rye et al., 2005), and co-parental relationship quality (Bonach & Sales, 2002). The integration of expressive writing strategies and forgiveness after divorce has also shown to improve mental health outcomes and facilitate both dispositional and situational forgiveness (Rye et al., 2012). Expressive writing studies following separation have also explored the impact of writing on physical health (Lepore & Greenberg, 2002), and the influence of the type of writing task (Primeau, Servaty-Seib, & Enersen, 2013). Although, Sbarra, Boals, Mason, Larson, and Mehl (2013)

reported that expressive writing may be iatrogenic for highly ruminative individuals and those engaged in an active search for meaning concerning their separation. However, evidence has suggested that writing techniques, when targeted correctly, can have a positive effect on separation adjustment (Primeau et al., 2013; Sbarra et al., 2013).

#### **5.1.4. Aims and scope of this study**

No systematic review exists that examines interventions for a non-marital relationship separation, or that focuses specifically on mental health outcomes. Given the impact of separation on mental health and societal prevalence, the area warrants further investigation. Furthermore, the elevated level of risk, including increased suicidality associated with separation (Batterham et al., 2014; Heikkinen et al., 1992a, 1992b), suggests a pressing need to develop appropriate therapeutic interventions for individuals experiencing a relationship separation. Relationship separations differ from other distressing events in that most people will be exposed to a number of different romantic relationships and subsequent break-ups over a lifetime (Tashiro & Frazier, 2003). It is important to acknowledge that a separation may also be an opportunity for personal growth and benefit finding with the experience potentially improving the quality of future romantic relationships (Samios et al., 2014; Tashiro & Frazier, 2003). Also as relationship separations may be perceived as a valid impetus for seeking help through more formalised support channels, understanding the support mechanisms assisting positive adjustment following separation has important clinical implications.

The aim of the current review therefore is to identify and describe existing interventions targeting the mental health of individuals who have experienced a non-marital relationship separation. Based on findings in the preceding Chapters, I was also interested to explore whether there were any existing interventions that targeted

the risk factors identified in the systematic review and cross-sectional study. The current review builds upon the information garnered from the divorce intervention meta-analysis conducted by Strouse and Roehrlé (2011) by focusing on non-marital relationship separation, specifically post break-up, due to temporal risk factors associated with this time period (Batterham et al. 2014). For the purposes of this review, a non-marital relationship is defined as: An interpersonal relationship between un-married, heterosexual or same-sex partners (current and former), which involves emotional and physical intimacy. The focus centres on intimate partner relationship separation, including romantic/dating relationships (generally categorised as boyfriend/girlfriend relationships) and cohabiting relationships.

## **5.2. Method**

### **5.2.1. Search and screening procedures**

A systematic review of the literature was conducted to identify published studies. The Ovid database was electronically searched with one or more of the following key search terms (i) heartbreak OR romantic OR break-up OR relationship dissolution OR relationship separation AND intervention OR trial. The titles and abstracts of the 2866 articles identified by these searches were screened by the primary author to determine their relevance to the review. Completely irrelevant articles that were unrelated to the topic were excluded, while potentially relevant articles were retained and the full-text article examined for inclusion. Additional articles were also obtained from relevant reference list and Google Scholar searches. The search was conducted in October 2015 and all articles published prior to the search were considered.

The inclusion criteria for the current review required that the study (i) recruited individuals on the basis of having experienced a non-marital relationship separation; (ii) involved the evaluation of a trial designed to target the separation experience;

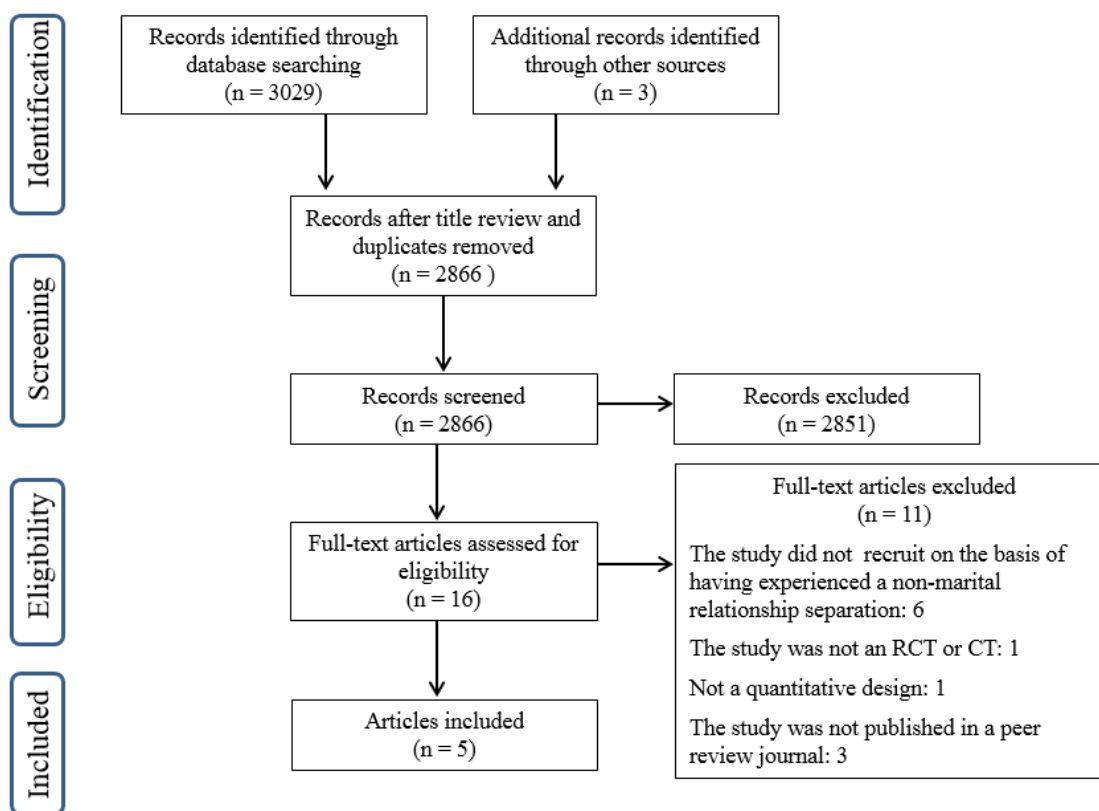
(iii) included a broad mental health outcome (a mental health outcome included mood, emotional or cognitive processing of emotion/trauma) (iv) used a control condition; (v) used a quantitative approach; and (vi) was published in a peer-reviewed English language journal. Due to the expected limited number of studies, no restrictions were placed on the types of mental health outcomes measured (i.e., any mental health outcome was acceptable), intervention setting or method of delivery (e.g., individual vs. group, face-to-face vs. distal) or trial design (i.e., randomised controlled trial or non-randomised controlled trial), to ensure a comprehensive review of the field. Studies that were randomised controlled trials or controlled trials were included in the current review. Uncontrolled pre-post studies were excluded, as suicidal ideation and other mental health symptoms may remit over time, and thus improvement in symptoms within an uncontrolled pre-post study may not be attributable to the actions of the intervention.

Following the database search, abstracts and titles were reviewed and irrelevant studies were removed; the remaining full-text articles were assessed for eligibility by all authors. Studies that fulfilled the inclusion criteria were double-coded by the primary author (DK) and one of two independent reviewers (ALC, PJB), with all relevant data collected and recorded. Disagreements between reviewers were resolved through discussion with a third coder.

#### **5.2.1.1. Coding of studies**

A pre-formulated coding sheet was used to code the final papers. Included studies were coded for (1) participant details, (2) study characteristics, and (3) outcome details. Data coding regarding *participant details* included the following: inclusion/exclusion criteria, time since break-up, average length of the relationship, measure of relationship quality, demographic information (i.e., SES, sexual orientation, race/ethnicity), total number of participants, age and gender. Data coding

of *study characteristics* comprised of the following: study design, method of recruitment, number of comparisons to control group, type of relationship (dating or de-facto), intervention content, therapeutic approach, intervention medium, program leader, intervention duration, intensity, number of follow-ups, measurement points and dropout (n, %). Finally, coding of *outcome details* included the following: primary/other outcomes, outcome pre to post intervention, significant differences at post intervention and follow-up and relevant effect size information. This process yielded five published empirical papers which are presented in the proceeding sections. Figure 5.1 depicts the PRISMA flow diagram for article inclusion.



**Figure 5.1. PRISMA flow diagram**

### **5.2.1.2. Effect Size Calculations**

To allow comparisons regarding the efficacy of the intervention programs, standardised effect size (ES) estimates were calculated using Cohen's *d*. Cohen's *d* was calculated by subtracting the mean intervention score from the mean control score at post-test and final follow-up assessment and dividing by the pooled standard deviation. Positive standardised effect size estimates indicate that the intervention group improved more than the control group. According to Cohen (1988), an effect size of 0.20 is considered small, while 0.50 is considered moderate and 0.80 is considered large. In some cases an effect size could not be calculated as insufficient data were reported. Due to the low quality ratings of the studies and inconsistent measurement of mental health outcomes, a formal meta-analysis was not completed.

### **5.2.1.3. Quality Ratings**

Quality ratings were completed by two coders, with study quality assessed using the risk-of-bias criteria proposed by the Cochrane Effective Practice and Organisation of Care Group (EPOC, 2015). The risk-of-bias criteria assesses the extent to which the study adequately (i) randomised participants to conditions (including the generation of the allocation sequence, the concealment of the sequence during randomisation and participant knowledge of condition allocation), (ii) assessed baseline differences between the conditions (including demographic and pre-intervention outcome measures), (iii) accounted for incomplete data, (iv) protected the study from contamination, and (v) reported trial outcomes without selectively reporting outcomes. Quality ratings are reported in the current review, as poor quality intervention studies can overestimate the size of intervention effects (Moher et al., 1998).

### **5.3. Results**

Five randomised controlled trials meeting inclusion criteria were identified in the review. One of the studies was conducted in China, and the remaining studies were from the United States ( $n= 4$ ). Table 5.1 presents the results and program details for each trial.



**Table 5.1. Interventions targeting individuals who have experienced a non-marital relationship separation**

Author	N	Age %F	Trial	Treatment	Mental Health Outcome Variables	Post-test effect size	Follow up
Larson & Sbarra (2015)	210 (119 complete)	F=78.1% 17-29 years M=19.3 SD=1.4	RCT	Multi-method assessment involving self-report measures of breakup specific distress, a four-minute stream of consciousness (SOC) speaking exercise (probing their thoughts and feelings regarding their breakup), a colour naming Stroop task and math tasks.	Cognitive Processing – Break-up related cognitive and emotional intrusion and avoidance (IES-R)	T1 to T4 IES-R: +0.03 ( <i>Not sig</i> )	N/A
Lepore & Greenberg (2002)	145	F=50.3% Age =N/A	RCT	Participants were instructed to write one 20-min essay on each of three consecutive days following instructions guiding them to write in-depth about their relationship.	Mood – Profile of Mood States (POMS-SF)  Cognitive Processing – Impact of Events Scale (IES)	POMS-SF: ( <i>Not sig</i> )  IES: ( <i>Not Sig</i> )	POMS-SF at T3: ( <i>Not sig</i> )  IES at T3: N/A
Lewandowski Jr (2009)	87	F=71.26% 18-41years M=19.5 SD=N/A	RCT	Participants were instructed to write about a specific topic for 20 minutes per day, for three consecutive days. For the positive and negative conditions, participants were guided to write in-depth about their relationship (based on Lepore & Greenberg, 2002).	Negative emotions – 18 item scale  Positive emotions – 20 item scale	Neg vs Neut= ( <i>not sig</i> )  Pos vs Neut= ( <i>sig</i> )  Pos vs Neg= ( <i>sig</i> )	N/A

Author	N	Age %F	Trial	Treatment	Mental Health Outcome Variables	Post-test effect size	Follow up
Rye & Pargament (2002)	58	F=100% 18-23years M=18.8 SD=1.1	RCT	Participants completed two group forgiveness interventions (secular and religiously integrated) which consisted of weekly, 90-minute, manualised group sessions for a six-week period. The content of each session differed across groups only with respect to the emphasis on religion/spirituality. The sessions roughly corresponded to the process outlined by Worthington (1998) involving: recall the hurt, develop empathy toward the offender, altruistic gift, commitment to forgive, and hold on to the forgiveness.	Anxiety – Costello and Comrey Anxiety Scale (CCAS)  Depression – Beck Depression Inventory (BDI)	Secular: CCAS: ( <i>Not sig</i> ) BDI: ( <i>Not sig</i> )  Religious: CCAS: ( <i>Not sig</i> ) BDI: ( <i>Not sig</i> )	Secular: CCAS: ( <i>Not sig</i> ) BDI: ( <i>Not sig</i> )  Religious: CCAS: ( <i>Not sig</i> ) BDI: ( <i>Not sig</i> )
Zhang, Fu, & Wan (2014)	31	F =100% 21-24 years M=22.1 SD=0.98	RCT	Participants engaged in a forgiveness intervention group based on the Chinese model of Enright’s Model of Forgiveness. The intervention was provided across six sessions but the length of session was not specified. The goal of the intervention was to raise participant’s level of well-being and reduce the level of anxiety and depression by promoting forgiveness. Sessions included: an uncovering phase, decision phase, work phase and outcome phase.	Depression – Beck Depression Inventory (BDI)  Anxiety – Beck Anxiety Inventory (BAI)	Forgive: BDI: +1.64 ( <i>sig</i> ) BAI: +2.56 ( <i>sig</i> )  General (IPT): BDI: +3.02 ( <i>sig</i> ) BAI: +2.74 ( <i>sig</i> )	Forgive: BDI: +2.04 ( <i>sig</i> ) BAI: +2.33 ( <i>sig</i> )  General (IPT) BDI: +0.78 ( <i>sig</i> ) BAI: +0.63 ( <i>sig</i> )

Notes, F= Female, M= mean, SD = Standard deviation, RCT = randomised controlled trial, sig = significant difference between the intervention and control condition, not sig = no significant difference between the intervention and control condition, T1-T4 = Measurement occasion 1 to 4.

### **5.3.1. Trial and program characteristics**

#### **5.3.1.1. Program content**

The content of the identified interventions varied, with many of the programs combining components of different therapeutic approaches. However, there did not appear to be one specific therapeutic modality that underpinned the program content across all of the interventions. The main therapeutic approaches employed were expressive writing and forgiveness. The primary intervention for two(40%) of the studies focused on cognitive and emotional processing through the use of writing tasks (Lepore & Greenberg, 2002; Lewandowski Jr, 2009). Two (40%) of the studies used a forgiveness-focused intervention (Rye & Pargament, 2002; Zhang et al., 2014) and one (20%) study employed a multi-method assessment including self-report and cognitive measures and a stream of consciousness speaking exercise(Larson & Sbarra, 2015). Suicidal thoughts or behaviours were not reported as outcomes for any of the five trials identified in the review.

#### **5.3.1.2. Program participants and target population**

The number of participants in a trial varied considerably and ranged from 31 to 210. The median number of participants in a trial was 120.5. A total of 531 participants were recruited across all studies. The average age of the participants was 20 years ( $n = 4$ ). All five of the identified programs targeted individuals who had experienced a non-marital dating relationship break-up. All of the participants were recruited from universities (100%). Two studies had all female participants and the remainder recruited mixed gender participants with limited information provided regarding socio-economic status. Available information pertaining to racial status reported that the majority of participants to be of Caucasian background ( $n = 3$ ), with one study focusing entirely on participants of a Christian faith. Adults who had

experienced a non-marital relationship separation were the primary target audience for all of the programs identified.

### **5.3.1.3. Relationship factors**

The average time since the relationship breakup, per study, was 9 weeks (range = 0 weeks –  $\geq 2$  years,  $n = 5$ ). The average length of the relationship prior to the breakup was 30 months (range = 1 month – 288 months,  $n = 5$ ). The nature of the relationship in all five studies was a ‘romantic relationship’ with no information indicating cohabiting status. Relationship quality prior to separation was only assessed by two of the studies describing a variety of types of “wrongdoing” or “transgressions” within the romantic relationship including: infidelity, emotional/verbal abuse, physical abuse or threats, deceit, rape, and broken commitment/unwanted relationship dissolution (Rye & Pargament, 2002; Zhang et al., 2014).

### **5.3.1.4. Program leaders and session structure**

The program leaders were members of the research team (80%) with one study using graduate students (20%) to facilitate the progress of the interventions. Two of the interventions (40%) integrated face-to-face group sessions, two (40%) were individual self-initiated writing tasks and one (20%) looked at self-reflection through a speaking exercise. Program sessions ranged in length from one day to a maximum of six-weeks. Session length was also variable, with task and session time differing for the face-to-face group interventions compared to the self-initiated writing task interventions. Interventions which utilised writing tasks as the primary exercise, ranged from one isolated writing task of up to 100 words, through to ten-minute writing tasks spaced across three days. The speaking exercise comprised of a four-minute free-association response task completed over four sessions. Group

intervention sessions were run face-to-face, with 90 minute to two-hour sessions, run over six weeks.

#### **5.3.1.5. Randomisation and follow-up**

All five of the interventions reported randomly allocating participants to the intervention and control condition. However, one trial (Rye & Pargament, 2002) reported a process of randomisation and was published as a randomised controlled trial but described a reallocation of participants to different conditions which compromised the quality of the trial. Of the trials identified, only one did not provide follow up comparison data past post-test, with the trials recording a follow-up period from two days to up to 15-weeks post intervention.

#### **5.3.1.6. Evaluation control group**

All five trials employed control groups in various formats. Two (40%) of the trials used an attention control, two (40%) employed a no intervention control group, and one (20%) used a wait-list comparison. Three (60%) of the trials also employed a comparative effectiveness approach, comparing two or more treatments within the trial.

#### **5.3.1.7. Mental health measures and study quality**

A variety of mental health measures were used in the trials including: the Beck Depression Inventory (BDI; Beck, Ward, & Mendelson 1961), the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown & Steer, 1988), the Impact of Events Scale (IES; Horowitz, Wilner, & Alvarez 1979), Impact of Events Scale – Revised (IES-R; Weiss, 2007), Profile of Mood States (POMS-SF; Shacham 1983), Costello and Comrey Anxiety Scale (Costello & Comrey 1967), Negative Emotions Scale (Lewandowski Jr & Bizzoco 2007), and the Positive Emotions Scale (Lewandowski Jr & Bizzoco, 2007).

In general, studies were of average quality, scoring an average five out of nine. A number of criteria were unclear or indicated a higher risk of bias including allocation concealment, incomplete outcome data and knowledge of allocation. Table 5.2 displays details of each study based on EPOC quality rating criteria. Lower quality scores may result from a range of conditions including limited randomisation details, withdrawals, re-allocation of participants to conditions, analytical methods that did not account for attrition and low retention rates. Poor quality scores were often attributable to limited detail in the trial reports, as opposed to a confirmation of a poorly designed trial. The effect sizes were variable, which were likely the result of the differences between program structure, content, delivery and trial quality. Poorly controlled trials may have also potentially over-or-under-estimated effects. Interventions that obtained small to medium effects may have masked potential benefits by not finding a significant difference due to a lack of power from a small sample size. The length or duration of the program or proximity of separation did not appear to have a clear influence on the available effect sizes.

**Table 5.2. Quality rating criteria met by each study using the Cochrane Effective Practice and Organisation of Care (EPOC)**

**guidelines**

Study author and year	Allocation sequence	Allocation concealment	Baseline measurements	Baseline characteristics	Incomplete data addressed	Knowledge of allocation	Contamination protected	Selective outcome reporting	Free of other bias
Larson & Sbarra (2015)	✓	✓	✓	?	?	×	?	✓	✓
Lepore & Greenberg (2002)	✓	?	✓	?	?	?	?	✓	✓
Lewandowski Jr (2009)	✓	?	✓	✓	?	?	?	✓	✓
Rye & Pargament (2002)	✓	×	✓	✓	×	×	✓	✓	×
Zhang, Fu, & Wan (2014)	?	?	✓	✓	?	×	✓	✓	✓

*Notes.* ✓ = Low risk bias, ? = Unclear risk of bias, × = High risk of bias

### 5.3.2. Intervention efficacy

The first trial that demonstrated efficacy in addressing mental health symptoms targeted female university students (Zhang et al., 2014) who were randomly allocated to one of two intervention conditions (group-based forgiveness or Interpersonal Psychotherapy [IPT]) or a control condition. The forgiveness intervention consisted of six weekly group sessions that focused on increasing well-being, and reducing anxiety and depression, by promoting forgiveness. The main premise of forgiveness therapy is the targeting of ongoing resentment which, if not addressed, may lead to negative psychological outcomes (Enright & Fitzgibbons, 2000). The IPT intervention also consisted of six, two-hour, weekly group sessions that aimed to reduce negative emotional symptoms and improve interpersonal functioning by focusing on communication and other interpersonal skills (Mufson, Gallagher, Dorta, & Young, 2004; Zhang et al., 2014). When compared to the control group, a significant post-test decrease in depression and anxiety was apparent for both the forgiveness (depression;  $d = 1.64$ , anxiety;  $d = 2.56$ ) and IPT (depression;  $d = 3.02$ , anxiety;  $d = 2.74$ ) interventions. At follow-up, the forgiveness group maintained a significantly lower level of depression ( $d = 2.04$ ) and anxiety ( $d = 2.33$ ) symptoms compared to the control condition, while the effect of the IPT intervention compared to the control condition decreased (depression;  $d = 0.79$  and anxiety;  $d = 0.63$ ) but still remained significant.

The second trial to demonstrate change in mental health symptoms, post-separation, targeted male and female participants (Lewandowski Jr, 2009). The intervention randomly assigned participants to one of three writing conditions (negatively-focused, positively-focused, and neutral [control condition]) to determine if the type of writing could impact a change in emotions, post relationship breakup. Participants were instructed to write about a specific topic (for the positive and



negative conditions, participants were guided to write in-depth about their relationship with either a positive or negative stance) for 20 minutes per day, for three consecutive days. Participants in the positive writing condition reported increased positive emotions at post compared to the control group,  $F(1, 60) = 9.40, p = 0.01$  and the negative writing condition,  $F(1, 54) = 4.43, p = 0.04$ .

None of the remaining trials demonstrated a significant intervention effect for mental health outcomes. These included a trial of a forgiveness intervention (Rye & Pargament, 2002) which showed no significant effect for measures of anxiety or depression post-treatment. Also a trial of expressive writing (Lepore & Greenberg, 2002) and a multi-method assessment including self-report and cognitive measures and a stream of consciousness speaking exercise (Larson & Sbarra, 2015), showed no significant intervention effect for reported mental health outcomes.

#### **5.4. Discussion**

The aim of the review was to identify and describe existing interventions targeting individuals who have experienced a non-marital relationship separation, and to assess the impact of the intervention on participant mental health and/or suicidal thoughts and behaviours. Overall, two of the five (40%) trials identified in the present review yielded a positive effective on anxiety and depression or positive emotions, relative to the control group, at post intervention and/or follow up (Lewandowski Jr, 2009; Zhang et al., 2014). The effective interventions were based on a range of therapeutic approaches, including forgiveness, IPT and expressive writing. The forgiveness-based intervention was presented in a group setting and the writing intervention was self-initiated. Unfortunately, it was not possible to calculate the size of effects for all of the interventions. However, post-test effect sizes for the forgiveness intervention (anxiety;  $d = 2.56$  and depression;  $d = 1.64$ ), and IPT intervention (anxiety;  $d = 2.74$  and depression;  $d = 3.02$ ) were reported. Given the

small standard deviations presented by the authors (Zhang et al., 2014), the large effect sizes are interpreted and reported with caution.

The results of the review suggest that there is a paucity of trials available that adequately assess the effect of non-marital relationship separation interventions on mental health outcomes and none that assess suicidality. The evidence to date has not been of the highest quality, with improvements needed in the facilitation of evidence-based trials and reporting outcomes. Nevertheless, of the research that has been conducted, it is evident that (a) The current evidence for writing interventions post-separation is low, and that there is a clear need to identify what differentiates effective writing interventions from non-effective ones, (b) There is preliminary evidence for forgiveness interventions, with a need for larger, more appropriately powered studies, and (c) there is preliminary evidence for the effectiveness of IPT, an evidence-based psychological intervention, with the need to further test this and other evidence-based approaches.

Three of the trials evaluated did not report specific or significant mental health effects. The first trial evaluated a writing intervention (Lepore & Greenberg, 2002) which reported no effect on levels of intrusions and avoidance or feelings and attitudes toward their ex-partner. Although some research has suggested that writing interventions can be an effective method for dealing with stressful life events (Frattaroli, 2006; Hirai, Skidmore, Clum, & Dolma, 2012; Krpan et al., 2013), a study by Sbarra et al.(2013) reported that up to nine months after an expressive writing intervention aimed at separated individuals, participants who were found to be highly ruminative and those engaged in an active search for meaning concerning their separation, reported significantly worse emotional outcomes. Their results suggested that instead writing about factual daily activities in the vein of behavioural activation, may actually help to re-engage separated adults with their day-to-day

routine allowing people to develop a restoration focus when coping with loss (Sbarra et al., 2013). Evaluating the speaking exercise, Larson and Sbarra (2015) reported that the group who completed four speaking exercises over a nine week period experienced greater improvements in self-concept clarity, improving their sense of self, independent from their former partner. This finding may have implications for mental health outcomes as reorganising self-concept could be an important psychological tool in implicitly effecting change following a separation. The final non-effective trial assessed a forgiveness intervention (Rye & Pargament, 2002). However, the magnitude of the effects obtained suggest that the forgiveness trial may have been underpowered to detect effects and thus further investigation of this particular intervention is warranted with a large sample that is properly powered.

#### **5.4.1. Limitations**

There are a number of limitations to the current review that should be noted. Due to insufficient available information to calculate effect sizes for some of the studies, considerable variability in participant characteristics, interventions and measurement of outcomes, a meta-analysis could not be conducted. It is also possible that publication bias was present in the current review, due to the risk that only articles reporting significant results in English language papers may have been accessible and that the systematic search may have inadvertently not identified all potential papers. The need for randomised controlled trials addressing consistent outcomes and using standardised mental health measures is warranted. In particular, the use of existing standardised measures of social-emotional, mental health and suicidality outcomes will enable comparison to existing data and help produce more robust evaluations.

### 5.4.2. Implications for future research

The findings from the forgiveness-based interventions suggest that looking toward acceptance, problem-solving and finding the positive in light of negative circumstances may facilitate growth following a relationship separation. Although most people will manage to readjust to life post-separation, a proportion will continue to experience difficulty (Sbarra et al., 2015). Research suggests that help-seeking for depression, and mental health more broadly, is fraught with issues relating to self and perceived stigmatizing responses (Barney, Griffiths, Jorm, & Christensen, 2006), poor mental health literacy and a preference for self-reliance (Gulliver, Griffiths, & Christensen, 2010). However, redefining the issue as context/experience specific (i.e., a relationship separation) may elicit strengthened help-seeking strategies, normalise the separation experience and propose more adaptive coping strategies that may have a life-long impact. Interpersonal Psychotherapy (IPT) is an evidence-based treatment, premised on a brief, structured approach that addresses interpersonal issues, and has been found to be an efficacious psychotherapy for depressive spectrum disorders (de Mello, de Jesus Mari, Bacaltchuk, Verdeli, & Neugebauer, 2005). Brief, theory-based, social-psychology interventions have the potential to yield improvements across achievement, health and wellbeing (Yeager & Walton, 2011), and have been used to protect declines in marital quality (Finkel, Slotter, Luchies, Walton, & Gross, 2013) and promote psychoeducation for divorce adjustment (Brotherson, White, & Masich, 2010). The diathesis-stress model provides a platform from which an intervention, like IPT, can focus on identifying life events or interpersonal issues that precipitate and maintain mental difficulties (Lipsitz & Markowitz, 2013). Working to resolve the interpersonal problem, IPT shifts to focus on the relationship separation in order to enhance social support, decrease interpersonal stress, facilitate emotional processing

and improve interpersonal skills (Lipsitz & Markowitz, 2013). This approach may be effective in dealing with relationship breakdown and offers a potential avenue for future research. However, no other studies in the review tested IPT specifically in a sample of separated individuals.

Suicidal thoughts or behaviours were not reported as outcomes for any of the trials identified in the review. Given the association between intimate partner separation and suicidality, it is important to develop and evaluate interventions that aim to support people through this difficult time and to promote long-term recovery (Kazan et al., 2016). There is also lack of additional research evaluating the reciprocal impact of mental health and relationship separation. The determination of whether separation plays a direct causal role in the emergence of mental health issues or whether other variables predict the likelihood of separation is difficult to define. However, studies have highlighted that history of mental illness likely predisposes an individual to relapse following a divorce (Sbarra, Emery, Beam, & Ocker, 2014). Research also suggests that the effect of separation on mental health problems may be short-term, which is often not adequately addressed through longitudinal studies (Blekesaune, 2008; Gibb et al., 2011). A more robust approach to assessing and identifying causal associations may be to establish randomised controlled trials to assess whether mental health interventions reduce the rate of relationship separation or whether interventions aimed at recently separated individuals reduce rates of subsequent mental health issues (Gibb et al., 2011). In future research it may also be beneficial to undertake a broader review of the literature to identify interventions that target broader mental health issues that could be valuable for people with a recent separation.

## 5.5. Conclusion

The current findings identify the shortage of comprehensive randomised controlled trials in the area of non-marital relationship separation. Further, the review suggests that there is a paucity of trials available that adequately assess the effect of non-marital relationship separation interventions on mental health outcomes and none that consider suicidal thoughts and behaviours. Overall, two of the five trials identified in the present review yielded a positive effective on anxiety and depression and positive emotions. These programs comprised of a forgiveness-focused group intervention, IPT and a self-initiated writing intervention. The available data were variable, which were likely the result of the differences between program structure, content, delivery and trial quality. The inconsistent measurement of mental health outcomes also highlights the lack of evidence-based direction in the area of non-marital separation with the lack of trials testing theory driven interventions for relationship separation of particular concern. The review establishes the need for more randomised controlled trials addressing consistent outcomes including standardised measures of social/emotional, mental health and suicidality outcomes following non-marital relationship separation. Further, the review demonstrates that there are limited studies available that target the factors identified in Chapters 2, 3 and 4, and none that considered suicidal outcomes. Therefore, the development of a new intervention that takes into consideration the identified risk factors and provides a framework for the measurement and intervention of suicidal outcomes is warranted.



## **Chapter 6: Rationale for an IPT-B podcast intervention to reduce suicide-risk following separation**

### **6.1. Introduction**

The previous chapters have highlighted the utility of developing an intervention targeting appropriate psychosocial factors that support the adjustment of individuals who have recently separated from a relationship and may be at risk of suicidal thoughts and behaviours. Stigma regarding suicidal ideation and behaviours continues to create barriers to help seeking (Han, Batterham, Calear, & Randall, 2017). Cost burden, accessibility, and lack of understanding all contribute to difficulties in service access and at times may act as a deterrent to seeking evidence-based support that will likely result in improved well-being (Czyz et al., 2013). A rationale for the targeting of separated individuals is the hypothesis that individuals who have recently separated from a partner may be more willing to identify a need for help, and engage with an intervention specifically designed for relationship separation but which also addresses the increased risk of suicidal ideation following separation.

The use of technology to deliver mental health interventions has grown rapidly in the past two decades and extends to new developments in the juncture between health and technology including the use of audio podcasts. The use of podcast technology is novel, accessible and has not been trialled within the area of psychosocial adjustment and suicidal ideation. With an increase in the uptake of podcast technology (Madden & Jones, 2008), it is hypothesised that a broad target population may be recruited and retained through the streamlined and accessible participation mode. Although technology can play an important role in allowing individuals to have autonomy over their health, adherence to web-based programs is



a continuing problem (Ludden, van Rompay, Kelders, & van Gemert-Pijnen, 2015). Design elements which encompass relationship perceptions involving empathy, dialogue support and a sense of interaction can potentially influence the user's connection to the intervention and encourage adherence (Kelders, Kok, Ossebaard, & Van Gemert-Pijnen, 2012). The rationale for the uptake of audio technology suggests that through the use of a human voice and an image of an identified 'expert host' there is more potential for a connection to content to evolve for the listener.

The use of smartphone technology is changing the landscape of health information (Bangia & Palmer-Keenan, 2014). Mobile devices have infiltrated clinical settings with mobile applications (apps) transforming many aspects of clinical practice for health care professionals (Ventola, 2014). Further, the use of mobile apps in health interventions has shown increasing evidence of the effectiveness for a range of health-related mobile interventions (Zhao, Freeman, & Li, 2016), and modest evidence for the use of online social networks in the delivery of health behaviour change campaigns (Maher et al., 2014). However, there is a need for more research with large samples, and high-quality randomised controlled trials, as well as public education highlighting the evidence-base for those websites and apps currently available (Donker et al., 2013; Zhao et al., 2016). The aim of the present chapter is to present the evidence for the development of the a podcast intervention designed to provide mental health support following a relationship separation, and propose a rationale for the integration of Interpersonal Psychotherapy (IPT) and the Interpersonal Theory of Suicide into a unique online context.

## **6.2. Podcast interventions**

A podcast can be described as a technological-based learning method delivered through the use of audio and/or video which is broadcast through the internet (Evans, 2008). The podcast is typically downloaded from the internet as an

electronic media file, which the user can then listen to on a smart device (i.e. smart phone or iPad) or computer (Turner-McGrievy, Kalyanaraman, & Campbell, 2013). A 2016 Pew Research Centre Podcasting Survey examined several characteristics of podcast listeners in the United States and found that 21% of Americans, aged 12 years or older, reported that they had listened to a podcast in the past month, with 36% of people having *ever* listened to a podcast which is double the share who had done so in 2008 (Vogt, 2016). The Australian Broadcasting Corporation (ABC) conducted a survey in 2017 to explore how Australians engage with podcasts. They surveyed 2,599 Australian ABC YourSpace members and advertised the survey through online social media. The study demonstrated that 79% of respondents had listened to podcasts within the last week, with 80% claiming to have listened to the whole podcast. Smartphones were identified as the preferred device to listen to podcasts on and were reportedly used by one in two respondents, which rose to 70% among 14 to 34 year olds (Australian Broadcasting Corporation [ABC], 2017). Although podcasts still only make up 2% of all audio listening, compared with 54% of time spent listening to AM/FM radio (Vogt, 2016), the adaptability and personalisation of podcasts is what creates a unique opportunity to target population health.

Podcasts have been found to be an advantageous educational method, particularly in higher education settings (Meade, Bowskill, & Lymn, 2011; Shantikumar, 2009). Researchers exploring the use of podcasts within medical schools reported a significantly higher gain of knowledge and higher satisfaction from learning with podcasts when compared to textbooks (Back et al., 2017). The use of podcasts was also found to be effective in delivering education regarding the implementation of a therapeutic intervention. Clinicians were asked to listen to a podcast regarding the implementation of a grief and trauma intervention for children.

Following the task, participants commented on the efficacy of podcasts in their brevity and ability to summarise information (Salloum & Smyth, 2013).

Podcasts have also been used to achieve weight-loss, with a randomised controlled trial, the Pounds Off Digitally Study (PODS), demonstrating that the use of behavioural, theory-based podcasting may be an effective way to promote weight loss (Turner-McGrievy et al., 2009). The study explored the use of a podcast based on Social Cognitive Theory (SCT) for 12-weeks, with an average length of podcast of 15 minutes. Compared to the control group (playing a currently available weight loss podcast), the enhanced SCT podcast which was specifically designed for the intervention, produced greater weight loss, higher user control, elaboration and less cognitive load (Turner-McGrievy et al., 2009). PODS was further extended to analyse an enhanced mobile approach including a combination of podcasting, mobile support communication, and mobile diet monitoring to assist people in their weight loss. The authors reported that the addition of Twitter, as well as mobile monitoring, did not enhance weight loss over the effects of using a podcast alone (Turner-McGrievy & Tate, 2011).

Further research using PODS explored participation through podcasts, Twitter and type of device used (mobile vs. non-mobile). The results indicated that more than half of the study participants accessed podcasts and Twitter using non-mobile methods (Turner-McGrievy & Tate, 2014). However, the study also showed that engagement did not differ by device for podcast downloads (Turner-McGrievy & Tate, 2014). The authors of the study concluded that home and work were the two most common places to listen to podcasts and that participants may have found it easier to access their computer with headphones and listen while multi-tasking at their desk (Turner-McGrievy & Tate, 2014). The authors also reported a trend toward greater weight loss among participants who used mobile methods to access

the podcasts as compared to desktop computers. The authors theorise that workplace distractions could have hindered information encoding on a desktop and that mobile users may have listened to the podcast when ready to receive the information (Turner-McGrievy & Tate, 2014). Further, headphone listening has been found to be preferred over speaker listening, with greater attention to content occurring when listening with headphones (Kallinen & Ravaja, 2007).

The efficacy of population parenting programs were evaluated through the use of a brief series of online podcasts based on the Triple P-Positive Parenting Program (Morawska, Tometzki, & Sanders, 2014). The authors reported medium to large effects with the effects maintained at the six-month follow-up. The study demonstrated that the use of internet delivered podcasts could be a successful and cost-effective tool for the distribution of brief population-level parenting interventions (Morawska et al., 2014). Morawska et al. (2014) identified that the utility of podcasts lies in low development and administrative costs, no practitioner contact and that it places little demand on people's time. They further argued that from a public health perspective, the podcast method of delivery has a huge potential reach (Morawska et al., 2014).

A study exploring novelty and user control using a text-based website or listening to the same information via podcast found that participants receiving the information via podcast exhibited greater levels of physiological arousal and reported increased novelty compared to those in the web group (Turner-McGrievy et al., 2013). However, the researchers found that the text-based web group reported more user control. In terms of construction, both the website and podcast were designed to present information in a linear manner that has been shown to increase factual learning over web presentations in a nonlinear structure (Eveland & Cortese, 2004).

The authors did not find any differences in knowledge between the two groups (Turner-McGrievy & Tate, 2014).

A 2010 study explored motivation for podcast use, the authors found that users reported enjoyment of use, ease of access, ability to save and listen later, and the ability to discuss content socially (McClung & Johnson, 2010). They concluded that it was the content that users valued the most and the social aspect of media appeared to be a primary motivator for use (McClung & Johnson, 2010). The effectiveness of podcasts was also found to be enhanced with either modelling or mental practice (Alam et al., 2016). Modelling is “the process of acquiring knowledge, skills, and attitudes through viewing examples of performance” and mental practice is “the cognitive rehearsal of a task in the absence of overt physical movement” (Alam et al., 2016, p. 791). In terms of using mental practice through audio alone, the authors suggested that guiding listeners to create their own mental images in the first person may help create a personal symbolic connection to complex content (Alam et al., 2016). Research by Petty, Barden, and Wheeler (2002) suggested that in order to successfully encode information, messages need to match some aspect of the person’s self to be persuasive. It is also important to balance quantity with quality and be aware of potential impact that high cognitive load may have on adherence. High cognitive load occurs when information exceeds an individual’s capacity to process it both cognitively and emotionally (Ko, Turner-McGrievy, & Campbell, 2014). By keeping new information simple and relatively short and maintaining a routine and expected format, Ko and colleagues (2014) suggested that cognitive load might be reduced by encouraging a sense of structure.

Research regarding podcasts within the mental health space has been limited. One study investigated whether an audio podcast could challenge negative appraisals of psychotic experiences in the general population. The authors used one, 15-minute

podcast and found that listening to a podcast containing normalising information about psychotic responses resulted in lower scores of negative appraisals of auditory hallucinations and paranoia, higher scores on normalising beliefs about paranoia and higher estimates of the prevalence of psychotic phenomena (French et al., 2011).

The primary aim in terms of the development of an online intervention is to reduce barriers associated with help-seeking (Turner-McGrievy & Tate, 2014). With 80% of web users having identified that they have used the Internet to access health information, it is an area rich in opportunity for population reach (Fox, 2011). Podcasting allows for greater participant freedom and control (Ko et al., 2014) and offers opportunity for more research to assess this emerging technology for mental health interventions. The delivery of a theory and evidence-based audio intervention, led by a Clinical Psychologist, may in notion support adherence and engage the individual through a novel mechanism. A model proposed by Bråten, Britt, Strømsø and Rouet (2011) postulates that when individuals are made aware that the information is transmitted by experts they tend to give prominence to trustworthy information in their overall representation of the issue (Kammerer, Amann, & Gerjets, 2015). The Elaboration Likelihood Model (ELM) also proposes that when information is perceived as personally relevant, individuals are more likely to process and elaborate the content more thoughtfully (Hawkins, Kreuter, Resnicow, Fishbein, & Dijkstra, 2008; Priester, Cacioppo, & Petty, 1996). Engagement with an expert personality may be a unique benefit to the delivery of a podcast intervention (French et al., 2011). The uptake of podcasts over the last few years has demonstrated the utility of portable modes of information and learning. Podcasts appear to be a useful modality but more evidence exploring how therapeutic approaches can be integrated to influence health and behavioural change is needed.

### **6.3. Interpersonal Psychotherapy and relationship separation**

The breakdown of an intimate partner relationship is intrinsically social in nature. Not only is it the breakdown of a relationship between two people but the ramifications of a separation tend to have a flow-on effect through layers of existing relationships mutual to the couple. Further, the process of separating is akin to a transition, from a coupled relationship to identifying as a single individual. It could be hypothesised that by focusing on the relationship separation as the current negative life event and primary stressor, strategies could be mobilised that enhance social support and increase interpersonal skills leading to better adjustment (Kazan et al., 2017; Lipsitz & Markowitz, 2013).

The structure of the IPT problem areas lends itself to its adaptability to different life experiences and mental health problems (Cuijpers, Donker, Weissman, Ravitz, & Cristea, 2016). The three specific areas that reflect the interpersonal nature of treatment are grief and loss, interpersonal disputes and role transitions. Grief and loss issues may focus on the literal death of a significant other but is broad in nature depending on how the client conceptualises their experience. Interpersonal disputes involve conflict between people and often stem from communication issues or unrealistic expectations. Role transitions involve a changing social role and accompanying social changes – divorce and relationship separation are often categorised into the transition problem area (Stuart & Robertson., 2012).

The template from which IPT operates is an individual's biopsychosocial, cultural, and spiritual diathesis, with the theory positing that it is within this framework that interpersonal crises occur when there is insufficient social support. Stuart and Robertson (2012) view IPT as a dynamic intervention constantly evolving in response to empirical research and clinical experience. They propose that IPT's dual focus aims to first improve social communication and help the patient to

develop realistic expectations, after which they can better seek interpersonal support with the issue(s) that precipitated the distress (Stuart & Robertson, 2012).

Attachment theory also plays a primary role in the foundation of IPT. From a multi-dimensional framework, attachment style combines with genetic contributions, which affects the individual's vulnerability to stress. "Once this individual is exposed to a sufficient psychosocial crisis, it is theorised that the likelihood of psychiatric dysfunction is increased" (Stuart & Robertson., 2012, p. 24). Overall, the focus within IPT is not to *change* the individual's attachment style but to help them communicate their attachment needs more "directly and graciously, and helping to construct a more supportive social network" (Stuart & Robertson., 2012, p. 25).

Within the previous studies completed as part of this thesis, a rationale for the use of IPT as the primary mode of therapeutic intervention was developed. The qualitative analysis detailed in Chapter 4 explored a series of open-ended questions relating to the experience of separation. A thematic analysis revealed that difficulty in letting go and moving on, loss of companionship and social connections, and loneliness and isolation were common experiences following a separation. Further, when analysing strategies to help support a person experiencing a separation, spending time with family and friends and talking about the experience were identified as important strategies in the answers provided. These themes fit well within the IPT framework. The role transition problem area of IPT corresponds well with the most commonly referred to theme regarding 'difficulty of moving on'. While the themes of social connection, isolation and a desire to communicate with family and friends feed into the core tenants of IPT, which are to build and extend social support networks.

The quantitative analysis in Chapter 3 identified factors that could be potentially targeted using an intervention, including active coping, family support,



negative friends and self-esteem. When further analysing the psychosocial factors examined within the study and delineating between the presence or absence of suicidal thoughts or behaviours, it is clear a number of factors (i.e., depression symptoms, loneliness, former partner attachment, self-blame, active coping, emotional support and acceptance) are significant on their own and fit well within an IPT framework. Further, the systematic review in Chapter 5 reported that in reviewing existing interventions for relationship separation, IPT was found to be more effective in targeting anxiety and depression when compared to a forgiveness intervention (Kazan et al., 2017; Zhang et al., 2014). It was concluded that there exists a lack of trials testing theory-driven interventions for relationship separation, however, an opportunity exists for IPT to be tested specifically in a sample of separated individuals (Kazan et al., 2017).

The rationale for focusing on the role transition phase for the intervention was based on the notion that change is inevitable and that timely transition can be conceptualised as part of the separation adjustment process. The process of role transition within IPT centres on the idea that all narratives have both good and bad aspects and that it is important to help a person organise their transition narrative in a balanced and realistic way (Stuart & Robertson, 2012). Relationship role transitions including both divorce and separation can be experienced as a major crisis if an individual does not have the social support or is prone to attachment vulnerabilities (Stuart & Robertson, 2012). Through the use of IPT strategies, the separated individual can be encouraged to explore their experience through a more balanced, realistic and meaningful way and develop and/or reconnect to social supports.

#### **6.4. Interpersonal Psychotherapy and suicidality**

The specific application of IPT to a population with suicidal thoughts and/or behaviours has not been widely researched. This could be due to difficulty in

recruiting participants with suicidal thoughts and/or behaviours, funding restrictions and cross-over of clinical expertise from IPT to working with a suicidal population. There is also insufficient evidence to suggest that psychotherapy for adult depression has an effect on suicidality (Cuijpers et al., 2013). This is in part due to the low power and poor quality of existing trials and potentially the difficulty in recruiting participants as suicidal behaviours are substantially less prevalent than depression and anxiety, so larger trials are needed (Cuijpers et al., 2013). However, a meta-analysis exploring the effects of psychotherapy for adult depression on suicidality and hopelessness did report a significant reduction in hopelessness, which has been demonstrated to be associated with suicidality (Cuijpers et al., 2013). It is clear that more research is needed to assess the efficacy of psychotherapy on suicidal thoughts and behaviours (Weitz, Hollon, Kerkhof, & Cuijpers, 2014).

Signs of efficacy for the treatment of depression and suicidal thoughts and behaviours have continued to be mixed. Although there is limited evidence for IPT, there are also few trials that have examined the effectiveness of other forms of behavioural therapy for treating suicidal thoughts and behaviours. A study exploring the impact of depression treatments on reducing suicidal ideation found that IPT alone significantly reduced suicidal ideation scores and suggested that treatments for depression, including antidepressant medication, reduced suicidal ideation in the mild to moderate risk categories (Weitz et al., 2014). However, the study also highlighted that the findings should be interpreted with caution and called for trials to include separate and valid measures of suicidal ideation and intent. Another study exploring emergent suicidal ideation reported that pharmacotherapy might have stronger effects on suicidality than IPT, although IPT was endorsed as a safe treatment for people who reported past suicide attempts (Rucci et al., 2011). An adaptation of IPT for depressed adolescents (12 to 18 years) with suicidal risk

(intensive Interpersonal Psychotherapy for depressed adolescents with suicide risk; IPT-A-IN) demonstrated superior effects in reducing severity of depression, suicidal ideation, anxiety, and hopelessness in depressed adolescents with suicide risk in schools (Tang et al., 2009). The intervention compressed IPT into two sessions for six consecutive weeks, with interpersonal conflicts featuring as the foci of the intervention (Tang et al., 2009). This study highlighted the potential efficacy of a short-term IPT treatment model in treating suicide risk in the community.

The aim of the current study sought to explore the applicability of IPT in targeting suicidal ideation through a multidimensional framework, not only looking at depression symptoms, but also exploring how the intervention can be applied to existing suicide theories. The promotion of connectedness in suicide prevention research (Van Orden & Conwell, 2011), highlighted an opportunity to further investigate the potential integration between IPT and the Interpersonal Theory of Suicide (Joiner, 2005) within a community of people who had separated from a partner and were at a potentially heightened risk of suicidal thought and behaviours (Kazan et al., 2016).

The Interpersonal Theory of Suicide was first proposed by Joiner (2005) and further refined by Van Orden et al. (2010) and proposes that individuals who die by suicide have to have both the desire to die and the capability to attempt to do so. Suicidal ideation is driven by a sense of thwarted belongingness (a lack of connection and reciprocal relationships) and perceived burdensomeness (the perceived notion that one is a liability to others). It is hypothesised that the presence of either thwarted belongingness or perceived burdensomeness alone is a predictor of passive ideation and the combination of these two constructs is believed to predict active ideation (Cero, Zuromski, Witte, Ribeiro, & Joiner, 2015). Recognising that in order to move past basic self-preservation instincts, the Interpersonal Theory of

Suicide proposed that people develop an acquired capability for self-harm through exposure to stimuli that are fearsome and painful. Once acquired, the theory posits that serious suicidal behaviour will occur when the desire to die by suicide is accompanied by the acquired capability to do so (Joiner, Ribeiro, & Silva, 2012).

It is difficult to accurately identify all of the unique factors that form to predict suicide risk and from a clinical perspective, it may not be feasible to cover a broad range of suggested risk factors when quantifying suicide danger in a community setting. Joiner's theory proposes that risk interventions need not target all risk factors but focus on the factors that create or magnify the constructs of the Interpersonal Theory of Suicide (Van Orden & Conwell, 2011). Changes to perceived burdensomeness and thwarted belongingness are argued to be mediators between the therapeutic intervention and the outcome of interest (i.e., reduced suicide risk) with risk being reduced by eliminating or reducing these mediators or by addressing the presence of acquired capability. In the context of a relationship separation, the targeting of perceived burdensomeness and thwarted belongingness through a pro-social and communicative therapeutic modality, such as IPT, could be hypothesised to not only assist in adjustment but also target any existing suicidal ideation.

The idea of increasing connectedness, specifically within an older adult cohort, has been demonstrated to reduce suicide deaths through the use of a telephone-based outreach intervention (De Leo, Buono, & Dwyer, 2002). A multifaceted intervention including volunteer and peer support activities also reported that increasing social connectedness might be an effective mechanism to target within suicide prevention interventions (Oyama et al., 2008). A study exploring an adapted version of the 16-session standard IPT intervention for older adults at suicide risk (PROSPECT; Prevention of Suicide in Primary Care Elderly:

Collaborative Trial) found significant reductions in suicide ideation, death ideation, and depressive symptom severity (Heisel et al., 2015). By looking beyond suicide risk factors and towards a more complementary focus on resilience, older adults expressing greater perceived meaning of life and life satisfaction reported significantly less suicidal ideation (Heisel & Flett, 2008; Heisel et al., 2015).

### **6.5. Adapting Interpersonal Psychotherapy to an online context**

Interpersonal Psychotherapy (IPT) has proved to be an adaptable and flexible therapeutic modality across a number of mental health problems (Cuijpers et al., 2016). Since its development in the 1970s, as a tool to treat depression, it has continued to be adopted as an evidence-based treatment option in the treatment of depression across different populations and has been applied to a number of disorders including post-natal depression (Swartz et al., 2004), anxiety disorders (Lipsitz et al., 2008), eating disorders (Agras, Walsh, Fairburn, Wilson, & Kraemer, 2000), and substance use disorders (Carroll, Rounsaville, & Gawin, 1991).

There is significant opportunity in the area of internet and mobile interventions for mental health interventions. In terms of its adaptability, IPT has been modified to fit different health service contexts and meet the needs of various health professionals and target populations. The attractiveness of IPT as an online therapeutic modality is in its time-limited and structured approach. In an online context, IPT has been found to be an effective self-guided online treatment method for reducing depressive symptoms (Donker et al., 2013), with younger people preferring internet delivered IPT whereas older participants preferred internet-delivered CBT programs (Donker et al., 2013). It was hypothesised that this difference potentially stemmed from the generally more pronounced interpersonal difficulties experienced by young people in their developing years (Donker et al., 2013).

In terms of brevity for an online adaption of IPT, studies have demonstrated that change can be made with brief psychotherapies. In the treatment of depression, brief psychotherapies lasting from six to eight sessions have been found to be efficacious (Nieuwsma et al., 2012). Specifically, in their meta-analysis of brief psychotherapy for depression, Nieuwsma et al. (2012) found that six to eight sessions of Cognitive Behavioural Therapy (CBT) and problem solving therapy was found to be more efficacious than the control. A meta-analysis of randomised controlled trials of brief (two to ten appointments) psychological therapies of adult patients with anxiety, depression or mixed common mental health problems treated in primary care compared with treatment as usual, found that brief CBT, counselling and problem solving therapy were all effective treatments – with brief CBT for anxiety having a greater impact on clinical outcomes (Cape, Whittington, Buszewicz, Wallace, & Underwood, 2010).

Although IPT has not yet been adapted into an online format that supports the intervention of suicidal individuals, online programs targeting suicidality have reported modest results. There is preliminary evidence that an online self-help intervention for suicidal ideation is feasible, effective and cost saving (van Spijker, van Straten, & Kerkhof, 2014). A systematic review of web-based suicide prevention methods has also suggested that online methods may have benefits to the community (Lai, Maniam, Chan, & Ravindran, 2014) but that the effectiveness of internet interventions might be increased if they specifically targeted suicidal thoughts, rather than associated conditions such as depression (Christensen, Batterham, & O'Dea, 2014). However, there still exists a paucity of evidence-based research regarding the effectiveness of web-based suicide prevention strategies with a need for more robust controlled studies to establish appropriate psychosocial targets and effective online screening methods (Christense et al., 2014; Lai et al., 2014).

IPT has already been adapted for different populations and circumstances, specifically the development of two brief versions of the original 16 to 20 session intervention. In developing the framework for the thesis intervention, both Interpersonal Counselling (IPC) and Brief-Interpersonal Psychotherapy (IPT-B) were considered as suitable therapeutic frameworks from which an online audio intervention could be developed.

### **6.5.1. Interpersonal Counselling (IPC)**

Interpersonal counselling (IPC) was originally developed in response to a need for short-term and accessible psychotherapeutic interventions in primary care (Judd, Weissman, Hodgins, Piterman, & Davis, 2004). Gerald Klerman and Myrna Weissman developed IPC in 1983 using scripts to allow professionals in health care settings with no mental health background to administer the intervention to patients with identified depressive symptoms, including doctors working within general practice (Judd et al., 2004). The structure of IPC differs from traditional IPT in the number and duration of sessions, six sessions compared to sixteen, and thirty minute (to 45 minute) sessions compared to one hour (Judd et al., 2004). Further, the sessions can be scheduled flexibly (weekly or more or less frequently) dependent on the patients' needs and preferences (Weissman et al., 2014).

The ethos of IPT has been retained in the development of IPC with the three focal areas remaining the focus of the intervention. Within this therapy framework participants are assisted to identify strategies in response to interpersonal problems (Serretti et al., 2013). The rationale for implementing IPC in primary care settings is to fill a perceived gap between lower intensity treatments for individuals with mild to moderate needs (Weissman et al., 2014). The development of depressive symptoms can be a transient reaction to negative life events with a prolonged and sustained

approach not necessary for patients whose symptoms may remit after 6 (or fewer) sessions (Weissman et al., 2014). In terms of specific presentations, IPC has been found to significantly decrease symptoms of depression in depressed women following a miscarriage (Neugebauer et al., 2007), medically ill older patients (aged 60 years or older; Mossey, Knott, Higgins, & Talerico, 1996), breast cancer (Badger et al., 2013), myocardial infarctions (MI; Oranta, Luutonen, Salokangas, Vahlberg, & Leino-Kilpi, 2010; Oranta, Luutonen, Salokangas, Vahlberg, & Leino-Kilpi, 2011), and frequent attenders in primary care (Sinai & Lipsitz, 2012).

A number of studies have explored the applicability and efficacy of IPC in response to depression in primary care settings. A recent study comparing the preliminary efficacy of IPC compared to IPT in a clinical setting found that IPC delivered by psychiatric nurses proved equally as effective as IPT delivered by psychologists in secondary care (Kontunen, Timonen, Muotka, & Liukkonen, 2016). Although the sample size was small ( $n = 20$  in each group), 12-month follow-up found a corresponding remission rate of 61% for both groups on the Beck Depression Inventory (BDI) Scale (Kontunen et al., 2016). The results found that for untreated primary care patients with mild to moderate symptoms of depression, IPC is an appropriate first-phase intervention (Kontunen et al., 2016). Further, when compared with the treatment of depression with selective serotonin reuptake inhibitors (SSRIs), the proportion of patients who achieved remission at two months following IPC was significant at 58.7% compared with 45.1% for the SSRI group (Menchetti et al., 2013). Specifically, the results showed significant effectiveness for patients experiencing their first depressive episode. A review of available IPC trials identified 13 studies, which found that overall IPC improved depressive symptoms and functioning (Weissman et al., 2014). Interestingly, studies that did not specify



depressive symptoms as an inclusion criterion reported weaker findings for the IPC intervention.

IPC can be readily adapted for telephone use (Weissman et al., 2014).

Telemedicine has been found to be a flexible, private and non-stigmatising resource that may be an option for reducing barriers including accessibility and socio-economic status (Dennis et al., 2012). Research results have suggested that IPT may also be provided effectively via telephone (IPT-T; Miller & Weissman, 2002), with a small study ( $n = 15$ ) measuring depression outcomes between IPT delivered via telephone versus no treatment. This study found a significant improvement for depression, global functioning and work and social functioning (Miller & Weissman, 2002).<sup>1</sup>

### **6.5.2. Brief Interpersonal Psychotherapy (IPT-B)**

Brief Interpersonal Psychotherapy (IPT-B) is an eight-session intervention adapted from the original evidence-based psychotherapy, Interpersonal Psychotherapy (IPT) developed by Klerman, Dimascio, Weissman, Prusoff, & Paykel (1974). The key difference is in the length of sessions and duration of intervention, with IPT-B reducing the need for the standard 16 one-hour session framework. The rationale for IPT-B is to provide an opportunity for individuals to access the benefits of traditional IPT who may not necessarily have the time or resources to be able to commit to a full 16-session intervention. The key difference between IPC and IPT-B is that the six-session IPC is designed to treat distress (not

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<sup>1</sup>Contact was made with Professor Myrna Weissman to inquire about access to the IPC manuals and to discuss the potential to adapt IPC to an online context. Professor Weissman reported that she was currently a part of another project looking at adapting IPC to an online context and would not be able to provide access to the IPC manuals for the purposes of the podcast program. As a result of this conversation it was decided, in consultation with the supervising team, that the research would pursue the adaptation of another short form of IPT, Brief Interpersonal Psychotherapy (IPT-B), which was developed by Swartz et al. (2004). In consultation with Professor Holly Swartz we were provided with the appropriate manuals and decided to continue with the adaptation of IPT-B to an online audio context.

depression) in primary care patients (Klerman & Weissman, 1993), while the IPT-B treatment model is more closely aligned to standard IPT and is able to treat syndromally depressed individuals who might not be able to seek support due to economic and time restrictions (Swartz et al. 2014).

In considering the difficulties associated with a diagnosis of clinical depression and a low socioeconomic status, the likelihood of individuals within this category adhering to a longer course of treatment is typically low. The development of IPT-B sought to provide an option for this population who are more symptomatic and in need of a more intensive treatment framework in the care of mental health professionals (Swartz et al. 2014). Swartz et al. (2014) argue that there is little empirical evidence to suggest that an ‘adequate dosage’ exists for maximum therapeutic effect. Further, the symptoms of depression generally make it difficult for an individual to make a long-term commitment, even when location and price are accessible (Swartz et al., 2002).

IPT-B may be delivered by a trained mental health worker (therapist, physician, psychologist, nurse, etc.) in the context of eight sessions, each lasting from 45-to-60 minutes in duration. The delivery of sessions is flexible but sessions are initially scheduled weekly (Swartz et al. 2014). The time limit set on therapy is a key motivator in inciting change in the client and the clinician must retain a balance between creating a sense of urgency and ensuring the client does not feel overwhelmed with the pace of therapy (Swartz et al. 2014). IPT-B retains the same structure of standard IPT but modifies strategies to hasten its time course.

In exploring results for IPT-B across study populations, IPT-B has been found to be efficacious in its treatment of women with major depressive disorder compared to medication (sertraline), with an effect size of 1.9 (Swartz et al., 2004). Significant improvements were found on depression scores for depressed mothers of children

with psychiatric illnesses ( $n = 11$ ,  $d = 1.09$ ) (Swartz et al., 2006) and results from a larger study ( $n = 26$ ) was the first to indicate that treating maternal depression with psychotherapy has a positive impact on children with mental health diagnoses (Swartz et al., 2008a). These findings were recently followed up in an examination of IPT-B for mothers versus a control brief supportive psychotherapy group. Although both groups improved significantly, children of mothers randomized to the IPT-B group achieved comparable outcomes despite less follow-up (Swartz et al., 2016). A proportion of studies have focused on perinatal depression with results demonstrating the feasibility of treating depressed pregnant women who have socioeconomic barriers to care (Grote et al., 2004; Grote et al., 2009). Other adaptations of IPT-B have also targeted depressive symptom reduction with an adapted version for women with co-occurring depression and chronic pain (IPT-P; Interpersonal Psychotherapy for Depression and Pain; Poleshuck et al., 2010), reporting significant change in depression and social adjustment but no significant change in pain levels. A conjoint form of treatment for depressed pregnant or immediately post-partum women and their partners (PA-IPT; Partner Assisted IPT) demonstrated significant reductions in their depression scores but no changes regarding relationship satisfaction (Brandon et al., 2012).

## **6.6. Conclusion**

The use of podcasting within the mental health field is a new and under-researched area. Uptake of mainstream podcasts is high but there is a paucity of evidence to demonstrate change in health cognitions and/or behaviours. With research across the preceding Chapters providing evidence for the increased risk factors associated with separation, there appears to be a need to implement evidence-based interventions that can be distributed at a population level. The development of an IPT-based podcast intervention to reduce suicide risk in recently separated

individuals would meet the needs highlighted in Chapters 2, 3, and 4, and fill a significant gap identified in the review in Chapter 5. Chapter 7 will detail the design and evaluation of an audio podcast intervention, called MindCast, developed to target the factors identified across the studies incorporated into the thesis. This type of intervention, to the best of my knowledge, is the first self-directed, online podcast study developed for people who have separated from an intimate partner relationship. It is also the first study of its kind to adapt IPT, of any, form, to a podcast format and to explore the influence of such an intervention on suicidal ideation and broader psychosocial targets. If the podcast is efficacious, there is scope to be able to initiate a broader impact approach to dissemination and it is hoped that it can be one step in reducing barriers to access and normalising the help-seeking process following separation.



## **Chapter 7: MindCast: A randomised controlled trial of a podcast intervention for relationship separation**

### **7.1. Introduction**

There is a need to provide low cost, accessible and evidence-based interventions to people who have experienced a relationship separation. The preceding chapters have outlined the evidence demonstrating increased suicide risk following a separation and have also highlighted the potential in having access to a free and accessible mobile support mechanism following a break-up. The chapters examining cross-sectional data on the relationship between separation, mental health and suicidality (Chapters 3 and 4), suggest that there are key factors associated with suicidality following separation and there is an opportunity to integrate theory, experience and practice to provide tailored support mechanisms for people experiencing a relationship separation. As demonstrated in the systematic review presented in Chapter 5, no intervention of this kind currently exists. Thus, the aim of the present study was to develop and investigate the effectiveness of a podcast intervention designed to address adjustment to a relationship separation using Brief Interpersonal Psychotherapy (IPT-B) strategies supported by the Interpersonal Theory of Suicide theoretical framework. The rationale for this type of intervention and delivery format was described in Chapter 6 and is further detailed below.

#### **7.1.1. Previous intervention research**

A limited number of intervention reviews for adult relationship separation have been conducted. The primary focus of such reviews has been on divorce interventions, with the small number of reviews finding consistent methodological issues including small sample sizes, inadequate design and lack of standardised treatments (Sprenkle & Storm, 1983; Strouse & Roehrl, 2011; Zimpfer, 1990). A

meta-analytic review examining intervention outcome studies for families undergoing divorce reported a mean effect size of 0.80 for adult participants, indicating improvement in depressive symptoms and psychological distress following divorce proceedings (Lee et al., 1994). However, the analysis cautioned that the evidence was equivocal regarding other outcomes including anxiety, adjustment post-divorce, self-esteem and other general psychological variables, with no demonstrated evidence of the interventions' helpfulness regarding single-parenting and spousal relationships, social support and practical issues (Lee et al., 1994).

A meta-analysis examining interventions for separated or divorced adults investigated the reduction of divorce-related symptoms by calculating 24 independent effect sizes across a range of divorce-focused interventions (Strouse & Roehrle, 2011). The review identified a broad range of interventions including cognitive behavioural techniques, support groups and educational approaches. An overall mean effect size of 0.47 was reported suggesting that divorce interventions may be helpful in easing negative psychological effects associated with a divorce (Strouse & Roehrle, 2011). The review indicated effectiveness for outcome variables including anger, low self-esteem, depression, anxiety, stress and conflict. With general coping, conflict resolution, communication skills and overall divorce adjustment also improving (Strouse & Roehrle, 2011). However, due to the heterogeneity of the available data, the effect sizes were not generalizable to the population. Nevertheless, the review highlighted the “surprising lack of studies on interventions to help support divorced people” and the need for more comprehensive mental health information, cost effectiveness analyses and cultural adaptability of intervention programs (Strouse & Roehrle, 2011, p. 26).

The systematic review reported in Chapter 5 identified five controlled trials of interventions designed to target individuals who had experienced a non-marital relationship separation. Overall, two of the five (40%) trials identified in the review yielded a positive effective on anxiety, depression and positive emotions, relative to the control group, at post intervention and/or follow up (Lewandowski Jr, 2009; Zhang et al., 2014). The effective interventions were based on a range of therapeutic approaches, including forgiveness, Interpersonal Psychotherapy (IPT) and expressive writing. To my knowledge, no previous trial has investigated the effectiveness of an online intervention to influence changes in psychosocial adjustment after a relationship separation.

### **7.1.2. Aims and scope of this study**

This study was a two-arm randomised waitlist-controlled trial with a primary endpoint at three weeks and a three-month follow-up. The overall aim of the randomised controlled trial (RCT) was to test the effectiveness of MindCast, a web-based, audio podcast (using computer, smartphone or tablet) designed to reduce depression and suicidal ideation, and improve adjustment outcomes for adults who had recently separated from an intimate partner relationship. The primary outcomes for the study were changes in suicidal ideation and depression, with secondary outcomes focusing on changes in interpersonal needs, benefit finding, post-separation adjustment and help-seeking attitudes (see hypotheses section below). Bivariate analyses were also conducted to explore differences between participants reporting suicidal ideation compared to those without suicidal ideation. A further key component of the study was to conduct an exploratory evaluation of the feasibility of the intervention by describing recruitment, adherence and attrition to the trial and evaluating functionality, acceptability and useability of the podcasts.



### **7.1.3. Theoretical framework for the intervention**

As outlined in detail in Chapter 6, Joiner's (2005) Interpersonal Theory of Suicide was used as a framework for the intervention developed for the current trial. The intervention was also strongly influenced by Van Orden's clinical application of the Interpersonal Theory of Suicide in reducing suicide risk (see Chapter 6 for more details). It was hypothesised that targeting perceived burdensomeness and thwarted belongingness in the context of a relationship separation would lead to a reduction of suicidal ideation experienced by this population. Further, by incorporating IPT theories and strategies which are founded on the premise of increasing social connection and autonomy, participants would be equipped with tangible skills and a basic understanding of how their emotional responses manifest as a result of their negative life experience. The intervention was designed to be brief and accessed easily over the Internet using a relationship break-up as the catalyst for seeking help.

### **7.1.4. Hypotheses**

Primary outcomes ( $H_1$ ):

Changes in suicidal ideation and depression were measured using the total scores of the Suicidal Ideation Attributes Scale (SIDAS) and the Patient Health Questionnaire (PHQ-9).

It was hypothesised that:

$H_1$ . Participants randomised to receive the MindCast podcast series, as compared to those allocated to the wait-list control condition, would demonstrate significantly greater reductions in depressive symptoms and degree of suicidal ideation from pre-to-post intervention and at three month follow-up.

Secondary outcomes (H<sub>2</sub>):

Changes in secondary outcomes were measured using total scores of the Interpersonal Needs Questionnaire (INQ), General Benefit Finding Scale (GBFS), Psychological Adjustment to Separation Test (PAST), and Attitudes Toward Seeking Professional Psychological Help (ATSPPH) scale.

It was hypothesised that:

H<sub>2</sub>. Participants randomised to receive the MindCast podcast series, as compared to those who were allocated to the wait-list control condition, would demonstrate significantly higher post-separation adjustment as evidenced by measures of interpersonal needs, benefit finding, adjustment to separation and attitudes towards professional help-seeking from pre-to-post-intervention and at three month follow-up.

## **7.2. Method**

### **7.2.1. Participants**

A total of 124 participants were recruited to the current trial. 111 (90%) identified as female and 13 (10%) as male, with participant age ranging from 18 to 60 years ( $M = 31.22$ ,  $SD = 9.50$ ). All participants identified that they had experienced a relationship separation in the past six months. Detailed respondent characteristics are reported in the results section.

Participants were eligible for the study if they were (i) aged over 18 years, (ii) had separated from a romantic relationship in the last six months, (iii) were an Australian resident, (iv) were able to competently understand the English language (both spoken and written), (v) had or were willing to create an email account, (vi) had access to the Internet, and (vii) had access to, and basic ability to use, a computer. Participants were excluded if they (i) did not provide informed consent or

refused to be randomised, (ii) were in a new relationship, (iii) self-reported a current suicide plan, (iv) self-reported a suicide attempt in the last three months, and/or (v) self-reported a current diagnosis of a substance-related disorder, post-traumatic stress disorder, schizophrenia, bipolar or a personality disorder.

The justification for a six-month separation period is based on findings which indicated that the effects of separation were strongest soon after the separation, with a three-fold increase in suicidal ideation and an eight-fold increase in plans/attempts in the two years following separation (Batterham et al., 2014). The justification for providing a three-month suicide attempt exclusion criteria is based on studies which have found that within high-risk samples a significant proportion of re-attempts occur within the first three months (suggesting that this is the highest risk period) (Christiansen & Jensen, 2009; Spirito, Valeri, Boergers, & Donaldson, 2003). Other inclusion/exclusion criteria were included to ensure that participants were able to appropriately engage with the intervention material and for participant safety (e.g., suicide attempt exclusion periods).

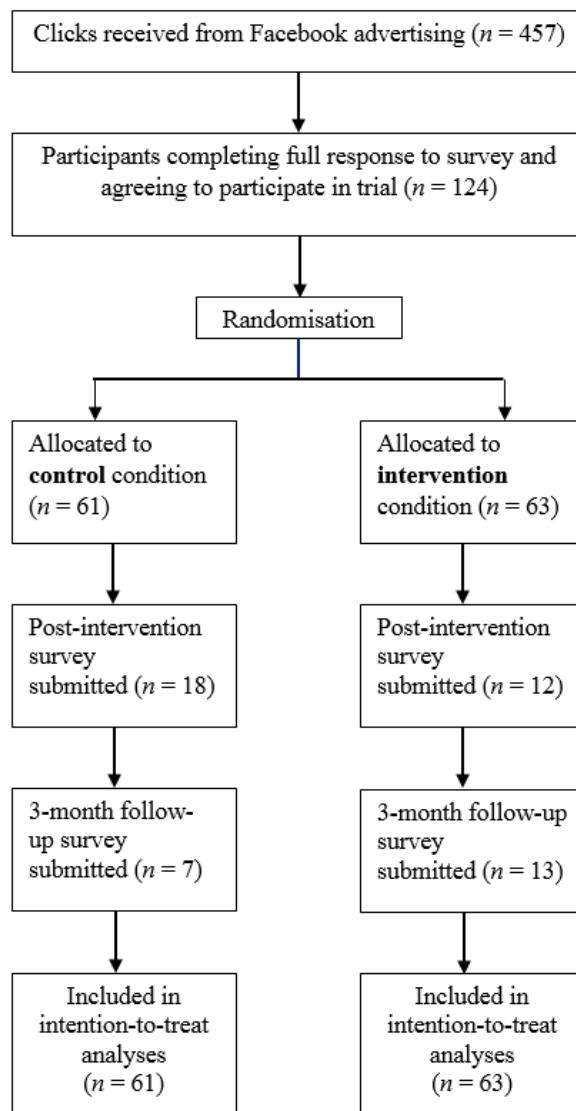
### **7.2.2. Recruitment**

Recruitment took place from June to July 2017. Recruitment was conducted through Facebook and the Centre for Mental Health Research (CMHR) website. Facebook has been found to be an effective, flexible and cost-efficient recruitment method, with online samples representative of traditionally recruited community-based participant populations (Batterham, 2014; Thornton et al., 2016). Firstly, information was provided on the CMHR webpage. Information included details about the study, eligibility criteria, ethical clearance information, information about partnerships and a link to the baseline survey (see Appendix 5). A Facebook community page was also created to engage potential participants and aimed to raise awareness of the study. Posts included study announcements and links to the CMHR

website (see Appendix 6). Posts were scheduled in advance with a new post every three to five days during the recruitment period. This page was not shared by other groups to the knowledge of the researcher.

Facebook advertising was additionally used to advertise the study to a large number of social media users. Participants were recruited through paid online advertising on Facebook over four weeks from 19 June to 17 July 2017. The paid advertisements appeared on the personal pages of individuals that met the inclusion criteria for age (18 to 65), and location (Australia). The advertisement linked directly to the survey, which was preceded by an information page and online consent form. The text on the advertisement read, *“Recently broken-up? University study seeks adults to join 3-week online program”* with a longer post situated below stating, *“Are you an Australia resident aged 18 to 65 and have recently broken-up with your partner? Want to participate in a free 3-week online program that has been designed to provide support after a relationship separation? Click here for more information and to see if you're eligible”*(see Appendix 7).

The final cost for the Facebook advertisements was \$1200 and incentives were not provided for initial participation in the trial. Across the study, 457 individual clicks on the advertisement were counted, 258 commenced the pre-intervention questionnaire and a total of 124 participants agreed to participate in the MindCast study. Of the 124 participants, 63 were randomised to the intervention condition and 61 to the wait-list control condition. Figure 7.1 presents the flow of participants through the trial.



**Figure 7.1. Flow of participants through the trial**

### 7.3. Procedure

As previously stated, the study was a two-arm randomised controlled trial with outcome data collected at three time points (pre, post and three-month follow-up). The project was undertaken in two stages. Stage 1 involved the administration of an online self-report survey comprising of demographic and mental health measures. Participants who completed the Stage 1 survey were automatically allocated to Stage 2 of the study which was the randomisation of participants into the podcast or to a wait-list control conditions.

### **7.3.1. Registration and ethical approval**

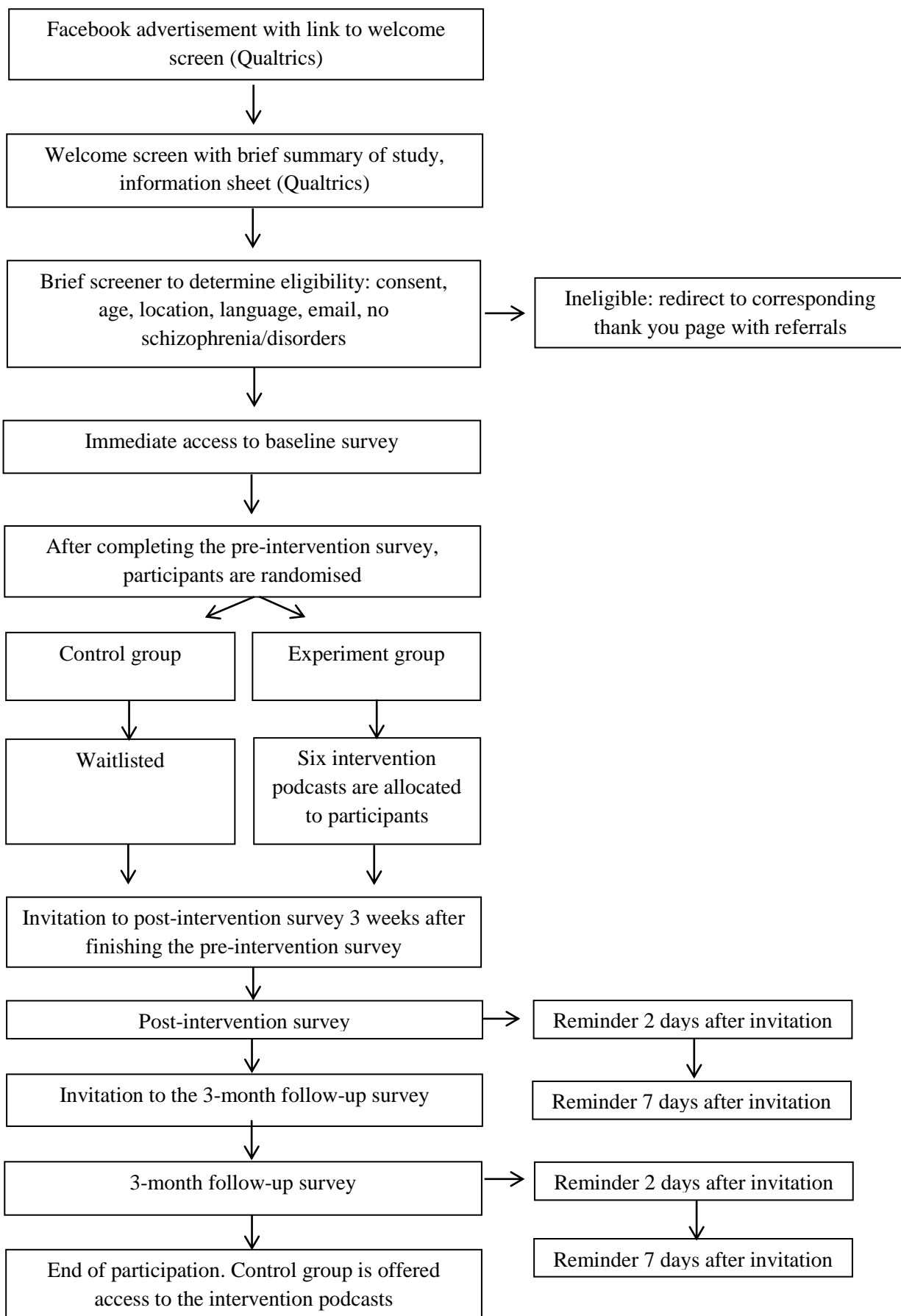
This study was registered with the Australian New Zealand Clinical Trials Registry; Identifier ACTRN12617000440325. Ethical approval to conduct the study was obtained from the Australian National University Human Research Ethics Committee (2017/089), see Appendix 8.

### **7.3.2. Intervention delivery and survey data collection**

Figure 7.2 presents the study flow. Once participants clicked on the link from the CMHR website or the Facebook advertisement, they were guided to an online information page and consent form hosted through the online survey program Qualtrics (see Appendix 9). Participants were asked to confirm relevant inclusion criteria. If a participant did not fulfil the inclusion/exclusion criteria they were forwarded to a final screen thanking them for their participation and offering a comprehensive list of support services (see Appendix 10). Participants who satisfied the criteria were immediately moved to the pre-intervention questionnaire. The pre-intervention questionnaire took participants approximately 15 minutes to complete and all participants were provided with help-seeking contacts following the completion of the survey.

On completion of the pre-intervention questionnaire, participants were randomised to the wait-list control condition or the MindCast podcast intervention condition using an automatic computer generated simple randomisation procedure run through Qualtrics. No changes of group assignment following this procedure were possible. Participants and researchers involved in the management of the project were not blinded to the randomisation outcomes. Intervention condition participants received access to MindCast, the six series podcast program (see detailed description below), via an emailed link, while participants in the wait-list control

condition were placed on a waitlist to receive access to the MindCast series after completion of the trial. Participants in the intervention condition were given three weeks to complete the podcast program, after which the intervention and wait-list control condition participants were invited to complete the post-intervention and three-month follow-up assessments.



**Figure 7.2. Flow-chart of progression through the trial**



### **7.3.3. MindCast intervention condition**

The MindCast intervention is a web-based, six-session, online podcast program that could be accessed from any location in Australia with internet access (see Appendix 11 for screenshots of the intervention and access to listen to the MindCast podcast series). The MindCast series was developed using the free online audio recording and editing system, Audacity, and a microphone connected through a laptop computer. The information provided in the podcasts was developed based on Brief Interpersonal Psychotherapy (IPT-B; Swartz et al., 2014), which is an eight session intervention adapted from the original evidence-based psychotherapy, Interpersonal Psychotherapy (IPT). In brief, IPT-B typically covers the ‘initial phase’ in sessions one and two. During these initial sessions, an individual client history is recorded, psychoeducation regarding depression is provided, and the establishment of the ‘problem area’ is determined. In the subsequent sessions or “middle phase” (sessions three to seven), therapy focuses on the chosen interpersonal problem area and uses strategies (e.g., assigning interpersonal homework between sessions, behavioural activation, and supporting self-efficacy), to better understand the client’s mood and interpersonal problems. The role of the therapist is to “help the client explore options, using decision analysis to look at options that exist to achieve a specific goal. The client learns new interpersonal strategies to make desired changes in her relationships and social environment. As the interpersonal problems resolve, mood improves” (Swartz et al., 2008c, p.16). The final session (session eight) addresses the ‘termination’ of therapy by focusing on what has been achieved and identifying any unaddressed problems (e.g., relapse prevention and consolidation of strategies learned).

The MindCast episodes were reduced to six sessions by removing the need for the first two ‘initial sessions’. Brief interventions have been shown to be

efficacious in treating symptoms of distress (six sessions in IPC; Kontunen et al., 2016) and depression (eight sessions in IPT-B; Swartz et al., 2014). Further, reduced sessions allow participants who may have had limited capacity to engage (e.g. limited time, lack of awareness, or lack of resources) to commit to an intervention relevant to their situation. It was determined that as the traditional, reciprocal client conversation is not relevant in a podcast intervention, elements of the first two sessions including psychoeducation and the establishment of the problem area could be consolidated into later episodes. Specifically, the establishment of a problem area was already pre-determined as the focus of the intervention was solely on separated individuals. Following guidelines suggested by Stuart and Robertson (2012) that gave suggestions as to what issues could be covered under certain problem areas, relationship separation was covered under the 'role transition' interpersonal problem area. It was determined that by focusing on one specific interpersonal problem area, the content of the podcast could be personalised to reflect on common aspects of a separation while allowing participants to experience the techniques specific to IPT delivery.

Content specific to the intervention included (i) *Episode one: Introduction to IPT*. Within episode one, the podcast focuses on psychoeducation including information about the host (e.g., what is a Clinical Psychologist and how seeing a professional can be a useful strategy), normalising the experiences commonly associated with a relationship separation (e.g., thoughts around self-blame, criticism, guilt and shame), and what is Brief Interpersonal Psychotherapy (highlighting the session limit and identifying treatment goals).

(ii) *Episode two: Role transitions*. Within episode two, participants were asked to think about what balance means to them and were encouraged to start exploring the idea of 'role transition' – moving on from an old role (identifying as a

couple in a relationship) to a new role (identifying separately from their ex-partner and being single).

(iii) *Episode three: Interpersonal inventory.* Within episode three, participants were introduced to the interpersonal inventory concept. The interpersonal inventory is a register of all of the key contemporary relationships in an individual's life, drawn around a series of three concentric circles (the inner circle representing those closest to you and the relationships growing more distant as you move across the circles to the outer edge). Participants were asked to consider their interpersonal inventory and to identify neglected relationships and opportunities for contact.

(iv) *Episode four: Life events timeline.* Within episode four, participants were asked to draw a continuous horizontal line as a timeline with an interceding vertical line being the separation point. The primary aim of the exercise was to help participants organise their story about the separation in a balanced and realistic way and to help them tell their story more effectively and objectively to others.

(v) *Episode five: Cons and pros of moving on.* Within episode five, participants were encouraged to consider any difficulties moving on from their 'old role'. The session explored the role transition of separation in the context of positive and negative aspects of the separation. The exercise was designed to help participants to conceptualise the transition in a more balance, realistic and meaningful way. The concept of benefit finding was also introduced in this episode and participants were encouraged to consider whether they had experienced any benefits following the separation between sessions.

(vi) *Episode six: Self-concept.* Episode six was the final episode and focused on self-concept and self-care (e.g., normalising relapse and the adjustment process). The episode also provided a re-cap of the previous five episodes and encouraged

participants to actively engage with the activities suggested throughout the podcast series.

A primary consideration in the development of the MindCast series was to enable participants to have an opportunity to experience what individual therapy might be like. The episodes were designed with individual therapy sessions in mind and were hoped to encourage some users to engage with clinical services. The utility of being able to access episodes at a time and place that was convenient for the participant aimed to provide a safe environment to 'road-test' psychological services. It also aimed to give participants, who may otherwise be hesitant to access therapy, an idea of how topics could be approached and the types of questions/suggestions that may be communicated in session. The podcasts ran for an average time of 10.83 minutes (range = 8-13 minutes). Only the Clinical Psychologist, who narrated the podcasts, was heard on each episode. Specific module themes are shown in Table 7.1 with a detailed script available as Appendix 12.

**Table 7.1. Content of the MindCast Program**

<b>Module</b>	<b>Content</b>
Episode 1.	<ul style="list-style-type: none"><li>• Reflections on the relationship separation</li><li>• Psycho-education about counselling and Interpersonal Psychotherapy (IPT)</li></ul>
Episode 2.	<ul style="list-style-type: none"><li>• Exploring what ‘balance’ means to the individual</li><li>• Exploring the idea of ‘role transition’</li></ul>
Episode 3.	<ul style="list-style-type: none"><li>• Reflecting on social connections</li><li>• Completing an interpersonal inventory</li></ul>
Episode 4.	<ul style="list-style-type: none"><li>• Developing a narrative around the separation</li><li>• Completing a life events timeline</li></ul>
Episode 5.	<ul style="list-style-type: none"><li>• Moving from your ‘old role’ to your ‘new role’</li><li>• Exploring positive and negative sides to relationship separation</li></ul>
Episode 6.	<ul style="list-style-type: none"><li>• Exploring self-concept</li><li>• Talking about self-esteem and benefit finding</li><li>• Re-capping the last six episodes</li></ul>

Participants in the MindCast condition received emails with a link to the current and previous podcast episode every three days and an email with a link to the post-intervention questionnaire at three weeks, (with two reminder emails two days and seven days after initial post-intervention email), and after 12-weeks for the follow-up questionnaire (with two reminder emails two days and seven days after initial follow-up email; see Figure 7.2). The link redirected participants to an audio file embedded within a Qualtrics survey, which they were able to immediately access or download (or re-use the link) and listen to the audio at a convenient time. Podcast episodes were made available in a sequential order. The intervention included invitations to consider certain questions relating to participant’s current situation or

to engage in behavioural activation activities between podcasts (e.g., writing down a goal at the start of the program, considering what a ‘balanced’ life would like versus what life currently looks like, connecting with close people as identified on the interpersonal inventory, drawing and populating a life events timeline, listing benefits as a result of the separation experience, and engaging in pleasurable activities). As participants accessed each podcast, they were invited to complete a satisfaction question, “How would you rate this episode?” which was rated on a 5-point scale (*very good – very poor*). To monitor distress (and to fulfil an ethical requirement), participants were also invited to complete the Distress Questionnaire-5 (DQ5; Batterham et al., 2016). The DQ5 is a 5-item self-report measure used to assess psychological distress in the last 30 days. Items are rated on a five-point scale, from 1 (*never*) to 5 (*always*), with total scores on the scale ranging from 0 to 25 and higher scores indicating greater psychological distress. If the participant response indicated a high level of distress (a cut point of 11 or above was determined to maximise sensitivity with high specificity across most disorders; Batterham et al., 2016), then participants were redirected to a Qualtrics page with a list of relevant help-line contact numbers (see Appendix 13). Two emails specifically reminding participants to complete the post-intervention questionnaire were sent two days and five days after the completion of the three-week period (see Appendix 14). No incentives were initially offered to participants for their completion of the post or follow-up questionnaire. However, due to the low post-intervention questionnaire responses, a variation to the ANU ethics committee was submitted and approved requesting permission to offer a random prize draw of two \$50 gift vouchers for the three-month follow-up survey (see Appendix 15).

#### **7.3.4. Control condition**

The control group participants were placed on a waitlist to receive the MindCast podcast after the trial period. After completion of the final three-month follow-up questionnaire, participants in the control condition were provided with full access to the MindCast podcast program. The delivery of the program to the control condition was identical to the initial intervention program. The intervention was open for interested participants for four weeks after the completion of the original trial (after the final three month follow-up questionnaire). After this period the intervention was no longer made available to the community to allow for the analysis of the data.

#### **7.3.5. Internet based surveys**

The information and consent webpage provided full details of each stage of the study (see Appendix 9). The online questionnaires comprised a total of seven pages (or blocks of questions) for the pre-intervention, six pages for the post-intervention and five pages for the follow-up questionnaire. The screening questions and demographic data were mandatory to complete if participants wished to continue with the survey (see Appendix 16). Participants were offered a choice as to whether they wished to complete the remaining questions on mental health, with a pop-up box appearing if any questions were left blank. Participants could review and change their answers before submission.

#### **7.4. Trial outcome measures**

Table 7.2 provides an overview of the measures employed at each measurement period (pre-intervention, post-intervention and three-month follow-up).

**Table 7.2. Outcome measures employed at each measurement time point.**

Variable	Test measure	Pre-study	Post-study	3-month
Demographics	Questions	X		
Severity of ideation	SIDAS	X	X	X
Depression	PHQ-9	X	X	X
Thwarted belongingness and perceived burdensomeness	INQ	X	X	X
Benefit finding	GBFS	X	X	X
Adjustment after break-up	PAST	X	X	X
Help-seeking	ATSPPH	X	X	X
Place of use questionnaire	Question		X	
Perceptions of intervention	Question		X	
Open-ended questions	Question		X	

#### 7.4.1. Demographic information

Table 7.3 provides a detailed overview of the demographic variables measured in the current study.



**Table 7.3. Demographic measures in the pre-intervention questionnaire**

<b>Demographic</b>	<b>Answer options</b>
What is your gender	Male Female Other
Which of the following options best describes how you think of yourself?	Heterosexual or straight Gay or lesbian Bisexual Other Prefer not to say
What is your current age in years?	
What is the highest qualification that you have completed?	Have not completed high school Completed high school Certificate/Diploma/Associate Degree Bachelor Degree Higher degree
How would you describe your current employment status?	Employed full-time Employed part-time Casual Unemployed Not in the labour force
Do you have any children	Yes No
How long have you been separated from your previous partner?	Less than one month 1– 3 months 3– 6 months
How long did your previous relationship last?	Less than one month 1 – 6 months 6 – 12 months 12 – 24 months 2 – 5 years 5 – 10 years 10 years +
What was the status of your previous relationship?	Married De-facto In a relationship (not living) Other

Demographic	Answer options
Who initiated the separation	Me Ex-partner Both
Have you had any thoughts of suicide as a result of your relationship break-up?	Yes No
Have you attempted suicide as a result of your relationship break-up?	Yes No
Are you currently seeing a psychologist/counsellor?	Yes No
Are you currently taking medication for mental health reasons?	Yes No

#### 7.4.2. Primary outcome measures

Suicidal ideation and depression were assessed at pre-intervention, post-intervention, and at three-month follow-up with changes compared between the intervention and wait-list control conditions to assess the effect of the MindCast podcasts.

##### 7.4.2.1. Suicidal Ideation Attributes Scale (SIDAS)

Suicidal ideation was investigated using the Suicidal Ideation Attributes Scale (SIDAS; Van Spijker et al., 2014). The SIDAS is a 5-item scale assessing frequency (item 1), controllability (item 2), closeness to attempt (item 3), distress (item 4), and interference with daily activities (item 5) on 10-point scales over the past month. A score of zero corresponds to “no current ideation”, a score of 1 to 50 corresponds to “current suicidal ideation”. Respondents who endorse a frequency of zero (*never*) on the first item of the scale skip the remaining items and are given scores of 10 for controllability (full control) and zero for closeness to attempt, distress, and interference. Higher scores on the SIDAS are indicative of greater suicidal ideation.

The internal reliability of the SIDAS scale is strong (Cronbach's  $\alpha = 0.91$ ; Van Spijker et al., 2014). In the current sample, Cronbach's  $\alpha = 0.74$ .

#### **7.4.2.2. Patient Health Questionnaire (PHQ-9)**

The Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001; Kroenke et al., 2001) is a 9-item self-report measure used to assess depression in the past two weeks. Items are rated on a four-point scale ranging from 1 (*not at all*) to 4 (*nearly every day*), with higher scores indicating more severe depression symptoms. The PHQ-9 can be used as a screening tool, with summed scores ranging from 0 (no depressive symptoms) to 27 (all symptoms occurring daily). The authors suggest five levels of severity: minimal (1–4); mild (5–9); moderate (10–14); moderately severe (15–19); and severe (20–27). The internal reliability of the PHQ-9 is excellent with Cronbach's  $\alpha$  ranging from 0.86 to 0.89 (Kroenke et al., 2001). In the current sample, Cronbach's  $\alpha = 0.91$ .

#### **7.4.3. Secondary outcome measures**

A range of secondary outcomes were also measured in the current study, including thwarted belongingness, perceived burdensomeness, post-separation adjustment, benefit finding and professional psychological help-seeking attitudes.

##### **7.4.3.1. Interpersonal Needs Questionnaire (INQ)**

The Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner Jr, 2012) is a 15-item self-report measure used to assess thwarted belongingness (nine items) and perceived burdensomeness (six items). Each item of the INQ is responded to on a seven-point scale ranging from 1 (*not at all true for me*) to 7 (*very true for me*). A total scale score for each sub-scale can be calculated by summing individual items for each scale (after reverse coding six items), and a total scale score is calculated by summing these subscale scores. Total sub-scale scores

can range from 9 to 63 for thwarted belongingness and 6 to 42 for perceived burdensomeness, with higher scores on each sub-scale indicating higher levels of thwarted belongingness and perceived burdensomeness. The measure has demonstrated good internal consistency and evidence for construct validity in clinical and non-clinical samples (Hill, Rey, Marin, Sharp, Green, & Pettit, 2014). Reliability in the current study was good (thwarted belongingness:  $\alpha = 0.91$ ; perceived burdensomeness:  $\alpha = 0.93$ ).

#### **7.4.3.2. Psychological Adjustment to Separation Test (PAST)**

The Psychological Adjustment to Separation Test (PAST; Sweeper & Halford, 2006) was developed as a self-report measure of three key dimensions of separation adjustment problems: lonely negativity, former partner attachment and co-parenting conflict. Participants rated how much the statements represented their experience in the past two weeks. Items are rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores representing more adjustment problems. Part A of the PAST contains the items that form the lonely-negativity and the former partner attachment subscales, and part B is composed of the co-parenting conflict subscale (shared by adults who are parents). PAST-A and PAST-B can be administered autonomously (Lamela et al., 2014). For the present study, only the lonely negativity and former partner attachment scales were used (19 items in total). Questions related to lonely negativity included, “I feel desperately lonely” and “I feel like my life has less purpose in it now”, and for former partner attachment “I find it hard to do things without my partner” and “I constantly think about my former partner”. Internal consistency was reported as high in the original study (lonely negativity:  $\alpha = .90$  and  $.89$ ; former partner attachment:  $\alpha = .88$  and  $.89$ ). Reliability in the current study was very good (lonely negativity:  $\alpha = 0.90$ ; former partner attachment:  $\alpha = 0.86$ ).

### **7.4.3.3. General Benefit Finding Scale (GBFS)**

The 28-item General Benefit Finding Scale (GBFS; Cassidy, McLaughlin, & Giles, 2014) was developed to find a more generic multidimensional measure of benefit finding after a stressful event. Items are grouped into six factors: acceptance, family bonds, growth, relationships, empathy and reprioritisation. Participants in the current study were asked, “When you think about your separation and how you have managed since the separation – how did the experience affect you?” Items are rated on a 5-point scale ranging from 1 (*not at all true*) to 5 (*totally true*). To score the individual dimensions of the GBFS all of the numbers selected within each factor are added together and divided by the number of items in each factor. To calculate a total score for the GBFS, all of the scores for each item are summed and divided by 28. Higher scores on the scale indicate an increased level of benefit finding after the separation. Internal consistency was reported as good in the original study, acceptance ( $\alpha = .86$ ), family bonds ( $\alpha = .76$ ), personal growth ( $\alpha = .81$ ), relationships ( $\alpha = .83$ ), empathy ( $\alpha = .80$ ), and reprioritisation ( $\alpha = .82$ ; Cassidy et al., 2014). Reliability in the current study was also good (acceptance ( $\alpha = 0.92$ ), family bonds ( $\alpha = 0.87$ ), growth ( $\alpha = 0.94$ ), relationships ( $\alpha = 0.77$ ), empathy ( $\alpha = 0.86$ ), and reprioritisation ( $\alpha = 0.84$ )).

### **7.4.3.4. Attitudes Toward Seeking Professional Psychological Help (ATSPPH)**

The 10-item Attitude Toward Seeking Professional Psychological Help Scale – Short Form (ATSPPH-SF; Fischer & Farina, 1995) was used to measure general ATSPPH for people who have separated from a relationship. The terminology used in the original scale was developed in the 1970s and was revised and rewritten to reflect modern mental health terminology (Calear, Batterham, & Christensen, 2014).

This study has adopted the updated terminology used in the Calear et al. (2014) study including the revision of the first four items of the scale, “If I was having personal or emotional problems, the first thing I would do is seek professional help”, “Talking with a professional about my personal or emotional problems is not the best way to resolve them”, “If I was having personal or emotional problems, I am sure that seeing a professional would be helpful”, and “I would admire a person who dealt with their problems without getting professional help”. Items are rated on a 4-point Likert-type scale (0 = *agree*, 3 = *disagree*), with agreement indicating a positive attitude for five items and a negative attitude for the other five items, which are reverse scored. Scores on the help-seeking attitudes scale were assessed as the sum of responses to all items, ranging from 0 to 30, with higher scores indicating more positive attitudes towards seeking professional psychological help. Cronbach alphas were similar at 0.85 (original) and 0.84 (revised), and were also similar to those reported in previous studies (Fischer & Farina, 1995; Woodward & Pachana, 2009). In the current sample, Cronbach’s  $\alpha = 0.76$

#### **7.4.4. Evaluation outcomes**

##### *Place of use questionnaire*

A series of open-ended questions were asked of participants in the intervention group to assess how and when the podcasts were accessed. Questions included, “Where did you listen to the podcasts?” and, “What device did you use the most to listen to your podcast?”.

##### *Perceptions of intervention questionnaire*

To assess participants’ perceptions of the intervention, a series of questions were rated on a 5-point Likert-type scale (1 = *strongly agree* to 5 = *strongly disagree*). Questions included, “I enjoyed using the program”, “The series content

was easy to understand”, “I would recommend the program to other people who might benefit from it”, and “I felt the podcast host’s approach was a good fit for me”.

#### *Open ended questions*

A series of open-ended questions were included in the post-intervention survey including “What did you find most valuable/helpful from MindCast?”, “What did you find least valuable/helpful from MindCast?”, and “If you have any other comments about the MindCast series, please enter them here”.

### **7.5. Statistical analysis**

Data were analysed using SPSS release 22 for Windows (IBM Corp, Chicago IL). A significance level of .05 was used for all outcome variables. Exact *p* values for chi-square were used when the expected frequency was less than five in more than 20% of the cells.

#### **7.5.1. Missingness and pre-intervention comparisons**

Logistic regressions were conducted to identify significant predictors of missingness at post-intervention and three-month follow-up. The predictors explored were pre-intervention levels of suicidal ideation and depressive symptoms, intervention condition, age, and sex. Independent samples *t* tests and chi-square analyses were used to identify any pre-intervention differences between the intervention and wait-list control conditions. Comparisons were made between pre-intervention levels of suicidal ideation, depressive symptoms, demographic variables and secondary outcome variables.

#### **7.5.2. Primary and secondary outcomes measures**

The primary and secondary outcomes were assessed within an intention to treat (ITT) framework and involved the analysis of data across the first three measurement occasions (pre-intervention, post-intervention, and three-month follow-

up). The effect of the intervention was assessed using mixed models repeated measures (MMRM) for longitudinal continuous data. Mixed modelling allows the use of all available data for each participant to yield unbiased estimates of effects under the assumption that missingness is either completely at random (MCAR) or at random conditional on observed data (MAR) (Gueorguieva, & Krystal, 2004; Hamer & Simpson, 2009). The within-groups factor was measurement occasion, and the between-groups factor was condition type. All responses to open-ended items were summarised. Due to the limited number of qualitative responses, a formal coding process was not warranted.

### **7.5.3. Power calculations**

It was calculated that a sample size of 120 participants (60 per condition), would be needed to detect an effect size of 0.25 in suicidal ideation (van Spijker et al., 2014) and 0.60 for depression (Cuijpers et al., 2011), between a comparison control group with 80% power at  $\alpha = .05$ , assuming a correlation between pre-and post-intervention measures of 0.5.

### **7.5.4. Effect size**

Relative improvements of outcomes in the experimental groups compared to the control group were calculated by Cohen's *d*. Between and within-group effect sizes were calculated by dividing the observed mean difference between conditions at post intervention and three-month follow-up by the pooled standard deviation of the groups at the respective time point. Cohen's *d* was interpreted as a small (0.2), medium (0.5) and large (0.8) effect (Cohen, 1988). A positive effect size indicates a more favourable outcome for the intervention condition, while a negative effect size indicates a more positive effect in the control condition.



## 7.6. Results

### 7.6.1. Respondent characteristics

A total of 124 people were recruited to participate in the current study. Of these participants, 53% reported current suicidal ideation. The following details the characteristics of study participants, including a series of bivariate analyses to identify if participants reporting suicidal ideation differed to those without suicidal ideation. As the study sought to explore how relationship separation influences suicidal ideation, it was deemed appropriate to calculate differences between participants who reported suicidal ideation and those who did not.

#### *Age and gender*

Table 7.4 presents the age and gender distribution of the respondents. A chi-square analysis found no association was found between age and suicidal ideation,  $\chi^2(3, N = 124) = .791, p = .852$ . 90% of participants in the current study were female. A t-test analysis found a significant difference in reporting scores for suicidal ideation and behaviour for males ( $M = 1.53, SD = 0.50$ ) when compared to females ( $M = 1.40, SD = 0.49$ ),  $t(531) = 2.89, p = .004$ .

**Table 7.4. Respondent age and gender**

	<b>Suicidal Ideation</b>	<b>No Suicidal Ideation</b>	<b>Total</b>
<i>n</i>	66	58	124
<i>Age</i>			
Mean (SD)	30.41 (9.76)	32.62 (9.15)	31.44 (9.50)
Median	29.00	30.00	30.00
Range	18-60	18-50	18-60
<i>Gender</i>			
Female	148	225	373
Male	85	75	160

Table 7.5 presents the respondent data for the following variables: sexual orientation, education, employment, children, type and length of relationship, initiation of and time since the separation, and help-seeking after the separation.

#### *Sexual orientation*

The majority of respondents identified as heterosexual (83.1%). No association was found between sexual orientation and suicidal ideation,  $\chi^2 (1, N = 124) = .765, p = .382$ .

#### *Education*

Most of the respondents had completed high school (30.6%), with the majority of participants indicating that they had completed a higher level of education beyond secondary school (66.1%). No association was found between education and suicidal ideation,  $\chi^2 (4, N = 124) = 5.617, p = .230$ .

#### *Employment*

The majority of respondents identified being employed full-time (42.7%). A chi-square test demonstrated a significant difference between groups,  $\chi^2 (4, N = 124) = 11.743, p = .019$ . Inspection of the standardised residuals indicated that a greater number of unemployed participants indicated that they had experienced suicidal ideation.

#### *Children*

Most of the respondents did not have any children (66.1%). No association was found between having children and suicidal ideation,  $\chi^2 (1, N = 124) = .265, p = .606$ .

#### *Type of relationship*

The most common relationship status was a dating relationship (identifying as being in a relationship but not living together; 46.8%), followed by being in a cohabitating relationship (37.9%), and being married (13.7%). No association was

found between relationship status and suicidal ideation,  $\chi^2 (3, N = 124) = 1.257, p = .739$ .

#### *Length of relationship*

The majority of respondent relationships lasted between two and five years (25.8%). No association was found between how long the previous relationship lasted and suicidal ideation,  $\chi^2 (5, N = 124) = 7.171, p = .208$ .

#### *Initiation of separation*

Most respondents identified that it was their ex-partner who initiated the separation (54.0%). No association was found between which partner initiated the separation and suicidal ideation,  $\chi^2 (2, N = 124) = 2.830, p = .243$ .

#### *Time since separation*

The majority of respondents identified that they had been separated from their ex-partners between three to six months (45.2%). A chi-square test demonstrated a significant difference between groups,  $\chi^2 (2, N = 124) = 6.536, p = .038$ . Inspection of the standardised residuals indicated that time plays a role in the development of suicidal ideation with less participants identifying suicidal ideation in the one month following the separation. However, observed counts indicated that more respondents self-reported suicidal thoughts between three to six months following the separation.

#### *Help-seeking after separation*

The majority of respondents were not seeing a psychologist or counsellor after their relationship separation (65.3%). A chi-square test demonstrated a significant difference between groups,  $\chi^2 (1, N = 124) = 5.344, p = .021$ , indicating that participants with self-reported suicidal ideation were more likely to be seeing a psychologist or counsellor. No association was found between respondents who indicated that they had specifically sought professional help after the break-up  $\chi^2 (1,$

$N = 123) = 3.578, p = .059$  and interest in seeking help after their break-up  $\chi^2 (1, N = 123) = 1.861, p = .173$ .

**Table 7.5. Sample characteristics based on presence or absence of suicidal ideation**

	<b>Suicidal Ideation</b>	<b>No Suicidal Ideation</b>	<b>Total</b>
	66	58	124
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
<i>Sexual Orientation</i>			
Heterosexual	53 (80.3)	50 (86.2)	103 (83.1)
Gay/Lesbian	5 (7.6)	4 (6.9)	9 (7.3)
Bi-Sexual	6 (9.1)	3 (5.2)	9 (7.3)
Other	2 (3.0)	1 (1.7)	3 (2.4)
<i>Education</i>			
Higher degree	7 (10.6)	6 (10.3)	13 (10.5)
Bachelor's degree	12 (18.2)	20 (34.5)	32 (25.8)
Certificate/Diploma/Associate degree	20 (30.3)	17 (29.3)	37 (29.8)
Completed high school	25 (37.9)	13 (22.4)	38 (30.6)
Have not completed high school	2 (3.0)	2 (3.4)	4 (3.2)
<i>Employment</i>			
Full-time	22 (33.3)	31 (53.4)	53 (42.7)
Part-time	18 (27.3)	12 (20.7)	30 (24.2)
Casual	8 (12.1)	11 (19.0)	19 (15.3)
Not in the labour force	7 (10.6)	2 (3.4)	9 (7.3)
Unemployed	11 (16.7)	2 (3.4)	13 (10.5)
<i>Children</i>			
Yes	21 (31.8)	21 (36.2)	42 (33.9)
No	45 (68.2)	37 (63.8)	82 (66.1)
<i>Status of previous relationship</i>			
Married	11 (16.7)	6 (10.3)	17 (13.7)
De-facto/Cohabiting	23 (34.8)	24 (41.4)	47 (37.9)
In a relationship (not living together)	31 (47.0)	27 (46.6)	58 (46.8)
Other	1 (1.5)	1 (1.7)	2 (1.6)
<i>Length of previous relationship</i>			
1 – 6 months	12 (18.2)	5 (8.6)	17 (13.7)
6 – 12 months	11 (16.7)	9 (15.5)	20 (16.1)

	<b>Suicidal Ideation</b>	<b>No Suicidal Ideation</b>	<b>Total</b>
12 – 24 months	9 (13.6)	13 (22.4)	22 (17.7)
2 – 5 years	17 (25.8)	15 (25.9)	32 (25.8)
5 – 10 years	4 (6.1)	9 (15.5)	13 (10.5)
10+ years	13 (19.7)	7 (12.1)	20 (16.1)
<i>Time since break-up</i>			
Less than a month	12 (18.2)	22 (37.9)	34 (27.4)
1 – 3 months	22 (33.3)	12 (20.7)	34 (27.4)
3 – 6 months	32 (48.5)	24 (41.4)	56 (45.2)
<i>Who initiated the break-up?</i>			
Me	15 (22.7)	10 (17.2)	25 (20.2)
Ex	38 (57.6)	29 (50.0)	67 (54.0)
Both	13 (19.7)	19 (32.8)	32 (25.8)
<i>Are you currently seeing a psychologist/counsellor?</i>			
Yes	29 (43.9)	14 (24.1)	43 (34.7)
No	37 (56.1)	44 (75.9)	81 (65.3)
<i>I sought professional help after my break-up</i>			
Yes	38 (58.5)	24 (41.4)	62 (50.4)
No	27 (41.5)	34 (58.6)	61 (49.6)
<i>I would be interested in seeking professional help after my break-up</i>			
Yes	60 (92.3)	49 (84.5)	109 (88.6)
No	5 (7.7)	9 (15.5)	14 (11.4)

### 7.6.2. Missingness at post-intervention and follow-up

Figure 7.1 shows the retention of participants in each condition throughout the trial. A higher percentage of participants from the intervention condition was missing at post-intervention (29% vs. 19%), although more participants from the intervention group completed the three-month follow-up questionnaire (21% vs 11%). No participant formally withdrew from the study. Analyses at post-intervention and three month follow-up showed that missingness (failure to complete

the post-intervention questionnaire) was not significantly related to age, gender, condition, or pre-intervention levels of suicidal ideation or depressive symptoms.

### **7.6.3. Pre-intervention comparisons**

Comparison of sample characteristics and outcome measures (depression, suicidal ideation, interpersonal needs, benefit finding, adjustment to separation and help-seeking attitudes) across conditions at pre-intervention were conducted. No significant differences were found between the control and intervention conditions, except that the intervention condition (MindCast) had significantly less children (1.60 vs 1.72) than the control condition,  $t(122) = -1.39, p = .008$ .

### **7.6.4. Observed means for primary and secondary outcomes**

Table 7.6 presents the observed means for the depression and suicidal ideation measures at each measurement occasion for each condition. Symptoms of depression decreased over time. However, effects of suicidal ideation were virtually absent among completers.

**Table 7.6. Observed means and standard deviations for depression (PHQ-9) and suicidal ideation (SIDAS) at each measurement occasion as a function of condition**

	Measurement occasion					
	Pre		Post		3 month follow-up	
	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>
<i>Patient Health Questionnaire (PHQ – 9)</i>						
MindCast	63	13.57 (6.76)	12	8.57 (5.21)	13	8.54 (6.77)
Control	61	14.72 (6.98)	18	11.39 (5.88)	7	9.14 (4.06)
<i>Suicidal Ideation Attributes Scale (SIDAS)</i>						
MindCast	63	5.98 (8.25)	12	5.00 (9.48)	10	6.80 (14.34)
Control	61	8.23 (10.73)	18	8.00 (9.39)	6	11.17 (10.05)

Table 7.7 presents the observed means for the secondary outcome variables at each measurement occasion for each condition. Differential effects were observed for thwarted belongingness, benefit finding, and loneliness.



**Table 7.7. Observed means and standard deviations for the secondary outcomes at each measurement occasion as a function of condition**

	Measurement occasion					
	Pre		Post		3 month follow-up	
	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>
<i>Interpersonal Needs Questionnaire (INQ) – Belongingness</i>						
MindCast	63	35.35 (11.73)	12	29.73 (12.83)	13	27.46 (13.86)
Control	60	36.65 (13.71)	11	31.89 (13.21)	7	36.57 (13.55)
<i>Interpersonal Needs Questionnaire (INQ) – Burden</i>						
MindCast	63	11.51 (7.27)	12	10.92 (6.17)	13	12.15 (10.65)
Control	60	12.57 (8.49)	18	13.67 (7.71)	7	12.43 (10.28)
<i>General Benefit Finding Scale (GBFS)</i>						
MindCast	62	71.15 (22.47)	12	84.87 (26.83)	13	92.36 (28.55)
Control	58	72.75 (22.01)	16	74.43 (28.35)	7	70.37 (22.33)
<i>Psychological Adjustment to Separation Test (PAST) - Attachment</i>						
MindCast	63	29.40 (6.80)	12	25.25 (6.21)	13	26.08 (4.92)
Control	61	30.56 (7.09)	18	28.00 (6.37)	7	26.29 (5.96)
<i>Psychological Adjustment to Separation Test (PAST) – Lonely</i>						
MindCast	63	37.70 (8.79)	12	31.50 (6.53)	13	31.92 (9.34)
Control	61	39.13 (9.62)	18	35.61 (9.44)	7	38.57 (10.27)
<i>Attitudes Toward Seeking Professional Psychological Help (ATSPPH)</i>						
MindCast	63	19.67 (4.75)	12	23.58 (4.17)	12	24.33 (3.55)
Control	61	19.28 (4.43)	18	21.61 (5.56)	3	26.00 (3.46)

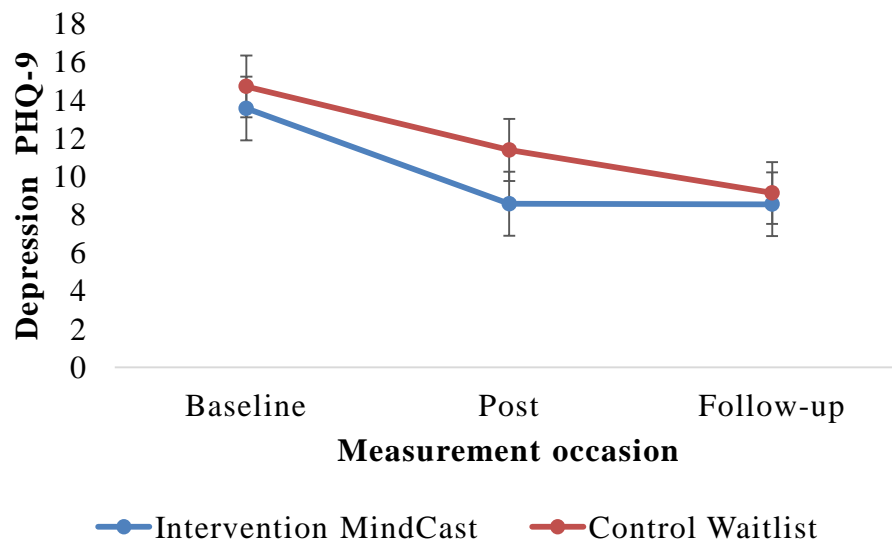
## 7.7. Intervention effects

### 7.7.1. Primary outcomes

#### *Depression*

Figure 7.3 displays the estimated marginal means for the PHQ-9 at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for depression was not significant,  $F(2, 23.94) = .261, p = .772$ . Between-group effect sizes at post-intervention for the MindCast intervention condition compared with the wait-list control condition was  $d = 0.52$  (95% CI = -1.25-0.24). At three-month follow-up, the effect size between the MindCast intervention condition compared with the wait-list control condition was  $d = 0.11$  (95% CI = -1.02-0.82).

However, there was a significant main effect of time on depression at the post-test time point  $F(2, 23.94) = 10.51, p = .001$ . This result indicated that the control and intervention groups both experienced a decrease in depression symptoms over the duration of the study, with within group effect sizes of  $d = 0.77$  for the MindCast intervention condition at post-intervention and  $d = 0.50$  for the wait-list control condition. At the three-month follow-up within group effect sizes remained stable for the MindCast intervention condition ( $d = 0.01$ ), and continued to decrease for the wait-list control condition ( $d = 0.43$ ).

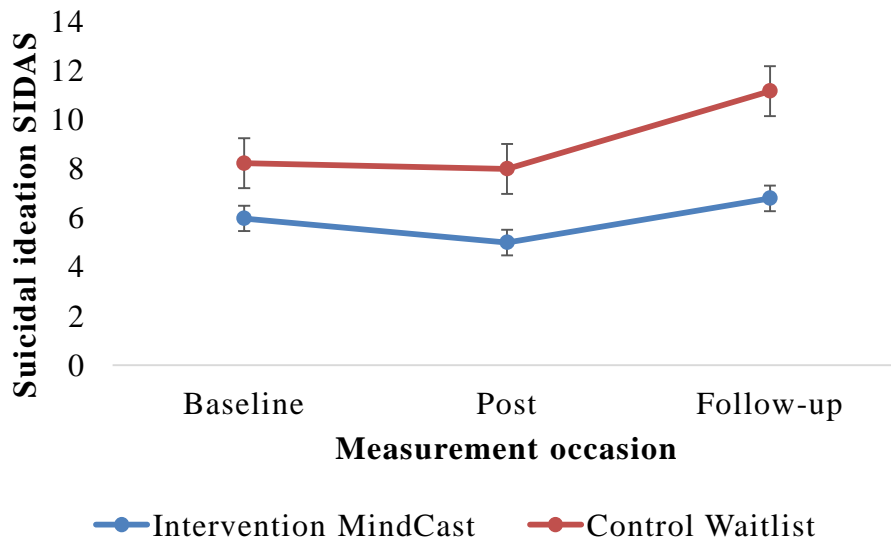


**Figure 7.3. Mixed model repeated measure estimates for depression**

*Suicidal Ideation*

Figure 7.4 presents the estimated marginal means for the SIDAS at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for suicidal ideation was not significant,  $F(2, 19.73) = .074, p = .929$ . The between-group effect size at post-intervention for the MindCast intervention condition compared with the wait-list control condition was  $d = 0.34$  (95% CI = -1.30-0.67). At three-month follow-up, the effect size between the MindCast intervention condition compared with the wait-list control condition was  $d = 0.36$  (95% CI = -1.35-0.68).

Neither of the conditions demonstrated significant change from pre- to post-intervention or from pre-intervention to three-month follow-up. The within group effect sizes at the post-intervention were very small for both the MindCast intervention condition ( $d = 0.12$ ) and the wait-list control condition ( $d = 0.02$ ). At the three-month follow-up, scores within both groups increased with a within group effect sizes of  $d = -0.16$  for the MindCast intervention condition and  $d = -0.35$  for the wait-list control condition.



**Figure 7.4. Mixed model repeated measure estimates for suicidal ideation**

*Suicidal ideation subsample analysis*

A dichotomous variable was created from the SIDAS scale to explore participants who indicated no suicidal ideation (score of zero) and participants who endorsed items indicating an experience of suicidal ideation at pre-intervention. A subsample analysis was conducted to identify participants with higher levels of ideation at pre-intervention and explore whether they had stronger effects for the suicidal ideation outcome. The overall interaction between condition and measurement occasion was not significant  $F(2, 8.02) = .173, p = .884$ . Table 7.8 presents the frequency of participants reporting suicidal ideation across conditions and measurement occasions.

**Table 7.8. Frequency of participants reporting suicidal ideation across conditions and measurement occasions using SIDAS scores**

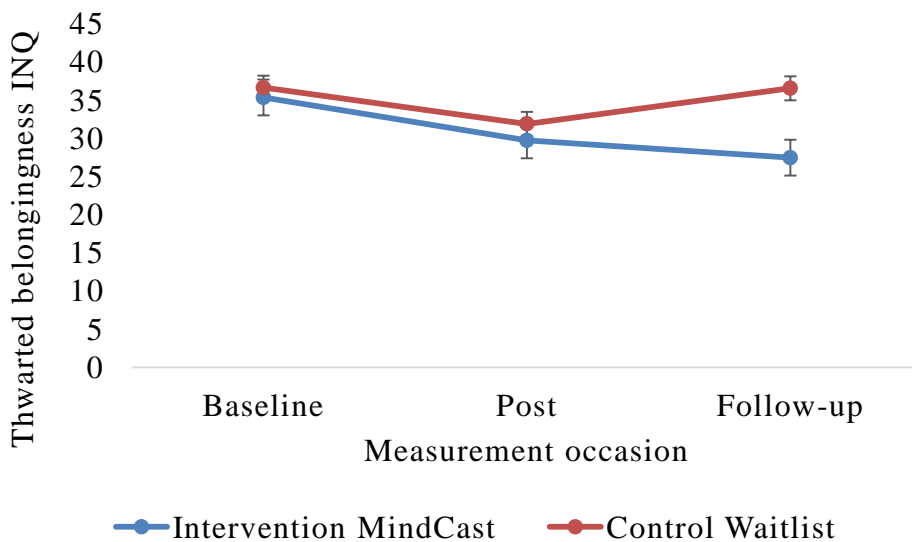
		Suicidal ideation		No suicidal ideation	
<i>MindCast</i>	<i>n</i>			<i>n</i>	
Pre	34	54.0%		29	46.0%
Post	5	41.7%		7	58.3%
Follow-up	2	20.0%		8	80.0%
<i>Control</i>					
Pre	37	60.7%		24	39.3%
Post	12	66.7%		6	33.3%
Follow-up	4	66.7%		2	33.3%

### 7.7.2. Secondary outcomes

#### *Interpersonal Needs (INQ) - Thwarted Belongingness*

Figure 7.5 presents the estimated marginal means for the Thwarted Belongingness scale of the INQ at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for thwarted belongingness was not significant,  $F(2, 21.86) = 1.32, p = .288$ .

The between-group effect size at post-intervention for the MindCast intervention condition compared with the wait-list control condition was small  $d = 0.17$  (95% CI = -0.99-0.65). At three-month follow-up, the effect size between the MindCast intervention condition compared with the wait-list control condition moderately increased  $d = 0.70$  (95% CI = -1.59-0.29). The within group effect size at post-intervention was small for both the MindCast intervention condition ( $d = 0.48$ ) and the wait-list control condition ( $d = 0.35$ ), and at three-month follow up (MindCast;  $d = 0.18$ , Control;  $d = 0.37$ ).



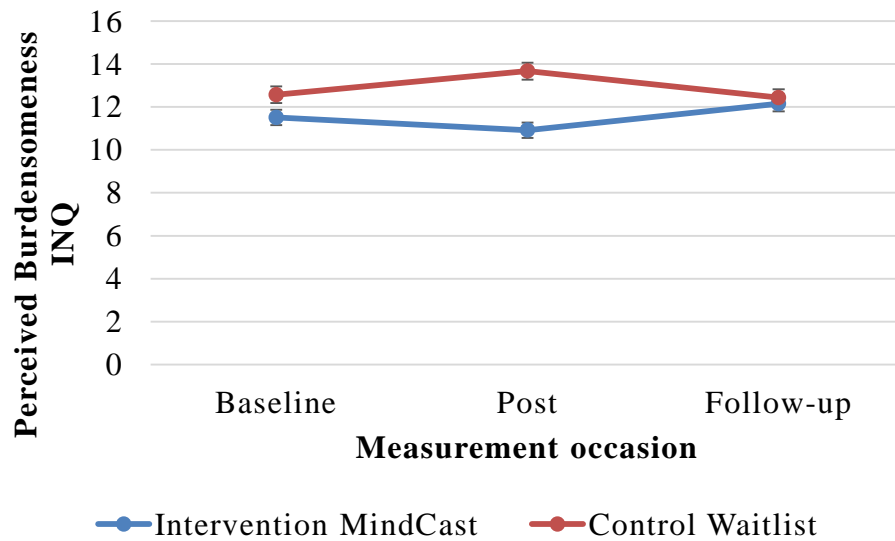
**Figure 7.5. Mixed model repeated measure estimates for thwarted belongingness**

*Interpersonal Needs (INQ) - Perceived Burdensomeness*

Figure 7.6 presents the estimated marginal means for the Perceived Burdensomeness scale of the INQ at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for perceived burdensomeness was not significant,  $F(2, 21.29) = 1.44, p = .258$ . The between-group effect size at post-intervention for the MindCast intervention condition compared with the wait-list control condition was  $d = 0.40$  (95% CI = -1.12-0.35). At three-month follow-up, the effect size between the MindCast intervention condition compared with the wait-list control condition was very small  $d = 0.03$  (95% CI = -0.94-0.89).

Neither of the conditions demonstrated significant change from pre- to post-intervention, with very small within group effect sizes at post-intervention for both the MindCast intervention condition ( $d = 0.08$ ) and the wait-list control condition ( $d = -0.13$ ). At three-month follow-up within group effect sizes remained the same for

both the MindCast intervention condition ( $d = -0.15$ ) and the wait-list control condition ( $d = 0.15$ ).



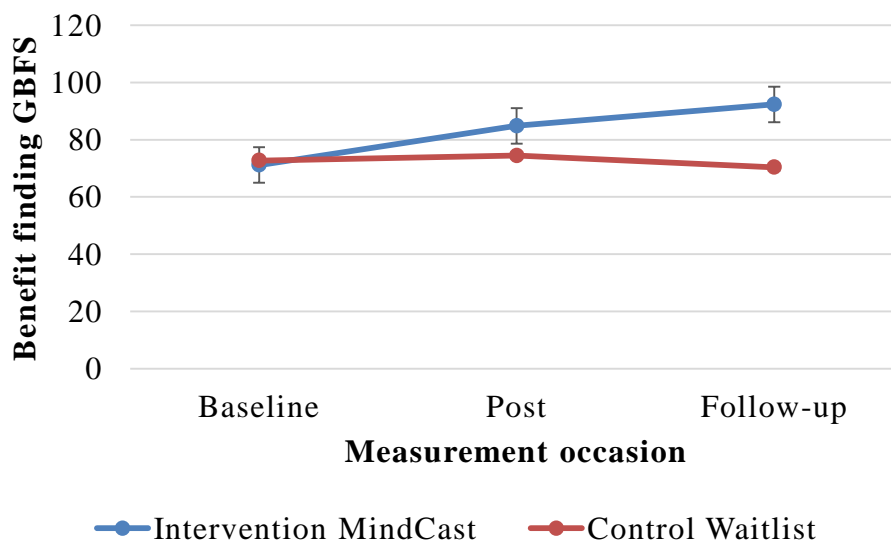
**Figure 7.6. Mixed model repeated measure estimates for perceived burdensomeness**

*General Benefit Finding Scale (GBFS) - Benefit Finding*

Figure 7.7 presents the estimated marginal means for the General Benefit Finding Scale at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for benefit finding was not significant,  $F(2, 21.10) = 1.07, p = .360$ . The between-group effect sizes at post-intervention for the MindCast intervention condition compared with the wait-list control condition was  $d = 0.39$  (95% CI = -0.38-1.13). At three-month follow-up, the effect size increased between the MindCast intervention condition compared with the wait-list control condition was large  $d = 0.87$  (95% CI = -0.14-1.76).

However, there was an improvement in benefit finding across time  $F(2, 21.03) = 9.38, p = .001$ . The within group effect sizes at post-intervention were moderate for the MindCast intervention condition ( $d = 0.60$ ) and small for the wait-list control condition ( $d = 0.07$ ). At the three-month follow-up benefit finding

continued to improve for the MindCast intervention condition with a small within group effect size ( $d = 0.28$ ). However, scores for benefit finding decreased for the wait-list control condition ( $d = -0.16$ ). A significant improvement over time was also identified for specific types of benefit-finding including acceptance  $F(2, 20.43) = 7.72, p = .003$  and growth  $F(2, 22.72) = 14.63, p < .001$ . No further significant effects were found for family bonds, relationships, empathy, or reprioritisation.



**Figure 7.7. Mixed model repeated measure estimates for benefit finding**

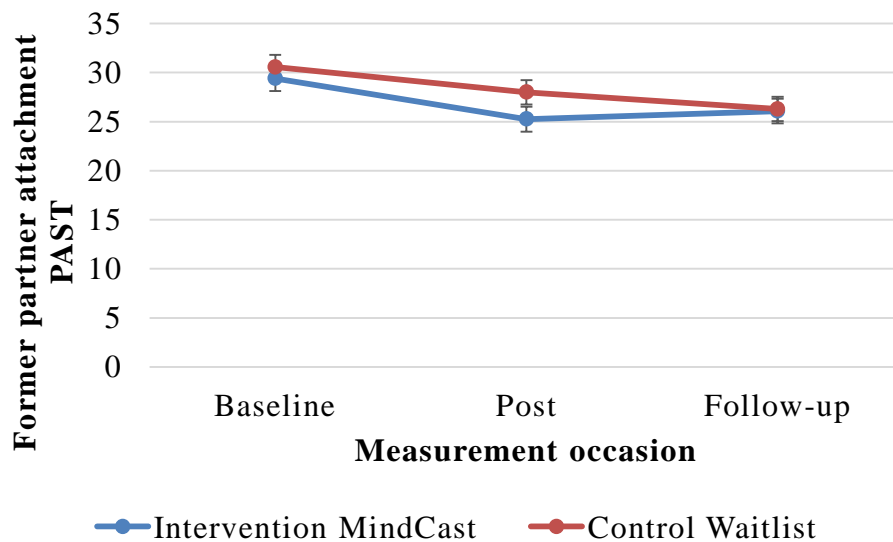
*Psychological Adjustment to Separation (PAST) - Former Partner Attachment*

Figure 7.8 presents the estimated marginal means for the Former Partner Attachment scale of the PAST at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for former partner attachment was not significant,  $F(2, 18.96) = .280, p = .759$ . The between-group effect size at post-intervention for the MindCast intervention condition, compared with the wait-list control condition, was  $d = 0.45$  (95% CI = 1.18-0.30). At three-month follow-up, the effect size between the MindCast



intervention condition compared with the wait-list control condition was small  $d = 0.04$  (95% CI = -0.96-0.88).

However, there was an improvement in former partner attachment across time  $F(2, 18.96) = 16.16, p < .001$ . The within group effect sizes at post-intervention were moderate for the MindCast intervention condition ( $d = 0.63$ ) and small for the wait-list control condition ( $d = 0.37$ ). At the three-month follow-up scores slightly increased for the MindCast intervention condition ( $d = -0.16$ ), and continued to decrease for the wait-list control condition ( $d = 0.28$ ).



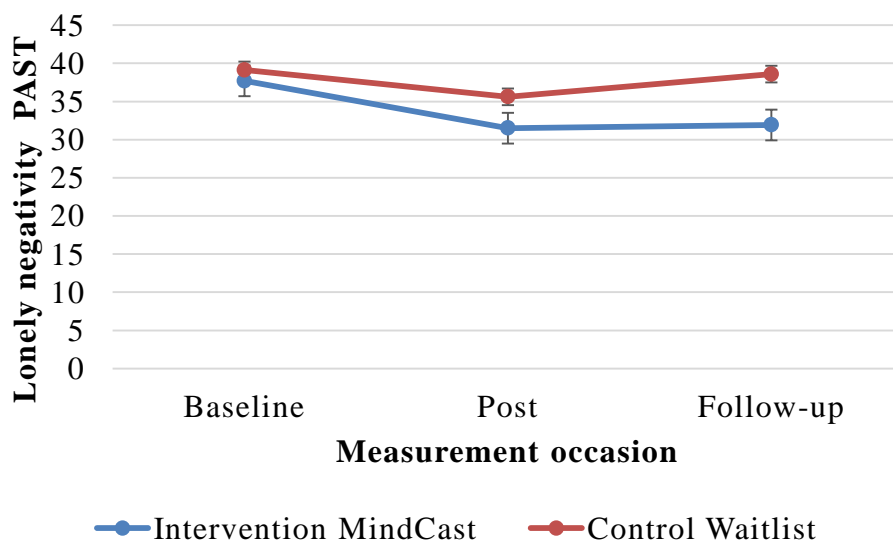
**Figure 7.8. Mixed model repeated measure estimates for former partner attachment**

*Psychological Adjustment to Separation (PAST) - Lonely Negativity*

Figure 7.9 presents the estimated marginal means for the Lonely Negativity scale of the PAST at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for lonely negativity was not significant,  $F(2, 25.23) = .891, p = .423$ . The between-group effect size at post-intervention for the MindCast intervention condition compared

with the wait-list control condition was moderate  $d = 0.51$  (95% CI = -1.23-0.25). At three-month follow-up, the effect size between the MindCast intervention condition compared with the wait-list control condition was  $d = 0.73$  (95% CI = -1.62-0.27).

However, there was an improvement in lonely negativity across time  $F(2, 25.23) = 11.13, p < .001$ . The within group effect sizes at post-intervention were moderate for the MindCast intervention condition ( $d = 0.74$ ) and small for the wait-list control condition ( $d = 0.37$ ). At three-month follow-up, the MindCast intervention condition slightly increased their scores  $d = -0.05$ , as did the waitlist control condition,  $d = -0.32$ .



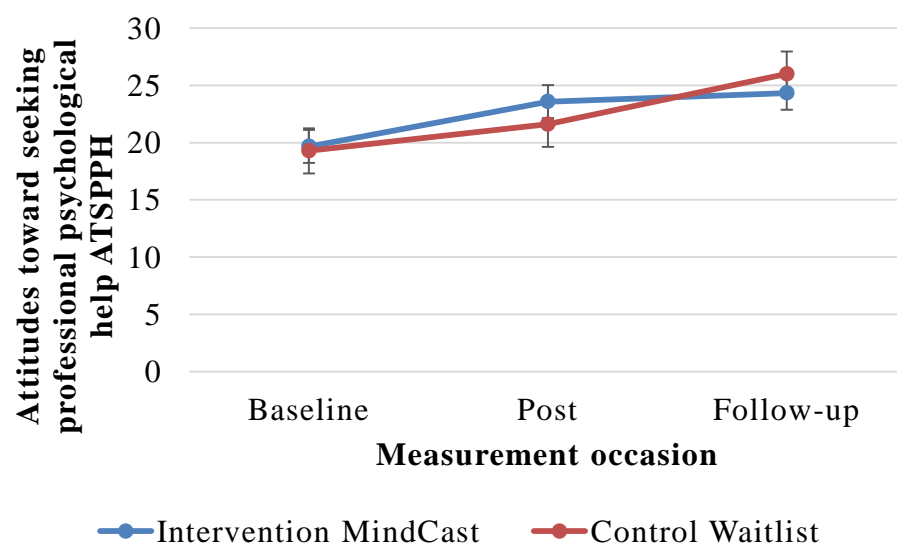
**Figure 7.9. Mixed model repeated measure estimates for lonely negativity**

*Attitudes Toward Seeking Professional Psychological Help (ATSPPH)*

Figure 7.10 presents the estimated marginal means for the ATSPPH at each measurement occasion for each of the conditions. The overall interaction between condition and measurement occasion for attitudes towards seeking professional help was not significant,  $F(2, 14.38) = .186, p = .832$ . The between-group effect size at post-intervention for the MindCast intervention condition compared with the wait-list

control condition was small,  $d = 0.40$  (95% CI = -0.35-1.13). At three-month follow-up, the effect size between the MindCast intervention condition compared with the wait-list control condition was moderate,  $d = 0.51$  (95% CI = -1.75-0.80).

However, there was an improvement in help-seeking attitudes across time  $F(2, 14.38) = 5.04, p = .022$ . The within group effect sizes at post-intervention were large for the MindCast intervention condition ( $d = 0.85$ ) and moderate for the wait-list control condition ( $d = 0.50$ ). At the three-month follow-up although both groups increased scores (MindCast intervention condition;  $d = 0.20$ ) the wait-list control condition continued increase beyond the intervention group ( $d = 0.86$ ).



**Figure 7.10. Mixed model repeated measure estimates for attitudes toward seeking professional psychological help**

### 7.7.3 Adherence and satisfaction

It was not possible in the current study to link podcast downloads to individual participants to assess adherence. However, participants were encouraged to input their email address and complete a satisfaction and distress rating scale

following each podcast. Table 7.8 presents this proxy measure of adherence and associated satisfaction data collected after each podcast (six opportunities for feedback). The data collected may be interpreted as an underestimate of true adherence given that the completion of the satisfaction and distress measures was not mandatory. Participant feedback appeared to diminish as the intervention progressed into the third week, although satisfaction ratings appeared steady throughout the series with a mean score of 3.96, (1 = *very poor* to 5= *very good*), which indicated a ‘good’ outcome rating.

**Table 7.9. Means for the adherence and satisfaction measures at post-intervention**

MindCast Episode	Participants ( <i>n</i> )	Satisfaction Rating (5 Very Good – 1 Very Poor)
Episode 1	33	4.18
Episode 2	18	3.89
Episode 3	14	4.00
Episode 4	7	3.86
Episode 5	6	4.00
Episode 6	5	3.80

Participants who completed the MindCast intervention condition were provided with access to a series of specific post-intervention questions relating to the MindCast podcast series. Out of the 12 participants who had been provided with access to the MindCast intervention, and had completed the post-intervention questionnaire, 11 chose to provide answers for the useability/adherence section.

Out of the 11 responses, 7 (64%) participants indicated that they had listened to all six of the podcasts. Two (18%) of the participants had listened to five episodes, one (5%) had listened to three episodes and one (9%) participant indicated listening

to zero podcast episodes. Two (18%) participants reported that they had gone back and listened to the podcasts again. Almost all (91%,  $n = 10$ ) the participants reported that they had listened to the podcast at home, with one (9%) participant listening outside the home. Almost all of the participants indicated that they had listened to the podcast on their smart phone (91%;  $n = 10$ ), with one participant (9%) using an iPad to listen.

The satisfaction questions presented in the post-intervention questionnaire following the useability/adherence section were not mandatory. The data presented here pertains to those participants who elected to provide feedback (10 out of the 12 participants, 83%). In terms of enjoyment derived from using the podcasts, 10 participants continued to provide feedback, with seven (70%) of these participants agreeing that they had enjoyed using the program, with 70% also rating the program as helpful. Eighty per cent of respondents reported that the series content was easy to understand, with all participants agreeing that the program content was interesting. 80% of participants agreed that they would use the program in the future, with two (20%) participants indicating they weren't sure or somewhat disagreed with using the program again. Eighty per cent indicated that they would recommend the program to others.

In analysing the qualitative feedback regarding the most valuable/helpful aspects of MindCast, seven participants (58%) provided answers to this open-ended question. Participants noted (i) the ease of access and ability to go back and listen to a specific part of the podcast again if needed, (ii) the focus on other relationships (e.g., with family or friends), (iii) feeling understood, (iv) learning about strategies, (v) getting an idea of what therapy might be like, (vi) visualisation activities, (vii) having something to look forward to and, (viii) the circle of people for support exercise, as the most valuable aspects of the MindCast podcast series ( $n = 7$ ).

In analysing the qualitative feedback regarding the least valuable/helpful aspects of MindCast, six participants provided answers to this open-ended question. The least valuable/helpful aspects of MindCast were that (i) some of the content did not fit the individual participant's situation, (ii) waiting for podcasts, (iii) there weren't enough podcasts, (iv) most of the exercises made the individual participant feel "more sad" about their situation and, (v) the episodes were too short ( $n = 6$ ). Four other comments were provided under the "any other comments" section. Other comments that participants offered included (i) that the intervention was overall very valuable and that the individual participant has prioritised making new friends since starting, (ii) recognising that they need to listen to all of the podcasts to get the full benefit and, (iii) that the tone of voice and words used were "too cheerful" for the subject matter ( $n = 4$ ).

## **7.8. Discussion**

MindCast is a web-based, six-session, online podcast program based on Brief Interpersonal Psychotherapy (IPT-B) that was designed for people who have separated from a relationship. The primary purpose of the intervention was to target individuals who have separated from a romantic relationship in the past six months, using IPT-B strategies to promote active coping and positive adjustment and decrease suicidal ideation and symptoms of depression. The study also sought to determine the feasibility, potential effectiveness and acceptability of an online podcast in influencing psychosocial risk factors for poor adjustment following a separation.

## **7.8.1. Summary of findings**

### **7.8.1.1. Respondent characteristics**

A series of bivariate analyses were conducted to identify potential differences between participants who had reported suicidal ideation compared to those without suicidal ideation. An exploratory aim was to identify key differences in demographics, separation information (e.g., was initiator status or time since the separation a factor in the development of suicidal ideation), and adjustment processes to better inform future intervention outcomes.

In line with findings from the cross-sectional study in Chapters 3 and 4, over half (53%) of the participants in the trial indicated that they had experienced suicidal ideation over the last year, with 47.6% indicating that the experience of suicidal ideation was as a direct result of their relationship separation. Men also reported experiencing higher levels of suicidal ideation and behaviours when compared to the female participants in the study. This finding supports the current literature and statistical data which highlights the increased risk for suicidal thoughts and behaviours in men following a relationship separation (Ide et al., 2010) and suicide rates in general.

In terms of associations between demographic factors and suicidal ideation for this population, identifying as unemployed and time since separation (three to six months) were significantly associated with suicidal ideation. These results are consistent with the literature regarding the association between unemployment and higher relative risk of suicide, specifically for periods of long-term unemployment (Milner, Page, & LaMontagne, 2013). An association between employment and suicidality was also found in the quantitative cross-sectional study detailed in Chapter 3. Further, unemployment has also been found to negatively impact divorce adjustment (Wang & Amato, 2000). Following the break-down of a relationship, a

workplace/job focus could be viewed as an additional support mechanism encouraging the individual to continue with routine and social interaction. Unemployment and a relationship separation could serve to further isolate an individual and contribute to worse adjustment outcomes.

The results regarding time since separation offer an important insight into the development of suicidal thoughts following a separation. The results suggest that as the break-up event grows distal (after three to six months), thoughts about suicide increase. This finding is supported by the existing literature with stronger effects of separation on suicidality soon after separation (Batterham et al., 2014). The immediate period after a break-up (one month) may offer opportunity for reconciliation with an increase in social support from friends and family in response to the separation. As time proceeds, the permanency of the situation is established and social support may recede. This may be when an individual, without access to support/coping mechanisms, may develop suicidal thoughts in relation to their perceived difficulty in transitioning to their new single role. In a study exploring causes, coping and consequences of marital separation, females who had separated three to six months ago reported feeling more positive while males separated less than three months reported feeling more negative (Kincaid & Caldwell, 1995). This finding provides clinical opportunity to further explore the specifics of time and the development of suicidal thoughts, particularly for the male separated population. It also suggests potential targets for trialling the MindCast podcast series in the future, focusing on whether there would be stronger effects for those most at risk of ideation and whether the effects are stronger depending on how long after the separation the intervention was provided. Due to the high attrition rate it was not possible to establish this effect in the current study.



### 7.8.1.2. Primary intervention outcomes

The results of the current study indicated that the MindCast intervention did not significantly affect the primary outcomes of depression or suicidal ideation, thus not supporting the first hypothesis. However, across the study period, there was a significant decrease in symptoms of depression within the control ( $d = 0.50$ ) and intervention groups ( $d = 0.77$ ) at post-intervention, and three month follow-up (control;  $d = 0.43$ , and intervention;  $d = 0.01$ ). The between group effect sizes at post-intervention ( $d = 0.52$ ) and follow-up ( $d = 0.11$ ) for depression were moderate to small. This suggests that the MindCast intervention may have the potential to decrease depressive symptoms in people who have separated from a relationship, compared to a control condition, although a more adequately powered study would be required to find a significant effect. The potential for the intervention to affect symptoms of depression is consistent with the IPT-B literature which has demonstrated a strong between groups effect for IPT-B strategies in targeting adult perinatal depression ( $d = 0.96$ ; Grote et al. 2009). One of the limitations of the current study was that it was significantly underpowered, due to high attrition, to detect intervention effects. As such, future research is needed to ascertain if the MindCast podcasts can significantly affect change in depression with an adequately powered trial.

The between groups effect size at post-intervention ( $d = 0.34$ ) and three-month follow-up ( $d = 0.36$ ) for suicidal ideation were small, suggesting that an online IPT-B based intervention may not be effective in changing suicidal ideation. A potential issue in targeting suicidal ideation may be related to the absence of targeted content regarding the development and experience of suicidal thoughts. This is supported by the literature which suggests that the effectiveness of internet interventions might be increased if they specifically targeted suicidal thoughts, rather

than associated conditions such as depression (Christensen, Batterham, & O'Dea, 2014). Further the low level of suicidal ideation reported in the SIDAS samples may have contributed to a floor effect, meaning that there was little room to improve overall scores. Future research could focus on targeting samples reporting suicidal ideation at pre-intervention to see if the intervention can affect change in this at-risk population.

### **7.8.1.3. Secondary intervention outcomes**

The results of the current study indicated that the MindCast intervention did not significantly affect the secondary outcomes of interpersonal needs, benefit finding, adjustment to separation and attitudes towards professional psychological help-seeking, thus not supporting the second hypothesis.

A secondary aim of the current study was to target the constructs of perceived burdensomeness and thwarted belongingness to influence a decrease in suicidal ideation. The results indicated that the MindCast intervention did not significantly affect these outcomes. The between groups effect sizes for perceived burdensomeness were small at post-intervention ( $d = 0.40$ ) and decreased at follow-up ( $d = 0.03$ ). Interestingly, the results appeared more promising for the thwarted belongingness outcome with a decrease observed in the MindCast intervention group (post-intervention,  $d = 0.17$ ), with a moderate between group effect size reported at three month follow-up ( $d = 0.70$ ). The results suggest that IPT-B strategies may have the potential to be applied in the context of increasing interpersonal connection, thus affecting a sense of thwarted belongingness. This finding makes sense in the context of IPT-B strategies which focus on encouraging self-reflection and connection with supportive friends and family.

There was a significant improvement in benefit finding across time within the intervention ( $d = 0.60$ ) and control condition ( $d = 0.07$ ). Specifically, an increase in

acceptance of the separation and personal growth was observed. The small to large between group effect sizes at post-intervention ( $d = 0.39$ ) and follow-up ( $d = 0.87$ ) indicated that the MindCast intervention may have a positive effect on increasing an individual's perception of the benefits gained after a relationship separation, and further research is needed to ascertain these potential effects in an adequately powered trial. The perception of finding benefit after experiencing a difficult situation has been demonstrated across a number of studies focusing on health recovery (Helgeson, Reynolds, & Tomich, 2006). The literature has also observed an improvement in benefit finding after a difficult experience, identifying that over time individuals may reframe their experiences, enact coping processes and reflect on their life change as having a positive consequence for quality of life (Tomich, Tomich, & Helgeson, 2004). However, timeframes for benefit finding are often heterogeneous and findings have not been consistent (Cordova, Cordova, Cunningham, Carlson, & Andrykowski, 2001; Tomich et al., 2004).

Psychological adjustment to the separation appeared to improve over time for both former partner attachment and lonely negativity outcomes. The within group effect size for the lonely negativity outcome at post-intervention was moderate ( $d = 0.74$ ) for the MindCast intervention condition, with the between group effect sizes also indicating an effect in favour of the intervention condition at post-intervention ( $d = 0.51$ ) and follow-up ( $d = 0.73$ ). The results for the former partner attachment outcome also demonstrated moderate within group effect sizes at post-intervention for the MindCast intervention condition ( $d = 0.63$ ), and moderate to small between group effect sizes from post-intervention ( $d = 0.45$ ) to follow-up ( $d = 0.04$ ). The between group effect sizes indicated that the MindCast intervention could have scope to improve individual perception of attachment to the former partner and particularly a sense of loneliness after the separation. This is consistent with the results from the

current study supporting improvement in the thwarted belongingness outcome after participation in the trial. The interpersonal focus of the IPT-B narrative may have the potential to influence loneliness and belonging constructs by affecting the way in which participants re-connect and reframe relationships with family and friends. Evidence for significant interaction effects for loneliness and family support in predicting suicide risk has been found with interpersonal difficulties and insecure attachment patterns further amplifying serious suicidal behaviour (Chang et al., 2017; Levi-Belz, Gvion, Horesh, & Apter, 2013).

Participants also indicated an improvement in professional psychological help-seeking attitudes across time. The within group effect size at post-intervention for the MindCast condition was large ( $d = 0.85$ ), while the effect size in the control condition was medium ( $d = 0.50$ ). Both groups continued to increase help-seeking attitudes across time with the control group demonstrating a large increase in help-seeking attitudes, with a between group effect size of  $d = 0.40$  at post-intervention and  $d = 0.51$  at three-month follow-up. However, this increase should be interpreted with caution due to the low response rate for the control group. These results suggest that there may be an opportunity for the podcast medium to normalise counselling/therapy and encourage individuals to seek help and support for their separation experiences. It also highlights that people become more comfortable with seeking help over time regardless of the intervention.

The literature suggests that podcast listeners are sensitive to expertise and trustworthiness (Tsagkias, Larson, & de Rijke, 2010). Perhaps the element of a Clinical Psychologist as the host may have provided a sense of assurance regarding the experience of counselling. From a wider perspective, it appears that podcasts could have a positive effect on help-seeking attitudes and have the potential to be used as a broader form of encouraging health behaviour change.

Although there were no observed overall significant between group effects of the MindCast podcasts, there were a number of main effects of time observed across the secondary outcomes. Adjustment to separation over time is a broad area in the divorce/separation literature and a gap appears to exist in relation to more recent reference studies. Currently, mixed results exist as to whether adjustment improves over time or whether adjustment is as a result of re-partnering following the separation (Amato & Booth, 1991; Aseltine & Kessler, 1993; Melichar & Chiriboga, 1988; Tschann, Johnston, & Wallerstein, 1989). Further, there is little consensus in longitudinal studies as to what defined period of time leads to improved adjustment (Tschann et al., 1989). Lucas (2005) argued that although adjustment did occur for divorced individuals in the years immediately following a divorce, satisfaction levels did not return to baseline. The study makes the important point that reactions to life experiences vary for different events and different individuals and that it would be premature to assume that ‘time heals all wounds’ (Lucas, 2005).

The primary outcome of suicidal ideation (as measured by the SIDAS) did not demonstrate significant change across time, nor did the interpersonal needs outcomes (perceived burdensomeness and thwarted belongingness) which are also related to the development of suicidal ideation. This result is consistent with research that suggests that the effects of separation on suicidality were strongest soon after separation, gradually diminishing in the two years following the separation (Batterham et al., 2014). The separation period required for the study (up to six months post break-up) may have been too close to the negative life experience associated with the separation, with the impact of this stress the highest in the first year of separation (Wyder et al., 2009). The intervention may have more impact on suicidal ideation in combination with a targeted approach directly addressing suicidal

risk post-separation and recruiting a population that is more representative of an at risk group.

#### **7.8.1.4. Adherence and satisfaction**

The general feedback about the podcasts indicated that participants were inclined to engage with the program across the first three sessions but participation decreased rapidly from the middle of the program period. Improving individualisation of the program and expanding the topics available may improve a sense of autonomy among participants. Research suggests that although podcast users are sensitive to perceptions of credibility (Metzger, 2007), users seek out podcasts not for information alone, but to also engage in a form of entertainment (Tsagkias et al., 2010). Future iterations of MindCast may focus on the integration of interviews with experts in the field and community members with lived experience which could improve the depth of information and entertainment appeal. With the social aspects of being able to discuss content with others a major motivation for podcast users (McClung & Johnson, 2010), the consideration that the topic of separation is sensitive and personal would likely restrict participants from being able to share their podcast experience to a wider social circle. The population recruited is reflective of current podcast studies in the area which indicate that the bulk of podcast users are considered well educated and listen to podcasts via portable devices (McClung & Johnson, 2010). The overall satisfaction feedback indicates that the dissemination of podcasts to this community is feasible. Although the current study was unable to establish tangible measures of adherence, it is plausible to suggest that a proportion of participants may have listened to the podcast but elected not to complete the episode feedback and the post-intervention questionnaires. The relative flexibility required to create podcast content may open the possibility for other health interventions to trial the use of the podcast/audio medium to deliver

health interventions. The potential for new interventions to move into this space highlights the uniqueness of this study and possible future iterations of a similar platform within the mental health space.

### **7.8.2. Strengths and limitations**

The current study was the first of its kind to explore the impact of podcasts on mental health and psychosocial outcomes for people who had separated from a relationship. The novelty of the podcast format in delivering a therapeutic modality made for a unique study and provided preliminary evidence for the use of audio technology in the mental health arena. The focus on online delivery maximised the potential of the intervention to reach a wide audience and removed a number of barriers to accessing mental health support including financial cost, and accessibility despite geographic location.

In light of the strengths, the findings from the current study should be viewed and interpreted as preliminary results. The difficulty to access a more comprehensive data management system restricted the ability to be able to track and document intervention usage and adequately quantify progression and drop-out rates. The inability to capture comprehensive adherence and engagement data would have impacted on developing an understanding of the patterns of podcast use and its impact on issues that arise following a relationship separation. In order to better understand how participants understood the information provided within the podcasts, the collection of mental health literacy data to test changes in knowledge might be a useful consideration in future studies.

The low post-intervention and follow-up questionnaire responses were a primary limitation of the current study, decreasing statistical power to detect significant effects and impacting the generalisability of the results. This is reflected in the small to medium between group effect sizes that were observed for a number

of the outcome measures, yet none of the differences between conditions reached significance. In addition, it is acknowledged that the number of analyses conducted to explore the effects of the primary and secondary outcomes may have increased the likelihood of false positive significant results. Retention may be improved through the provision of incentives (e.g., cash payments for completion of post and follow-up surveys), sourcing participants to join focus groups to provide opinion regarding usage, time-frames and retentions strategies and/or combining a mixed communication strategy using telephone contact and text reminders throughout the study (Bull, Vallejos, Levine, & Ortiz, 2008).

The recruitment of participants via Facebook may also have resulted in a selection bias, with the sample not necessarily being representative of the population of people who have gone through a separation (e.g., over-representation of females). The lack of male participants recruited to the trial may also highlight differences between males and females regarding their willingness to participate in this type of research or engage with a podcast-based intervention. Alternative recruitment methods, such as forming partnerships with external clinical organisations including Relationships Australia which target a more diverse study population, specifically males, would be recommended for future research.

Given the short follow-up periods included in the current study, it was not possible to draw strong causative associations between risk and protective factors and suicidal ideation and/or depression. Future studies should look to increase follow-up periods to assist in better establishing potential causative relationships. The lack of podcast content specifically targeting suicidal ideation may have shifted focus away from encouraging the participants to reflect on their thoughts and how certain interpersonal strategies may help to alleviate suicide risk. Perhaps in future iterations of the MindCast intervention, participants should be encouraged to



explicitly make the connection between perceived burdensomeness, thwarted belongingness and suicidal ideation. This could be achieved by explicitly discussing the Interpersonal Theory of Suicide and the research literature which suggests that separation is a significant catalyst for suicidal ideation in a proportion of this population. However, challenges in relation to ethical approval for studies directly targeting suicidality may present an obstacle to future research. By providing clarity regarding the concerns of ethics committees (e.g., potential harm to participants, provision of support and researcher competency), an ethically sound study design can be developed that provides an important platform for suicide prevention and intervention strategies (Lakeman & FitzGerald, 2009).

Lastly, the brevity of the podcast episodes and delivery over three weeks, rather than allowing participants to engage with all podcasts at once, may have affected intervention adherence and reduced the perceived autonomy of participants who had to wait to access successive episodes. In the current study, the brief episodes were developed to try and address potential time issues (e.g., not having enough time to listen to each episode) and engagement (e.g., absorbing enough information without feeling 'bored'). The rationale behind the sequential release of episodes was thought to allow enough time between episodes to allow practice, reflection and learning. Further qualitative research within this population may help to direct suggestions as to appropriate episode lengths and access to podcast episodes.

## **7.9. Conclusions**

MindCast was an exploratory study designed to test the uptake of podcast technology and explore the application of IPT-B to an audio format. The initial recruitment to the study was a positive indicator that the idea of online podcasts relating to relationship separation was relevant to the audience and that interest in

participation was strong. Although the results did not indicate that the intervention was effective in terms of targeting primary mental health outcomes, preliminary feedback suggests that participants were keen to engage with the content but that presenting a multi-faceted platform with longer episodes, interactive segments and opportunity to engage in other forums (e.g., private Facebook groups) may increase adherence and encourage a shift in mental health outcomes. Retention strategies including focus groups, mixed communication methods and incentives need to be considered in order to increase engagement with the research. The small to medium between group effects sizes suggest that significant effects may be observed in an adequately powered trial. Further research, with adequate follow-up sample sizes, is required to evaluate the adaptability of therapeutic modalities to an online podcast context and the potential for change in mental health outcomes.



## Chapter 8: Summary and conclusions

### 8.1. Summary of research findings

This thesis has provided an in-depth investigation into the impact of relationship separation on the development of suicidal thoughts and behaviours. The work chronicled throughout this project has (i) reviewed existing research on the effects of relationship separation on suicidal thoughts and behaviours, (ii) developed and implemented a cross-sectional survey to identify risk factors associated with suicidal thoughts and behaviours after a relationship separation, and (iii) created and trialled a unique online mental health intervention targeting separated individuals.

The systematic review, which forms Chapter 2, established the framework for the remainder of the research project. A major finding from the review was that relationship separation and poor quality relationships are likely to be important risk factors for suicidal thoughts and behaviours and are frequent triggers for a suicide attempt. A finding of clinical significance was that intimate partner relationships should form a significant part of suicide risk assessment, regardless of clinical setting.

The cross-sectional study in Chapter 3 highlighted key factors in predicting suicidal thoughts and behaviours following a relationship separation. The study identified greater symptoms of antagonism and disinhibition and less active coping, decreased positive family support, less negative friends and lower self-esteem as being significantly associated with increased odds of suicidal ideation. Further, results also indicated that among individuals with suicidal ideation, increased psychoticism was independently associated with significantly higher odds of progression to a suicide attempt.

Qualitative data analysis from the cross-sectional study (Chapter 4) also highlighted that males were significantly more likely to report “no benefit” to the separation. This was compared with females who were significantly more likely to report “leaving an abusive and/or negative relationship” and “moving on” after the separation as benefits to the relationship break-up. Although the results did not find a significant relationship between the qualitative data and suicidal thoughts and behaviours, the information gathered from the open-ended data provided important insights for the future development of the MindCast intervention.

The systematic review of controlled trials evaluating interventions following non-marital separation (Chapter 5) identified a significant shortage of comprehensive randomised controlled trials and controlled trials in the area of non-marital relationship separation. A notable finding was that there exists a paucity of trials that adequately assess the effects of non-marital relationship separation interventions on mental health outcomes and none that consider suicidal thoughts and/or behaviours.

The previous chapters highlighted potential targets for an intervention, with Chapter 6 setting out a rationale for the development of an online podcast. The chapter explored current evidence focusing on the use of podcasts in the health behaviour field and the planned integration between the Interpersonal Theory of Suicide and Brief Interpersonal Psychotherapy (IPT-B) treatment outcomes. The chapter concluded that the development of a podcast intervention could provide much needed support to individuals who have recently separated from a relationship in an accessible and timely manner.

Finally, the randomised controlled trial of the MindCast intervention (Chapter 7) demonstrated that an online podcast based on IPT-B strategies did not significantly decrease symptoms of depression or suicidal ideation. The podcast intervention also did not significantly impact interpersonal needs, benefit finding,

adjustment to separation or attitudes to professional help-seeking. However, due to retention difficulties, the overall study was underpowered and the results must be considered as providing an indication of preliminary data only. The between group effect sizes indicated potential for the intervention to generate changes in outcome measures, with the study being the first of its kind to explore the impact of podcasts on mental health and psychosocial outcomes. Further, the initial recruitment to the study was a positive indicator that the idea of online podcasts relating to relationship separation was relevant and attractive to the audience.

## **8.2. Comparison with previous research**

The MindCast podcast study represented the first self-directed, online podcast developed for people who have separated from an intimate partner relationship. It was also the first study of its kind to adapt IPT, of any form, to a podcast format and to explore the influence of such an intervention on suicidal ideation and broader psychosocial targets.

Recent research published in October 2017, supports the culmination of results stemming from the current research project. Love, Nalbone, Hecker, Sweeney, & Dharnidharka (2017) reported that there exists a vital link between relationship commitment, break-ups, and potential for suicide risk. Specifically, the study found that strong former partner attachment and high investment in the relationship are likely to increase distress and impact suicide risk, with depression mediating the association between commitment and suicide risk (Love et al., 2017). The MindCast intervention demonstrated moderate between group effect sizes for depression (0.10-0.50), indicating the potential to mitigate suicidal risk through the targeting of depressive symptoms.

The initial study in Chapter 2 was the first published systematic review that specifically focused on reviewing research regarding the impact of intimate partner

relationships on suicidality. It differed from previous reviews in that it took a broad-ranging area (intimate partner relationships) and applied a targeted focus (suicidal ideation, attempts and completion), compared with existing studies that had only focused on partner violence (Devries et al., 2013; McLaughlin et al., 2012), or separation (Ide et al., 2010). The research drew attention to specific subgroups of the population who may be elevated risk, for example examining suicide risk in individuals under the age of 35 or lesbian, gay, bisexual, and transgender (LGBT) individuals who were experiencing relationship discord, and in males who have recently separated.

The cross-sectional study reported over Chapters 3 and 4 aimed to gather information from an Australian sample of separated individuals to assist in the development of an online podcast intervention. No research existed at the time of the study that explicitly explored predictive risk factors of suicide risk following a relationship separation or had analysed qualitative data relative to suicide risk.

A 2011 review (Strouse & Roehrle, 2011) found consistent methodological issues including small sample sizes, inadequate design and lack of standardised treatments in divorce intervention trials. The systematic review in Chapter 5 contributed further evidence to the field by examining the non-marital relationship separation interventions. Overall, the findings indicated that there exists a lack of trials testing theory-driven interventions for relationship separation. Most importantly, the study highlighted the absence of separation interventions focusing on suicide risk.

The studies conducted by Turner-McGrievy et al. (2009; 2011; 2014), focusing on weight loss in a podcast delivered health intervention, appears to be the only published health podcast intervention currently available. The Pounds Off Digitally study developed by Turner-McGrievy et al. (2009), was designed to

promote weight loss across the course of 12-weeks. The intervention also utilised a combination of face-to-face screening procedures, social media engagement (encouraging participants to engage and post to Twitter), awareness of the other participants online (potentially creating a sense of community) and real-time contact with the study coordinator throughout the intervention period. The results of the study supported the use of behavioural, theory-based podcasting to promote weight loss but additional studies showed that the inclusion of prompts and support via Twitter did not enhance weight loss over using the podcast alone (Turner-McGrievy et al., 2009). An aim of the current study was to focus on the feasibility of using podcasts to influence mental health outcomes. The inclusion of too many additional components was thought to make the final evaluation more complex, and in-line with the previous research, did not appear to enhance behavioural change. However, there is now scope to apply more layers of interaction, with the completion of the first iteration of MindCast, to explore whether the addition of community/social focused components improve adherence, retention and mental health outcomes.

### **8.3. Limitations of the study**

The major limitation affecting the RCT study was the poor post-intervention and follow-up response rates for the MindCast evaluation. The initial recruitment phase indicated that interest in the medium existed within the separated population. However, final results were underpowered and interpretations were made with caution. There were several complicating factors which were discussed in detail in Chapter 7. Complicating factors included (i) access to an appropriate platform from which the podcast episodes could have been tracked, (ii) recruitment strategies, (iii) over-representation of females, (iv) lack of longitudinal data, (v) generalised podcast content, and (vi) delivery time-frame.



Another limitation was in the development of the cross-sectional survey in Chapters 3 and 4. As the answers were reliant on retrospective self-report, the overall longer length of the questionnaire, and the recruitment method through Facebook, some of the responses may have been affected by individual biases, inaccuracies, and incomplete information. This might limit generalisability to the separated community in Australia. However, the information gathered through both the cross-sectional study and the RCT has provided a strong framework for the future direction of the intervention, and valuable insights into risk associated with a relatively common negative life experience.

## **8.4. Future research**

### **8.4.1. Direct extensions of the study**

There is scope to extend the trial of audio podcasts within the mental health area. In order to ascertain an understanding of the mechanisms that support the delivery of podcasts within the mental health community, progression to a larger trial to account for retention difficulties, and to provide sufficient power to detect an effect for the mental health factors is needed.

Given the retention difficulties experienced in the current study, there is scope to explore clinical relationships with organisations that target the separated community, specifically Relationships Australia. From within this organisation, interested participants could be approached to participate in focus groups which may provide more insightful information regarding potential usage, time-frames and retention strategies. Further, incentives or participant contact needs to be explored as options for trial retention. The evidence is mixed regarding the use of incentives in RCTs with research suggesting that higher promised-retention incentives may boost online post-intervention participation (e.g., receiving a cash bonus for final

completion of post and follow-up questionnaires; Alexander et al., 2008; Khadjesari et al., 2011). Perhaps the use of a mixed communication strategy including initial telephone contact on recruitment and text communication/reminders may connect participants more to the study and an incentive may assist with follow-through (Bull et al., 2008).

There is also potential to develop a more community-focused component of the MindCast intervention to encourage participation and adherence rates. The development of community spaces in existing online platforms including Facebook (e.g., closed community group) may facilitate conversation and boost social connection. Internet support groups have been found to have an effect on mental health outcomes, especially when combined with targeted training programs (Griffiths et al., 2012).

Low male and lesbian, gay, bisexual, transgendered and intersex (LGBTI) representation needs to be a key target for future iterations of the program. Evidence indicates a serious need to target males and members of the LGBTI community who may be at risk of suicidal thoughts and behaviours, specifically after a relationship separation (Kazan et al., 2016; Skerrett et al., 2014). Although the use of Facebook proved to be a successful recruitment strategy, issues with selection bias and population representation need to be addressed. The targeting of prominent health organisations within Australia (e.g., beyondblue) and specific male focused mental health organisations (e.g., Movember) could help boost credibility of the study and provide access to a network of potential participants.

In order to specifically target suicidal ideation outcomes, the focus of intervention content and outcome measures needs to be more concentrated. Reflections on the current study suggested that the podcast content may have been too general and that in order to target suicidal ideation, content addressing ideation

needs to be explicit (Christensen, Batterham, & O'Dea, 2014). More communication regarding research outcomes highlighting suicide risk and evidence-based prevention strategies may assist in promoting recognition of individual experiences of suicidal symptoms. Further, the specific recruitment of a sample who identify as experiencing suicidal ideation may assist in the targeting of specific outcomes and promote the generalisability of results.

There is also potential to explore the differences between clinician delivered face-to-face IPT-B, compared to the online delivery of the same content. Avenues of enquiry could focus on whether a targeted IPT-B role transition intervention could affect change in individuals with suicidal ideation. This approach could be informed by the Interpersonal Theory of Suicide, with results from the current study indicating promising levels of change within the thwarted belongingness and lonely negativity adjustment outcomes.

#### **8.4.2. Broader issues for future research**

The systematic review in Chapter 5 highlighted the paucity of high quality randomised controlled trials for non-marital separations, particularly those focusing on mental health and suicide outcomes. Suicide is a major prevention focus across the world, with more work needed to focus on prevention strategies and the understanding of risk factors.

The nature of a PhD project comes with its own set of limitations, namely financial and access to research support. There is potential to utilise the results from the current study as an indication of the potential for MindCast to influence changes in mental health and psychosocial outcomes. This could increase the potential for innovation grants and provide opportunity for the project to be re-developed, taking into account the lessons garnered from the current study's limitations.

There is also opportunity for further research into the applicability of applying the Interpersonal Theory of Suicide to IPT strategies in order to impact suicidal ideation. Limited research exists which focuses on the synthesis between theory and therapy. Although the results from the current study were not significant, between group effect sizes suggest that factors associated with suicidal thoughts and behaviours (e.g., loneliness, thwarted belongingness, depression and social connectivity) were impacted by the MindCast intervention. The MindCast podcast intervention provides support for the broader expansion of podcasting trials targeting health interventions. It may be seen as an appealing medium for targeting a range of conditions due to ease of development, low associated costs and potential population reach.

## **8.5. Conclusions**

Suicide continues to be the leading cause of death globally among 15 to 29 year olds (WHO, 2015). Research focusing on prevention and early intervention is needed to continue to identify risk factors and key intervention areas. The current study was the first of its kind to explore the impact of podcast technology on mental health and psychosocial outcomes following a relationship separation. The MindCast podcast series is a unique and novel intervention method designed to engage an evolving technological community. The project strived to create and implement an intervention that was accessible, cost-effective and relevant.

The research conducted throughout this project demonstrated that the experience of a relationship separation can increase the risk of suicidal thoughts and behaviours. The rationale for the targeting of separated individuals hypothesised that separated individuals would be more willing to identify a need for support and engage with an intervention designed for relationship separation but which also addressed the increased risk of depression and suicidal ideation. This was supported

by the short recruitment period but was limited by follow-up response rates. Overall, between group effect sizes indicated potential for the MindCast intervention to influence change in a number of mental health and psychosocial outcomes.

The thesis has established that a relationship separation is a clinically significant risk factor when assessing suicide risk, regardless of clinical setting. It has further demonstrated that a brief podcast intervention has the potential to impact health behaviours. Further research is needed to continue to investigate the mechanisms of an intervention that can effect change in suicidal ideation outcomes and promote long-term adjustment following a relationship separation.

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## Appendix 1.

### Recruitment material used in the cross-sectional survey

- Hard copy poster distributed across the campus

The poster is green and white. At the top left is the Australian National University logo and text: "Australian National University". Below it, in smaller text: "The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (protocol 2015/408)". To the right, the word "SURVEY" is written in large, white, bold letters on a green background, with a red broken heart icon to its right. Below this, the question "Have you recently broken-up with your partner?" is written in a black, cursive font. Further down, a paragraph explains the study: "The National Institute for Mental Health Research, at the Australian National University, is conducting a study to explore recent relationship separation and subsequent impacts on mental health. We are inviting people who have recently experienced a relationship separation to participate in an online survey." Below this, a green checkmark icon is next to the text "Complete a 40 min survey to share your experiences of a relationship break-up". The URL "www.qualtrics-survey/###" is displayed in a large, bold, black font. At the bottom, a disclaimer states: "This survey contains questions about suicidal thoughts and behaviour. If you feel uncomfortable about answering such questions, please do not complete the survey." Below the disclaimer, a line of text reads: "If you are concerned about yourself or someone else's mental health please contact your local GP or call Lifeline on 13 11 74". The bottom of the poster features a blue border with the text "Separation & mental health survey. Go to: www.qualtrics-survey/###" repeated multiple times.

- Facebook advertisement for the cross-sectional survey

The image shows a Facebook post. On the left is a navigation menu with options: Home, About, Photos, Events, Videos, Posts, Community, Promote, and Manage Promotions. The main content area shows a post from "The 2015 Relationship Separation Survey" with a "Create Page @Username" button. The post includes a photo of two people's silhouettes against a red background. Below the photo are interaction buttons: "Liked", "Following", "Share", and "...". A "See All" link is visible. The post content features the Australian National University logo and text: "Australian National University. The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (protocol 2015/408)". To the right, the word "SURVEY" is written in large, white, bold letters on a green background, with a red broken heart icon to its right. Below this, the question "Have you broken up with a partner in the last 2 years? Are you currently residing in Australia and over 18?" is written in a black, cursive font. Further down, a paragraph explains the study: "The National Institute for Mental Health Research, at the Australian National University, is conducting a study to explore recent relationship separation and subsequent impacts on mental health and suicidality. We are inviting people who have recently experienced a relationship separation to participate in an online survey. This survey is open to anyone who has separated from a marital, de-facto or dating relationship." Below this, a green checkmark icon is next to the text "Complete a 40 min survey to share your experiences of a relationship break-up". The URL "https://anu.coi.qualtrics.com/SE/?SID=SV\_6Qldb7B5uHWp1Ax" is displayed in a large, bold, black font. At the bottom, a disclaimer states: "This survey contains questions about suicidal thoughts and behaviour. If you feel uncomfortable about answering such questions, please do not complete the survey." Below the disclaimer, there are two photos: one of a red broken heart on a light blue background, and another of two people's silhouettes against a red background. A "See All" link is visible at the bottom right.

## Appendix 2.

### Participant information page and online consent form for the cross-sectional survey

#### Participant Information Sheet – Cross-sectional Survey

**Researcher:** This research is being conducted by a team led by Ms. Dominique Kazan, a PhD candidate from the National Institute for Mental Health Research, College of Medicine, Biology and Environment, at the Australian National University.

**Project Title:** Relationship separation and mental health

#### General Outline of the Project

- **Description and Methodology:** The National Institute for Mental Health Research, at the Australian National University, is conducting a study to explore recent relationship separation and subsequent impacts on mental health and suicidality. As part of this process, we are inviting people who have recently experienced a relationship separation to participate in an online survey to identify areas of difficulty following a separation. Survey participants will be recruited through a targeted Facebook advertisement, relevant Facebook groups, and posters on university notice boards. We are interested in responses from people who have, and have not, experienced mental health problems.
- **Use of Data and Feedback:** The data collected via the online survey will be presented as a group summary (in aggregate form) for the purpose of publication in relevant academic journals and conferences. Findings will be presented with no reference to individuals. Results will also be summarised on the National Institute for Mental Health Research website - <http://nimhr.anu.edu.au/>.
- **Project Funding:** None.

#### Participant Involvement

- **Voluntary Participation & Withdrawal:** Participation in this study is voluntary and you can decline to take part, or withdraw from the study without consequence at any time by discontinuing the survey. If you do not wish to answer a specific question in the survey please choose to skip the question. If you wish to stop completing the survey after starting, you can exit the survey by closing your browser. **Please note prior to starting the study** - any data that you have already provided in the online survey will still be used, as we will not be able to identify your specific set of responses for removal. **This survey contains questions about suicidal thoughts and behaviour. If you feel uncomfortable about answering such questions, please do not complete the survey.**
- **What will participants have to do?** You are invited to complete an online survey containing questions about your most recent relationship separation (within the last 2 years), mental health, suicidal thoughts and behaviour, adjustment to the separation and a range of factors that are related to the relationship separation experience. The online survey will take about 40 minutes to complete and can be completed from any device connected to the internet.

- **Location and Duration:** You will participate on one occasion only.
- **Risks:** Although we have found that most people participating in similar surveys find it a valuable experience, some people find it upsetting to answer questions about their moods and feelings. If the survey upsets you, we suggest that you stop filling it out. Sometimes people who are very distressed have thoughts of harming themselves. If, at any time you feel this way, we suggest that you contact Lifeline on 13 11 14 or any of the other relevant organisations listed at the end of this form.
- **Implications of Participation:** It is important to note that all participation in this study is anonymous and voluntary. Declining to take part in the research or withdrawing after commencement of the survey will not have any adverse personal effects. Although there are unlikely to be any personal benefits of participating, we hope that the wider benefits of the research will flow to a variety of community members including: individuals going through a relationship separation, people with mental health problems, people with suicidal thoughts or behaviours, carers of such individuals, health professionals who treat and prevent mental health problems, researchers conducting mental health research and people who develop, implement, and evaluate intervention programs.

### **Confidentiality**

- **Confidentiality:** Data will be collected in a manner that prevents identification of personal information. Only the researchers involved in this project will have access to the data to conduct data analyses. All information provided will also be kept strictly confidential and private as far as the law allows, and stored under password protection.

### **Data Storage**

- **Where:** Data will be stored on secure servers with access restricted to authorised personnel.
- **How long:** All information provided will be stored under password protection for at least 5 years after the data is used for publication purposes, after which the data will be deleted.

### **Queries and Concerns:**

- **Contact Details for More Information:**

If you have further queries about the project, please contact the Primary Investigator:

**Dominique Kazan**

PhD Candidate

National Institute for Mental Health Research  
College of Medicine, Biology and Environment

The Australian National University

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Email: [Dominique.Kazan@anu.edu.au](mailto:Dominique.Kazan@anu.edu.au)

The Primary Investigator's supervisor can also be contacted:

**Dr Alison Callear**

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**Contact Details if in Distress:**

If you are currently feeling distressed, or begin to feel so during the online survey, please do not continue with the study. There are services to help you. Please talk to your GP or health professional, or contact one of the services below:

Lifeline Australia: 13 11 14 (24 hours), [www.lifeline.org.au](http://www.lifeline.org.au)

Kids Helpline (for people aged 25 and under): 1800 55 1800 (24 Hours)

[www.kidshelp.com.au/](http://www.kidshelp.com.au/)

Suicide call-back service: 1300 659 467 (24 hours),

[www.suicidecallbackservice.org.au](http://www.suicidecallbackservice.org.au)

New South Wales: [NSW Health](http://www.nsw.gov.au/health) or 1800 011 511

Victoria: [Vic Health](http://www.vic.gov.au/health) or 1300 651 251 (Suicide Line), <http://suicideline.org.au/>

Queensland: [Queensland Health](http://www.health.qld.gov.au) or 13 43 25 ([referral service 13 HEALTH](http://www.health.qld.gov.au/referral-service-13-HEALTH))

Western Australia: WA Health 1800 676 822 ([metro](http://www.wa.gov.au/health)) or 1800 552 002 ([rural/remote](http://www.wa.gov.au/health))

South Australia: [SA Health](http://www.sa.gov.au/health) - 13 14 65 (crisis team)

Tasmania: [Tasmania Health](http://www.tas.gov.au/health) - 1800 332 388 (crisis team)

Australian Capital Territory: [ACT Health](http://www.act.gov.au/health) - 1800 629 354 (crisis team)

Northern Territory: [NT Health](http://www.nt.gov.au/health) - 1800 682 288 (crisis team)

**Mental health info lines:**

BeyondBlue: 1300 22 4636 (24 hours), [www.beyondblue.org.au](http://www.beyondblue.org.au)

Relationships Australia: 1300 364 277 (9-5), [www.relationships.org.au](http://www.relationships.org.au)

**Ethics Committee Clearance:**

**The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee. If you have any concerns or complaints about how this research has been conducted, please contact:**

Ethics Manager

The ANU Human Research Ethics Committee

The Australian National University

Telephone: +61 2 6125 3427

Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

We thank you for your interest and participation in the study. Our experience is that many people participate in our surveys because they want to contribute to medical research that may benefit others. We believe this study is important, and will go toward improving the assessment and treatment of mental health in the community.

**This survey contains questions about suicidal thoughts and behaviour. If you feel uncomfortable about answering such questions, please do not complete the survey.**

---

## Page 2. Participant Consent Form

If you do not want to participate please close the web browser and thank you for your time.

If you wish to participate, then click on the link below to indicate your agreement with the following:

- I agree that I am 18 years of age or over, currently residing in Australia, an Australian citizen, and freely consent to take part in the study.
- I have experienced a recent relationship separation within the last two years
  - Yes/no

### *Final page. End of survey*

Thank you for taking the time to complete the survey.

If, at any time you became distressed as a result of this survey please contact Lifeline (ph.: 13 11 14), a free 24hour counselling service.

If you require more information about the study please contact the principal researcher Dominique Kazan via email ([dominique.kazan@anu.edu.au](mailto:dominique.kazan@anu.edu.au)).

Please visit the National Institute for Mental Health Research (NIMHR) for more information about the research centre: <http://nimhr.anu.edu.au/>

Should there be any concerns about the nature and/or conduct of this research project please contact:

Ethics Manager  
The ANU Human Research Ethics Committee  
The Australian National University  
Telephone: +61 2 6125 3427  
Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)


## Appendix 3.




### Ethics approval for the cross-sectional survey



aries@anu.edu.au

Thu 30/07/2015 1:45 PM

To:  Dominique Kazan

Cc:  Human.Ethics.Officer@anu.edu.au;  Alison Callear 

PhD

THIS IS A SYSTEM-GENERATED E-MAIL. PLEASE DO NOT REPLY. SEE BELOW FOR E-MAIL CONTACT DETAILS.

Dear Ms Dominique Kazan,

Protocol: 2015/408

Relationship separation and mental health

I am pleased to advise you that your Human Ethics application received approval by the Chair of the Science and Medical DERC on 30/07/2015.

For your information:

1. Under the NHMRC/AVCC National Statement on Ethical Conduct in Human Research we are required to follow up research that we have approved. Once a year (or sooner for short projects) we shall request a brief report on any ethical issues which may have arisen during your research or whether it proceeded according to the plan outlined in the above protocol.
2. Please notify the committee of any changes to your protocol in the course of your research, and when you complete or cease working on the project.
3. Please notify the Committee immediately if any unforeseen events occur that might affect continued ethical acceptability of the research work.
4. Please advise the HREC if you receive any complaints about the research work.
5. The validity of the current approval is five years' maximum from the date shown approved. For longer projects you are required to seek renewed approval from the Committee.

All the best with your research,

Human Ethics Manager  
Research Ethics  
Research Integrity & Compliance  
Ground Floor  
Chancelry Lower10B  
The Australian National University  
Acton ACT 2601  
T: 6125-3427  
E: human.ethics.officer@anu.edu.au

**Appendix 4.**  
**Cross-sectional survey**

<b>DEMOGRAPHIC QUESTIONS</b>	
1. What is your gender	Male Female Other
2. Which of the following options best describes how you think of yourself?	Heterosexual or straight Gay or lesbian Bisexual Other Prefer not to say
3. What best describes the area in which you live?	Metropolitan, urban or regional city Rural or remote
4. What is your current age in years?	
5. What is the highest qualification that you have completed?	Have not completed h/s Completed h/s Cert/Dip/Ass Degree Bachelor Degree Higher degree
6. How would you describe your current employment status?	Employed full-time Employed part-time Casual Unemployed Not in the labour force
7. Do you have any children	Yes No
8. If yes, how many children do you have?	1 – 5+
9. Who do the children primarily reside with?	Me Ex-partner Both Other
10. How often would you say you have contact with your children?	Never – Almost always
11. Approximately, how many romantic separations have you experienced since turning 18?	
12. How long have you been separated from your previous partner?	Less than one month 1 – 3 months 3 – 6 months
13. How long did your previous relationship last?	Less than one month 1 – 6 months 6 – 12 months 12 – 24 months 2 – 5 years 5 – 10 years 10 years +
14. What was the status of your previous relationship?	Married De-facto In a relationship (not living) Other
15. How serious would you say the relationship	Not serious at all – very serious

was?	
16. Who initiated the separation	Me Ex-partner Both
17. Did the relationship end on good terms?	Not good at all – very good
18. Were you in love with your ex-partner?	Yes No Unsure
19. Overall, how would you rate the quality of your relationship?	Extremely poor – Excellent
20. How often during the relationship was there an argument/conflict between you and your ex-partner?	Never – Almost always
21. How often during the relationship was there physical violence between you and your ex-partner?	Never – Almost always
22. If yes, who perpetrated the violence?	Me Ex-partner Both
23. My separation made me feel like a failure	Never – Almost always
24. My separation made me question my abilities as a man/woman	Never – Almost always
25. I was ashamed to tell people about my separation	Never – Almost always
26. Please tick up to five of the most significant reasons you believe led to the relationship separation	<ul style="list-style-type: none"> <li>• Lack of communication</li> <li>• Lack of interest</li> <li>• Parental interference</li> <li>• Other third party interference</li> <li>• Falling out of love</li> <li>• Infidelity</li> <li>• Jealousy</li> <li>• Personality clash</li> <li>• Physical abuse</li> <li>• Unwanted pregnancy</li> <li>• Financial reasons</li> <li>• Age difference</li> <li>• Different life stages</li> <li>• Lack of understanding</li> <li>• Long distance</li> <li>• Falling in love with someone else</li> <li>• Sexual dissatisfaction</li> <li>• Severe disagreement</li> <li>• Incompatibility</li> <li>• Parenting styles</li> <li>• Children (whether or not to have children)</li> <li>• Emotional/ psychological abuse</li> <li>• Alcohol / drug abuse</li> </ul>

	<ul style="list-style-type: none"> <li>• Mental health problems</li> <li>• Physical health problems</li> <li>• Religion</li> <li>• Politics</li> <li>• Other (specify): <b>OPEN TEXT</b></li> </ul>
27. Do you have any contact with your ex-partner now?	Never – Almost always
28. Do you still have romantic feelings towards your ex-partner?	Not at all – Very much
29. Please tick up to five of the most significant difficulties you believe you have experienced as a result of your separation:	<ul style="list-style-type: none"> <li>• Loneliness</li> <li>• Guilt</li> <li>• Sadness</li> <li>• Shame</li> <li>• Anger</li> <li>• Friendship problems</li> <li>• Family problems</li> <li>• Grief</li> <li>• Drug problems</li> <li>• Alcohol problems</li> <li>• Feeling lost (lack of direction)</li> <li>• Stigma</li> <li>• Sleep problems</li> <li>• Depression</li> <li>• Anxiety</li> <li>• Self-harm</li> <li>• Suicidal ideation</li> <li>• Housing/Accommodation problems</li> <li>• Financial difficulties</li> <li>• Work/Employment problems</li> <li>• Educational problems</li> <li>• No difficulties</li> <li>• Other (specify): <b>OPEN TEXT</b></li> </ul>
<b>OPEN ENDED QUESTIONS</b>	
What, if anything, has been the hardest thing to deal with since the relationship separation?	
What, if any, have been the benefits since your relationship separation?	
Did you seek any help from the following health practitioners for problems relating to your separation?	<ul style="list-style-type: none"> <li>• GP (your local doctor)</li> <li>• Psychiatrist</li> <li>• Psychologist</li> <li>• Counsellor/Social worker</li> <li>• Other (specify): <b>OPEN TEXT</b></li> </ul>
What has been most helpful in supporting you following your relationship separation?	<ul style="list-style-type: none"> <li>• Support from friends</li> <li>• Support from family</li> <li>• Support from school/teachers/academics</li> <li>• Forgiveness</li> <li>• Writing/Journaling</li> <li>• Psychological therapy (e.g. Cognitive Behavioural Therapy)</li> </ul>

	<ul style="list-style-type: none"> <li>• Group therapy</li> <li>• Informal counselling</li> <li>• Medication</li> <li>• Telephone counselling</li> <li>• Spiritual guidance (e.g. religion)</li> <li>• Online support</li> <li>• Self-help</li> <li>• Myself</li> <li>• Nothing/No-one</li> <li>• Other (specify): OPEN TEXT</li> </ul>
What information or strategies do you think would help support a person experiencing a relationship separation?	
Would you be interested in using a mobile/online program to help support you following your relationship separation?	Not at all – Very much
Would you prefer using?	Mobile App Online/Computer website
Are you romantically involved with someone right now?	Yes No Unsure
If yes or unsure, how would you describe the relationship status?	<ul style="list-style-type: none"> <li>• In a relationship but not living with them</li> <li>• De-facto (living with a partner but not married to them)</li> <li>• Married</li> <li>• Other</li> </ul>
<b>Patient Health Questionnaire (PHQ-9)</b>	
<p>Over the last 2 weeks, how often have you been bothered by any of the following problems?</p> <ol style="list-style-type: none"> <li>1. Little interest or pleasure in doing things?</li> <li>2. Feeling down, depressed or hopeless?</li> <li>3. Trouble falling or staying asleep, or sleeping too much?</li> <li>4. Feeling tired or having little energy?</li> <li>5. Poor appetite or overeating?</li> <li>6. Feeling bad about yourself – that you are a failure or have let yourself or your family down?</li> <li>7. Trouble concentrating on things such as reading the newspaper or watching television?</li> <li>8. Moving or speaking so slowly that people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual?</li> <li>9. Thoughts that you would be better off dead or hurting yourself in some way?</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Not at all</li> <li>• Several days</li> <li>• More than half the days</li> <li>• Nearly every day</li> </ul>
<b>Generalised Anxiety Disorder - 7 (GAD-7)</b>	
1. Feeling nervous, anxious, or on edge	Scale:

<ol style="list-style-type: none"> <li>2. Not being able to stop or control worrying</li> <li>3. Worrying too much about different things</li> <li>4. Trouble relaxing</li> <li>5. Being so restless that it's hard to sit still</li> <li>6. Becoming easily annoyed or irritable</li> <li>7. Feeling afraid as if something awful might happen</li> </ol>	<ul style="list-style-type: none"> <li>• Not at all</li> <li>• Several days</li> <li>• More than half the days</li> <li>• Nearly every day</li> </ul>
<b>Psychiatric Symptom Frequency Scale (PSF)</b>	
<p>In the last year have you ever:</p> <ol style="list-style-type: none"> <li>1. Felt that life is hardly worth living?</li> <li>2. Thought that you really would be better off dead?</li> <li>3. Thought about taking your own life?</li> <li>4. Thought that taking your life was the only way out of your problems?</li> <li>5. Made plans to take your own life?</li> <li>6. Attempted to take your own life?</li> </ol>	<p>Yes/no answers</p>
<b>The Personality Inventory – Brief Form</b>	
<ol style="list-style-type: none"> <li>1. People would describe me as reckless</li> <li>2. I feel like I act totally on impulse</li> <li>3. People would describe me as reckless</li> <li>4. I feel like I act totally on impulse</li> <li>5. Even though I know better, I can't stop making rash decisions</li> <li>6. I often feel like nothing I do really matters</li> <li>7. Others see me as irresponsible</li> <li>8. I'm not good at planning ahead</li> <li>9. My thoughts often don't make sense to others</li> <li>10. I worry about almost everything</li> <li>11. I get emotional easily, often for very little reason</li> <li>12. I fear being alone in life more than anything else</li> <li>13. I get stuck on one way of doing things, even when it's clear it won't work</li> <li>14. I have seen things that weren't really there</li> <li>15. I steer clear of romantic relationships</li> <li>16. I'm not interested in making friends</li> <li>17. I get irritated easily by all sorts of things</li> <li>18. I don't like to get too close to people</li> <li>19. It's no big deal if I hurt other people's feelings</li> <li>20. I rarely get enthusiastic about anything</li> <li>21. I crave attention</li> <li>22. I often have to deal with people who are less important than me</li> <li>23. I often have thoughts that make sense to me but that other people say are strange</li> <li>24. I use people to get what I want</li> <li>25. I often "zone out" and suddenly come to and realise that a lot of time has passed</li> <li>26. Things around me often feel unreal, or</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Very false or often false</li> <li>• Sometimes or somewhat false</li> <li>• Sometimes or somewhat true</li> <li>• Very true or often true</li> </ul>



<p>more real than usual</p> <p>27. It is easy for me to take advantage of others</p>	
<b>Psychological Adjustment to Separation Test (PAST)</b>	
<p>In the last two weeks:</p> <ol style="list-style-type: none"> <li>1. I find it hard to do things without a partner</li> <li>2. I constantly think about my former partner</li> <li>3. I feel isolated</li> <li>4. Days with special meaning for my ex-partner and I are really difficult (e.g. birthdays and anniversaries)</li> <li>5. I miss my former partner a lot</li> <li>6. I am used to not seeing my former partner anymore</li> <li>7. I wish my former partner and I could try to make the relationship work</li> <li>8. I don't really know why my former partner and I separated</li> <li>9. I find it difficult to enjoy myself</li> <li>10. It is hard looking at photos and other things that remind me of my former partner</li> <li>11. I don't have time to see my friends</li> <li>12. I feel like I am on a constant emotional roller-coaster ride</li> <li>13. I get angry more than I used to</li> <li>14. I make an effort to organize social activities</li> <li>15. I feel desperately lonely</li> <li>16. I feel like my life has less purpose in it now</li> <li>17. I sometimes have difficulty controlling my emotions</li> <li>18. I feel rejected by my former partner</li> <li>19. Little things seem to upset me now</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Strongly disagree</li> <li>• Disagree</li> <li>• Neither agree nor disagree</li> <li>• Agree</li> <li>• Strongly agree</li> </ul>
<b>Schuster's Social Support Scale</b>	
<p>The next group of questions are about your relationships with other people.</p> <ol style="list-style-type: none"> <li>1. How often do friends make you feel cared for?</li> <li>2. How often do they express interest in how you are doing?</li> <li>3. How often do friends make too many demands on you?</li> <li>4. How often do they criticise you?</li> <li>5. How often do friends create tensions or arguments with you?</li> <li>6. How often do family make you feel cared for?</li> <li>7. How often do family express interest in how you are doing?</li> <li>8. How often do they make too many demands on you?</li> <li>9. How often do family criticise you?</li> <li>10. How often do they create tensions or arguments with you?</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Often</li> <li>• Sometimes</li> <li>• Rarely</li> <li>• Never</li> </ul>

<b>Rosenberg's Self-Esteem Scale</b>	
<p>Below is a list of statements dealing with your general feelings about yourself.</p> <ol style="list-style-type: none"> <li>1. I feel that I am a person of worth, at least on an equal plane with others</li> <li>2. I feel that I have a good number of good qualities</li> <li>3. All in all, I am inclined to feel that I am I failure</li> <li>4. I am able to do things as well as most other people</li> <li>5. I feel I do not have much to be proud of</li> <li>6. I take a positive attitude toward myself</li> <li>7. On the whole, I am satisfied with myself</li> <li>8. I wish I could have more respect for myself</li> <li>9. I certainly feel useless at times</li> <li>10. At times I think I am no good at all</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Strongly agree</li> <li>• Agree</li> <li>• Disagree</li> <li>• Strongly disagree</li> </ul>
<b>Pearlin Mastery Scale</b>	
<ol style="list-style-type: none"> <li>1. No way I can solve some of the problems I have</li> <li>2. Sometimes I feel that I am being pushed around in life</li> <li>3. I have little control over the things that happen to me</li> <li>4. I can do just about anything I really set my mind to do</li> <li>5. I often feel helpless in dealing with the problems of life</li> <li>6. What happens to me in the future mostly depends on me</li> <li>7. There is little I can do to change many of the important things in my life</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Strongly agree</li> <li>• Agree</li> <li>• Disagree</li> <li>• Strongly disagree</li> </ul>
<b>Brief COPE</b>	
<p>These items deal with ways you've been coping with the stress in your life since your relationship separation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.</p> <ol style="list-style-type: none"> <li>1. I've been turning to work or other activities to take my mind off things.</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• I haven't been doing this at all</li> <li>• I've been doing this a little bit</li> <li>• I've been doing this a medium amount</li> <li>• I've been doing this a lot</li> </ul>

2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation

**The Forgiveness Scale**

<p>Directions: Think of how you have responded to the person who has wronged or mistreated you. Indicate the degree to which you agree or disagree with the following statements.</p> <ol style="list-style-type: none"> <li>1. I can't stop thinking about how I was wronged by this person.</li> <li>2. I wish for good things happen to the person who wronged me.</li> <li>3. I spend time thinking about ways to get back at the person who wronged me.</li> <li>4. I feel resentful toward the person who wronged me.</li> <li>5. I avoid certain people and/or places because they remind me of the person who wronged me.</li> <li>6. I pray for the person who wronged me.</li> <li>7. If I encountered the person who wronged me I would feel at peace.</li> <li>8. This person's wrongful actions have kept me from enjoying life.</li> <li>9. I have been able to let go of my anger toward the person who wronged me.</li> <li>10. I become depressed when I think of how I was mistreated by this person.</li> <li>11. I think that many of the emotional wounds related to this person's wrongful actions have healed.</li> <li>12. I feel hatred whenever I think about the person who wronged me.</li> <li>13. I have compassion for the person who wronged me.</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Strongly disagree</li> <li>• Disagree</li> <li>• Neither agree nor disagree</li> <li>• Agree</li> <li>• Strongly agree</li> </ul>
<b>Distress Tolerance Scale</b>	
<p>Directions: Think of times that you feel distressed or upset. Select the item from the menu that best describes your beliefs about feeling distressed or upset.</p> <ol style="list-style-type: none"> <li>1. Feeling distressed or upset is unbearable to me.</li> <li>2. When I feel distressed or upset, all I can think about is how bad I feel.</li> <li>3. I can't handle feeling distressed or upset.</li> <li>4. My feelings of distress are so intense that they completely take over.</li> <li>5. There's nothing worse than feeling distressed or upset.</li> <li>6. I can tolerate being distressed or upset as well as most people.</li> <li>7. My feelings of distress or being upset are not acceptable.</li> <li>8. I'll do anything to avoid feeling distressed or upset.</li> <li>9. Other people seem to be able to tolerate feeling distressed or upset better than I can.</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Strongly agree</li> <li>• Mildly agree</li> <li>• Agree and disagree equally</li> <li>• Mildly disagree</li> <li>• Strongly disagree</li> </ul>

<p>10. Being distressed or upset is always a major ordeal for me.</p> <p>11. I am ashamed of myself when I feel distressed or upset.</p> <p>12. My feelings of distress or being upset scare me.</p> <p>13. I'll do anything to stop feeling distressed or upset.</p> <p>14. When I feel distressed or upset, I must do something about it immediately.</p> <p>15. When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels.</p>	
<b>Emotion Regulation Questionnaire (ERQ)</b>	
<p>We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The question below involves two distinct aspects of your emotional life. One is your emotional experience or what you feel inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave, Although some of the following questions may seem similar to one another, they differ in important ways.</p> <ol style="list-style-type: none"> <li>1. ____ When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.</li> <li>2. ____ I keep my emotions to myself.</li> <li>3. ____ When I want to feel less <i>negative</i> emotion (such as sadness or anger), I <i>change what I'm thinking about</i>.</li> <li>4. ____ When I am feeling <i>positive</i> emotions, I am careful not to express them.</li> <li>5. ____ When I'm faced with a stressful situation, I make myself <i>think about it</i> in a way that helps me stay calm.</li> <li>6. ____ I control my emotions by <i>not expressing them</i>.</li> <li>7. ____ When I want to feel more <i>positive</i> emotion, I <i>change the way I'm thinking</i> about the situation.</li> <li>8. ____ I control my emotions by <i>changing the way I think</i> about the situation I'm in.</li> <li>9. ____ When I am feeling <i>negative</i> emotions, I make sure not to express them.</li> <li>10. ____ When I want to feel less <i>negative</i> emotion, I <i>change the way I'm thinking</i> about the situation.</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• (1) Strongly disagree</li> <li>• 2</li> <li>• 3</li> <li>• (4) Neutral</li> <li>• 5</li> <li>• 6</li> <li>• (7) Strongly agree</li> </ul>

## **Appendix 5.**

### **Centre for Mental Health Research webpage**

#### **MindCast PodCast**

##### **Welcome to the MindCast Study Homepage**

Have you recently broken-up with your partner?

We are testing an online program using podcasts to help support people following a relationship separation. This study is being carried out by researchers at the Australian National University.

##### **What is MindCast?**

MindCast is an online podcast program that focuses on promoting adjustment after a relationship separation. The program is based on Interpersonal Psychotherapy (IPT) which focuses on understanding interpersonal issues and assisting in the resolution process. The podcasts are led by a Clinical Psychologist and are free, easy to use and confidential.

##### **What do I need to do?**

Some of you will receive access to the IPT program straight away, while others will receive access after a few months. You will need access to a computer and be able to listen to two podcasts per week for three weeks. The program does not involve face-to-face interaction.

##### **Who can participate in the study?**

In order to take part in the study you must be an Australian resident aged over 18 and have separated from an intimate partner relationship in the last 6 months. If you are interested in participating we will ask you to complete a screening questionnaire to see whether you are eligible. If you are eligible we will ask you to provide an email address and send you an invitation to complete a 15-minute online survey.

##### **Has ethical clearance been obtained for this study?**

Yes, the ethical aspects of this research have been approved by the ANU Human Research Ethics Committee. Protocol number: 2017/089

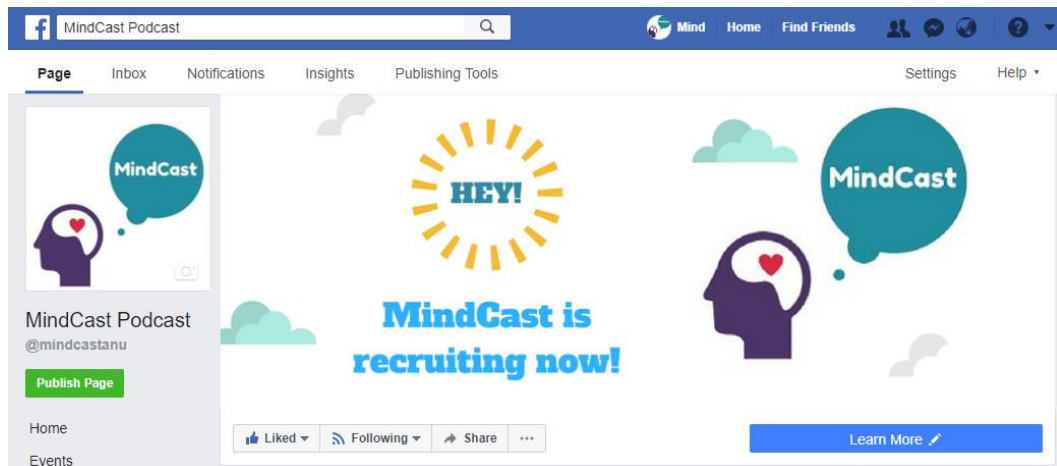
**Are you interested in participating? Then click on the following link to get started!**

[MindCast PodCast](#)

The Project Team includes:

- Dominique Kazan, Dr Alison Calear and Dr Phil Batterham from the Centre for Mental Health Research, Australian National University.

## Appendix 6. Facebook community page



This section displays the page's performance metrics and community engagement. It includes a response rate badge, like and follow counts, a link to the page's feed, and a summary of the community.

- 100% response rate, 13-hour response time** (with a dropdown arrow)  
Respond faster to turn on the badge
- 195 likes** 0 this week
- 206 follows**
- See Pages Feed**  
Posts from Pages that you've liked as your Page
- 195 people like this and 206 people follow this**
- Community** [See all](#)
- 195 people like this**
- 206 people follow this**

## Appendix 7. Facebook advertising

- **Wording used in the Facebook paid advertisements**

“Recently broken-up? University study seeks adults to join 3-week online program”

Are you an Australia resident aged 18 to 65 and have recently broken-up with your partner? Want to participate in a free 3-week online program that has been designed to provide support after a relationship separation? Click here for more information and to see if you're eligible:

[https://anu.co1.qualtrics.com/SE/?SID=SV\\_8vOwNaiBkBlSprT](https://anu.co1.qualtrics.com/SE/?SID=SV_8vOwNaiBkBlSprT)

To find out more visit: <http://cmhr.anu.edu.au/research/projects/##>

“Now recruiting! The MindCast Study is looking for people who have recently broken up with a partner to join a 3-week online program!”

- **Facebook promoted posts (paid advertising)**

**MindCast Podcast**  
1 July · 🌐

Research shows us that seeking help early is an important indicator for positive adjustment. If you have been thinking about seeing a counsellor for a while after your relationship break-up but not sure what to expect then the MindCast podcast series could be a great intro for you! Visit our site for more info <http://cmhr.anu.edu.au/research/projects/mindcast-podcast>

Finally, if you ever find yourself in difficulty, never be afraid to ask for help. The sooner you 'nip it in the bud' the sooner you can get on with your life.

The illustration shows a woman with blonde hair, wearing a blue top and pink skirt, standing on a light blue ground. She is holding a small white sign with the word 'HELP' written on it. To her right is a large, grey, textured rock. The background is a solid brown color.





**MindCast Podcast**

23 June · 🌐

Have you ever wondered what it might be like to see a Psychologist? The MindCast podcast series are hosted by a Clinical Psychologist and offer you a window into the therapy space. If you have recently broken-up and are seeking support to recover then the MindCast trial could be for you!  
[https://anu.co1.qualtrics.com/jfe/form/SV\\_eM3GtW1YluLQ5ff](https://anu.co1.qualtrics.com/jfe/form/SV_eM3GtW1YluLQ5ff)



**MindCast Podcast**

26 June · 🌐

Have you ever wondered what it might be like to see a Psychologist? Have you broken-up with a partner in the last 6 months and are seeking support? Hosted by a Clinical Psychologist, the MindCast series is designed to provide psychological break-up support. You'll be asked to listen to 6 podcasts over three-weeks and fill in a few surveys. Do something about how you're feeling today!  
[https://anu.co1.qualtrics.com/jfe/form/SV\\_eM3GtW1YluLQ5ff](https://anu.co1.qualtrics.com/jfe/form/SV_eM3GtW1YluLQ5ff)





**MindCast Podcast**



27 June · 🌐

Have you broken-up with a partner in the last 6 months and are seeking support? Have you ever wondered what counselling would be like but aren't sure whether it's for you? Hosted by a Clinical Psychologist, the MindCast series is designed to provide break-up support. You'll be asked to listen to 6 podcasts over three-weeks and fill in a few surveys. No face-to-face contact required!

[https://anu.co1.qualtrics.com/jfe/form/SV\\_eM3GtW1YluLQ5ff](https://anu.co1.qualtrics.com/jfe/form/SV_eM3GtW1YluLQ5ff)



## Appendix 8.

### Ethics approval for the MindCast intervention



aries@anu.edu.au

Mon 3/04/2017 10:32 AM

To: Dominique Kazan

Cc: Human.Ethics.Officer@anu.edu.au; Philip Batterham

PhD

THIS IS A SYSTEM-GENERATED E-MAIL. PLEASE DO NOT REPLY. SEE BELOW FOR E-MAIL CONTACT DETAILS.

Dear Ms Dominique Kazan,

Protocol: 2017/089

MindCast: A randomised controlled trial of a podcast intervention for relationship separation

I am pleased to advise you that your Human Ethics application received approval by the Chair of the HREC on the 03/04/2017.

For your information:

1. Under the NHMRC/AVCC National Statement on Ethical Conduct in Human Research we are required to follow up research that we have approved. Once a year (or sooner for short projects) we shall request a brief report on any ethical issues which may have arisen during your research or whether it proceeded according to the plan outlined in the above protocol.
2. Please notify the committee of any changes to your protocol in the course of your research, and when you complete or cease working on the project.
3. Please notify the Committee immediately if any unforeseen events occur that might affect continued ethical acceptability of the research work.
4. Please advise the HREC if you receive any complaints about the research work.
5. The validity of the current approval is five years' maximum from the date shown approved. For longer projects you are required to seek renewed approval from the Committee.

All the best with your research,

Human Ethics Officer  
Research Integrity & Compliance  
Research Services Division  
Level 2, Birch Building 36  
Science Road, ANU  
The Australian National University  
Acton ACT 2601

## Appendix 9.

### Online participant information/consent form – MindCast RCT

#### Participant Information Sheet

**Researcher:** This research is being conducted by a team led by Ms. Dominique Kazan, a PhD candidate from the Centre for Mental Health Research, Research School of Population Health, at the Australian National University.

**Project Title:** Podcasts for Mental Health

#### General Outline of the Project

- **Description and Methodology:** The Centre for Mental Health Research, at the Australian National University, is conducting a trial to explore the use of podcast technology to assist in the recovery process following a relationship separation. As part of this trial, we are inviting people who have recently experienced a relationship separation to participate in an online podcast intervention. Trial participants will be recruited through a targeted Facebook advertisement, relevant Facebook groups, and posters on university notice boards. We are interested in responses from people who have, and have not, experienced mental health problems. We hope to recruit up to 120 participants across the trial.
- **Exclusion Criteria:** Do not provide informed consent or refuse to be randomised; Are in a new relationship; Self-report a current suicide plan; Self-report a suicide attempt in the last month; Self-report a diagnosis of a substance-related disorder, post-traumatic stress disorder, schizophrenia, bipolar or a personality disorder.
- **Use of Data and Feedback:** The data collected throughout the trial will be presented as a group summary (in aggregate form) for the purpose of publication in relevant academic journals and conferences. Findings will be presented with no reference to individuals. Results will also be summarised on the Centre for Mental Health Research website - <http://cmhr.anu.edu.au/>.
- **Project Funding:** The primary investigator was awarded a research grant through the Grace Groom Memorial Scholarship and Mental Health Australia. PhD scholarship is awarded by the Centre for Research Excellence in Suicide Prevention (CRESP).

#### Participant Involvement

- **Voluntary Participation & Withdrawal:** Participation in this trial is voluntary and you can decline to take part, or withdraw from the trial without consequence (until the work is prepared for publication) by discontinuing the surveys or by emailing [dominique.kazan@anu.edu.au](mailto:dominique.kazan@anu.edu.au) after completion of the survey. If you do not wish to answer a specific question in the survey please choose to skip the question. If you wish to stop completing the survey after starting, you can exit the survey by closing your browser. **Please note prior to enrolling in the study (by providing your email address)** any data that you have already provided in the online survey will still be used, as we will not be able to identify your specific set of responses for removal. If you have enrolled in the study and withdraw after the baseline survey, all

of the data you provided will be deleted. If you do not wish to answer a specific question in the survey please indicate that you would prefer not to respond. **The surveys contain questions about mental health, suicidal thoughts and suicidal behaviour. If you feel uncomfortable about answering such questions, please do not participate in the study.**

- **What will participants have to do?** You are invited to participate in an online podcast intervention which is designed to promote adjustment after a relationship separation. The program is based on Interpersonal Psychotherapy (IPT). The podcasts are led by a Clinical Psychologist and are free, easy to use and confidential. You will need access to a computer and be able to listen to two podcasts per week for 3 weeks (6 podcasts in total). The program does not involve face-to-face interaction. In order to take part in the study you must be an Australian resident aged 18 to 65 and have separated from an intimate partner relationship in the last 6 months. If you are interested in participating we will ask you to complete a screening questionnaire to see whether you are eligible. If you are eligible we will ask you to provide an email address and we will provide you with access to complete a 20-minute online survey. Participants will also be invited to complete a post-trial survey immediately after the podcast trial has been completed (three weeks after starting the program) and a follow-up survey 3 months after that. Participants will be randomly allocated into one of two groups, an intervention group who will receive the IPT podcasts and a waitlist group who will receive access to the same podcast program after a few months. All participants who are allocated into the control group will have access to complete the intervention podcasts on the completion of the trial.

- **Location and Duration:** You can participate in this trial from any location in Australia provided you have access to the internet. Participants will be asked to listen to two, approximately 15 minute podcasts per week, for a period of 3 weeks (6 podcasts in total).

- **Risks:** Although we have found that most people participating in similar studies find it a valuable experience, some people find it upsetting to answer questions about their moods and feelings. If the survey questions or content of the podcasts upsets you, we suggest that you stop your participation. Sometimes people who are very distressed have thoughts of harming themselves. If, at any time you feel this way, we suggest that you contact Lifeline on 13 11 14 or any of the other relevant organisations listed at the end of this form.

- **Implications of Participation:** It is important to note that all participation in this study is confidential and voluntary. Declining to take part in the research or withdrawing after commencement of the survey will not have any adverse personal effects. We hope that the wider benefits of the research will flow to a variety of community members including: individuals going through a relationship separation, people with mental health problems, people with suicidal thoughts or behaviours, carers of such individuals, health professionals who treat and prevent mental health problems, researchers conducting mental health research and people who develop, implement, and evaluate intervention programs.

### **Confidentiality**

- **Confidentiality:** Data will be collected in a manner that prevents identification of personal information. Only the researchers involved in this project will have access

to the data to conduct data analyses. All information provided will also be kept strictly confidential and private as far as the law allows, and stored under password protection.

**Privacy Notice:** In collecting your personal information within this research, the ANU must comply with the Privacy Act 1988. The ANU Privacy Policy is available at [https://policies.anu.edu.au/ppl/document/ANUP\\_010007](https://policies.anu.edu.au/ppl/document/ANUP_010007) and it contains information about how a person can:

- Access or seek correction to their personal information;
- Complain about a breach of an Australian Privacy Principle by ANU, and how ANU will handle the complaint.

### **Data Storage**

- **Where:** Data will be stored on secure servers with access restricted to authorised personnel.
- **How long:** All information provided will be stored under password protection for at least 5 years after the data is used for publication purposes, after which the data will be deleted.

### **Queries and Concerns**

- **Contact Details for More Information:**

If you have further queries about the project, please contact the Primary Investigator:

#### **Dominique Kazan**

PhD Candidate/Clinical Psychologist  
Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02) 6125 4226  
Email: [Dominique.Kazan@anu.edu.au](mailto:Dominique.Kazan@anu.edu.au)

The Primary Investigator's supervisor can also be contacted:

#### **Dr Alison Calear**

Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02) 6125 8406  
Email: [Alison.Calear@anu.edu.au](mailto:Alison.Calear@anu.edu.au)

#### **Contact Details if in Distress:**

If you are currently feeling distressed, or begin to feel so during the online survey, please do not continue with the study. There are services to help you. Please talk to your GP or health professional, or contact one of the services below:

Lifeline Australia: 13 11 14 (24 hours), [www.lifeline.org.au](http://www.lifeline.org.au)  
Kids Helpline (for people aged 25 and under): 1800 55 1800 (24 Hours)  
[www.kidshelp.com.au/](http://www.kidshelp.com.au/)  
Suicide call-back service: 1300 659 467 (24 hours),  
[www.suicidecallbackservice.org.au](http://www.suicidecallbackservice.org.au)

1800 RESPECT National Sexual Assault and Domestic Violence crisis service (24 hour): 1800 737 732, [1800respect.org.au](http://1800respect.org.au)

One Door Mental Health Support for Schizophrenia: 1800 843 539, [www.onedoor.org.au](http://www.onedoor.org.au)

SANE Mental Health Information: 1800 18 7263 (weekdays, 9am-5pm) [www.sane.org](http://www.sane.org)

New South Wales: [NSW Health](http://www.nsw.gov.au/health) or 1800 011 511

Victoria: [Vic Health](http://www.vic.gov.au/health) or 1300 651 251 (Suicide Line), <http://suicideline.org.au/>

Queensland: [Queensland Health](http://www.health.qld.gov.au) or 13 43 25 ([referral service 13 HEALTH](http://13health.com.au))

Western Australia: WA Health 1800 676 822 ([metro](http://metro.wa.gov.au)) or 1800 552 002 ([rural/remote](http://rural.remote.wa.gov.au))

South Australia: [SA Health](http://www.sa.gov.au/health) - 13 14 65 (crisis team)

Tasmania: [Tasmania Health](http://www.tas.gov.au/health) - 1800 332 388 (crisis team)

Australian Capital Territory: [ACT Health](http://www.act.gov.au/health) - 1800 629 354 (crisis team)

Northern Territory: [NT Health](http://www.nt.gov.au/health) - 1800 682 288 (crisis team)

**Mental health info lines:**

BeyondBlue: 1300 22 4636 (24 hours), [www.beyondblue.org.au](http://www.beyondblue.org.au)

Relationships Australia: 1300 364 277 (9-5), [www.relationships.org.au](http://www.relationships.org.au)

Mensline: 24 telephone counselling and support for men, 1300 789 978, [mensline.org.au](http://mensline.org.au)

**Ethics Committee Clearance:**

**The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee, protocol number 2017/089. If you have any concerns or complaints about how this research has been conducted, please contact:**

Ethics Manager

The ANU Human Research Ethics Committee

The Australian National University

Telephone: +61 2 6125 3427

Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

We thank you for your interest and participation in the study. Our experience is that many people participate in our trials because they want to contribute to medical research that may benefit others. We believe this study is important, and will go toward improving the assessment and treatment of mental health in the community.

**This survey contains questions about suicidal thoughts and behaviour. If you feel uncomfortable about answering such questions, please do not complete the survey.**

## Consent Form

If you do not want to participate please close the web browser and thank you for your time.

If you wish to participate, then click on the link below to indicate your agreement with the following:

- I have read the information sheet and provide my consent to the study.

Measure	Question	Value
Age	I am aged between 18 and 65.	No (1) Yes (0)
Relationship	I have separated from an intimate partner relationship* in the last 6 months.	No (1) Yes (0)
New	Are you in a new relationship?	No(1) Yes(0)
Email	I have a valid email address.	No (1) Yes (0)
Location	I am currently located in Australia.	No (1) Yes (0)
Language	I am comfortable reading and listening in English.	No (1) Yes (0)
Computer	I have access to a computer and internet connection	No(1) Yes(0)
Attempt	Have you attempted suicide in the past 3-months?	No (1) Yes (0)
Plan	Do you have a current suicide plan?	No(1) Yes(0)
Diagnosis	Have you ever been diagnosed with a psychotic disorder such as schizophrenia?	No (1) Yes (0)
Diagnosis	Have you ever been diagnosed with a substance-related disorder, post-traumatic stress disorder, bipolar or a personality disorder?	No(1) Yes(0)
Random	I understand and accept that I will be randomised to either an intervention group or a control group	No(1) Yes(0)

\* An intimate partner relationship is defined as: an interpersonal relationship between heterosexual and same-sex spouses, girlfriends or boyfriends which involves physical or emotional intimacy.

If on any of these items a '1' is endorsed, redirect to Thank you/referral page.



## Appendix 10.

### Redirected page for participants who did not fulfil inclusion criteria (attempted suicide or those diagnosed with a disorder)

**Thank you page (*people who attempted suicide or those diagnosed with a disorder*)**

*Subject heading: Thank you for your participation.*

Thank you for taking the time to complete the Screening Survey. Based on the information you have provided to us, we are sorry to say that this study is not suitable for you at this time. We know it might be difficult to contact someone for help, but we encourage you to contact some of the services below if you are not currently receiving help. Finding the right professional can help to make significant improvements to your mental health. Please see the links below to find some referral information about services that you might like to explore if you are concerned about your mood, emotions or thoughts.

We apologise that we are unable to include you, and we wish you all the best.

Sincerely,  
The MindCast Team

If you have further queries about the project, please contact the Primary Investigator or her Supervisor:

Dominique Kazan  
PhD Candidate/Clinical Psychologist  
Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02)  
Email: [dominique.kazan@anu.edu.au](mailto:dominique.kazan@anu.edu.au)

Dr Alison Callear  
Supervisor  
Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02)  
Email: [alison.callear@anu.edu.au](mailto:alison.callear@anu.edu.au)

#### **Contact Details if in Distress:**

If you are currently feeling distressed, or begin to feel so during the online survey, please do not continue with the study. There are services to help you. Please talk to your GP or health professional, or contact one of the services below:

Lifeline Australia: 13 11 14 (24 hours), [www.lifeline.org.au](http://www.lifeline.org.au)  
Kids Helpline (for people aged 5 and under): 1800 55 1800 (24 Hours)  
[www.kidshelp.com.au/](http://www.kidshelp.com.au/)

Suicide call-back service: 1300 659 467 (24 hours),

[www.suicidecallbackservice.org.au](http://www.suicidecallbackservice.org.au)

1800 RESPECT National Sexual Assault and Domestic Violence crisis service (24 hour): 1800 737 732, [1800respect.org.au](http://1800respect.org.au)

One Door Mental Health Support for Schizophrenia: 1800 843 539,

[www.onedoor.org.au](http://www.onedoor.org.au)

SANE Mental Health Information: 1800 18 7263 (weekdays, 9am-5pm)

[www.sane.org](http://www.sane.org)

New South Wales: [NSW Health](#) or 1800 011 511

Victoria: [Vic Health](#) or 1300 651 251 (Suicide Line), <http://suicideline.org.au/>

Queensland: [Queensland Health](#) or 13 43 25 ([referral service 13 HEALTH](#))

Western Australia: WA Health 1800 676 822 ([metro](#)) or 1800 552 002 ([rural/remote](#))

South Australia: [SA Health](#) - 13 14 65 (crisis team)

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Northern Territory: [NT Health](#) - 1800 682 288 (crisis team)

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BeyondBlue: 1300 22 4636 (24 hours), [www.beyondblue.org.au](http://www.beyondblue.org.au)

Relationships Australia: 1300 364 277 (9-5), [www.relationships.org.au](http://www.relationships.org.au)

Mensline: 24 telephone counselling and support for men, 1300 789 978,

[mensline.org.au](http://mensline.org.au)

## **Thank you page (*not eligible*)**

*Subject heading: Thank you for your participation.*

Thank you for taking the time to complete the Screening Survey. Based on the information you have provided to us we are sorry to say that this study is not suitable for you at this time.

Please see the links below to find some referral information about services that you might like to explore if you are concerned about your mood, emotions or thoughts.

We apologise that we are unable to cater for everybody, and we wish you all the best.

Sincerely,  
The MindCast Team

If you have further queries about the project, please contact the Primary Investigator or her Supervisor:

Dominique Kazan  
PhD Candidate/Clinical Psychologist  
Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02)  
Email: [dominique.kazan@anu.edu.au](mailto:dominique.kazan@anu.edu.au)

Dr Alison Calear  
Supervisor  
Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02)  
Email: [alison.calear@anu.edu.au](mailto:alison.calear@anu.edu.au)

### **Contact Details if in Distress:**

If you are currently feeling distressed, or begin to feel so during the online survey, please do not continue with the study. There are services to help you. Please talk to your GP or health professional, or contact one of the services below:

Lifeline Australia: 13 11 14 (24 hours), [www.lifeline.org.au](http://www.lifeline.org.au)  
Kids Helpline (for people aged 25 and under): 1800 55 1800 (24 Hours)  
[www.kidshelp.com.au/](http://www.kidshelp.com.au/)  
Suicide call-back service: 1300 659 467 (24 hours),  
[www.suicidecallbackservice.org.au](http://www.suicidecallbackservice.org.au)  
1800 RESPECT National Sexual Assault and Domestic Violence crisis service (24 hour): 1800 737 732, [1800respect.org.au](http://1800respect.org.au)  
One Door Mental Health Support for Schizophrenia: 1800 843 539,  
[www.onedoor.org.au](http://www.onedoor.org.au)  
SANE Mental Health Information: 1800 18 7263 (weekdays, 9am-5pm)  
[www.sane.org](http://www.sane.org)

New South Wales: [NSW Health](#) or 1800 011 511  
Victoria: [Vic Health](#) or 1300 651 251 (Suicide Line), <http://suicideline.org.au/>  
Queensland: [Queensland Health](#) or 13 43 25 ([referral service 13 HEALTH](#))  
Western Australia: WA Health 1800 676 822 ([metro](#)) or 1800 552 002 ([rural/remote](#))  
South Australia: [SA Health](#) - 13 14 65 (crisis team)  
Tasmania: [Tasmania Health](#) - 1800 332 388 (crisis team)  
Australian Capital Territory: [ACT Health](#) - 1800 629 354 (crisis team)  
Northern Territory: [NT Health](#) - 1800 682 288 (crisis team)

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Relationships Australia: 1300 364 277 (9-5), [www.relationships.org.au](http://www.relationships.org.au)  
Mensline: 24 telephone counselling and support for men, 1300 789 978,  
[mensline.org.au](http://mensline.org.au)

## Appendix 11.

### Screenshot of internet-based podcast intervention (episode 1)

**MindCast**

Australian National University

Welcome to **episode one** of MindCast!

In this first episode we'll start by reflecting on your relationship separation and focus on an introduction to Interpersonal Psychotherapy (IPT).

This episode of MindCast runs for approx 13 minutes.

*Please leave this window open as you listen to the podcast episode so you can answer the questions below after you finish the episode.*

Click the following link for Episode One! [Episode 1.mp3](#) (if accessing on a smart phone, open mp3 in new tab).

If you have any issues accessing the audio podcast, please email: [mindcast.rsph@anu.edu.au](mailto:mindcast.rsph@anu.edu.au)

Your MindCast host is Dominique Kazan, a Clinical Psychologist and lead researcher on the MindCast project.

Please enter your email address:

Please read the statement below about the podcast you just listened to:

How would you rate this episode?

Very good      Good      Average      Poor      Very poor

**In the last 30 days:**

	Never	Rarely	Sometimes	Often
My have worries overwhelmed me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt hopeless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found social settings upsetting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had trouble staying focused on tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anxiety or fear interfered with my ability to do the things I needed to do at work or at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[>>](#)

- Access to listen to the MindCast podcast intervention episodes

Qualtrics link to access the six podcast episodes (type link into internet window)

[https://anu.co1.qualtrics.com/jfe/form/SV\\_4GjImN0dT30zvGB](https://anu.co1.qualtrics.com/jfe/form/SV_4GjImN0dT30zvGB)

## Appendix 12.

### Scripts for the six MindCast podcast episodes

***Episode 1: In this first episode we'll start by reflecting on your relationship separation and focus on an introduction to Interpersonal Psychotherapy (IPT).***

Welcome!

This program represents the next step in your journey.

Moving forward can be tough and it's easy to get stuck in the past. Regret can often set in, and questioning why things happened is an easy negative cycle to get stuck in. However, research has shown that by engaging in active coping, so taking control of the situation, we can start to recognise new (and sometimes old!) strategies to help us recognise our grief and slowly but surely move on with our lives.

The next six sessions will be an opportunity for you to take a moment and reflect on your current interpersonal situation. We'll move through a range of modules designed to be worked through step-by-step to help support you through this difficult experience.

*"You can't stop the waves, but you can learn to surf."*

– Jon Kabat-Zinn

#### **About me**

- Introduce myself
- Talk about what a Clinical Psychologist and how seeing a professional can be a useful strategy

#### **Relationship Separation**

A relationship separation is one of the most difficult experiences that an individual can go through.

Although sometimes leaving a relationship can be a relief, for many people the fear of ending up alone creates a downward spiral of negative thoughts and self-defeating behaviours that make recovery difficult.

Fears and worries are a normal experience after a life-changing experience and may be more prominent for some of us. Thoughts around self-blame, criticism, guilt and shame can also arise making it easy for us to fall into a trap of thinking we don't deserve help, happiness or meeting someone new.

While the process of separation is different for each individual person, people often report similar feelings about it. Many feelings happen in the process, including grief or profound sadness, heartache, rage, anger, confusion, anxiety, hurt, feeling numb, guilt, doubt and feelings of bitterness. Different feelings can occur together or one after the other in close succession. People can also feel suicidal.

Although most people who separate don't get depressed, separating from a long relationship is a major life event and there is a greater than usual risk that you may become depressed. The recent loss of someone you love is a frequently reported trigger for a significant episode of depression. For most people the depression is a temporary condition and they recover. However some people become chronically depressed.

There are many different factors that can affect how you feel after a relationship separation:

- Who decided to separate
- Why you separated
- How dependent you were on the relationship
- How the decision to separate was made
- How much time has passed since you separated and what has happened in your life during that time
- What you can take with you from the relationship and how much you put into it
- What the relationship was like just before you separated
- What the post-separation relationship is like



- Your own personality and usual pattern of responding to negative events
- Whether there are children from the relationship (eCouch, ANU)

It is ok for you to feel sad, frustrated, angry, confused or scared - the experience you are dealing with is incredibly difficult and you may be experiencing a range of different symptoms.

It might be helpful to remember that all emotions are like waves, they come and go. If you picture an ocean, the waves may be big or small but regardless of what we do, they keep rolling in. If we try to fight them or ignore them it's highly likely that we might get pulled under by them, which can be painful and scary. However, if we take a deep breath and ride with the wave, eventually we'll be pushed toward the shore or calmer waters. Feelings can't physically last forever – it's impossible – so learning how to ride them out will be useful coping strategy.

If a person close to you was going through the same experience, what would you say to them? We are often our own worst enemies and it is at times like this that we need to give ourselves a break and recognise that we're not 100% at the moment. If you had injured your leg would you expect yourself to run a personal best in a marathon the following week? The answer is probably not. You might experience a range of emotions but it is likely that you would give yourself time to recover and start taking small steps to get back to racing. Why is it that at times we need support the most, we aren't willing to recognise that it's ok to take the sick role and let our physical, emotional and psychological selves recover.

The process of adjustment may take time but it is important that we stay in active in this process. Engaging in a reflective, self-compassionate attitude and taking care of your own needs will be important.

This program is an active way of taking care of your needs because right now you are the most important person in your life. You might not be able to control how other people think, feel or behave but you can certainly control how you respond to things in your life. By completing these modules we hope you'll learn new ways of thinking about your world and be empowered to realise that you deserve to move on to bigger and better things!

## **What is Interpersonal Psychotherapy?**

Interpersonal psychotherapy or IPT is all about exploring how your interpersonal experiences are affecting the way you think and feel about your current situation.

The main idea is that there is a strong relationship between the development of depressive symptoms and what's going on in someone's interpersonal life. What IPT does is to try to understand what was going on in the person's life, when the symptoms first developed. This allows us to have a handle on what might be helpful in getting the person back to their usual self.

IPT was developed almost 30 years ago by Myrna Weissman and Gerald Klerman as part of a trial for treating major depression and has since been adapted for a range of mental health problems. \*For a more detailed history of IPT please visit:

<https://iptinstitute.com/about-ipt/>\*

IPT has been empirically validated which means that there is a lot of evidence that supports the use of IPT for a variety of mood and anxiety disorders and it caters for a wide range of people from children and adolescents to the elderly.

IPT is based on a Biopsychosocial/Cultural/Spiritual Model. This model illustrates the connectedness between different aspects of our lives and how these factors can exacerbate feelings of distress in times of a crisis and when we don't have good social supports in place. IPT also identifies three 'problem areas' that can be worked on, these include; grief and loss, interpersonal disputes and role transitions.

Grief is commonly associated with the death of somebody close or the loss of something significant in your life. Interpersonal disputes are usually some ongoing disagreement with somebody who is important to us. That disagreement might be in the stage of an impasse; people just can't agree, or there may be dissolution of the relationship because of the impasse. Role transitions are changes in one's life which can be divorce or relationship break-ups, relocation, retirement, a new job, a child leaving home or any of the developmental landmarks in one's life, which can cause great disruptions.

We will be focusing on role transitions as part of this intervention.

### **Session Limit**

The intervention that you will be participating in will run for 6 sessions. It will be important for you track your progress as you make your way through each session and to not be afraid to challenge yourself to reach the goals you set out for yourself. The time-limited nature of the intervention means that you will have to be proactive in working through the modules and keep track of your progress as you move through the program.

### **Treatment Goals**

It's important for you to understand that IPT is a therapy of change and we will ask that you take some interpersonal risks during the course of treatment.

Now for your first exercise you will need to think about and specifically identify one (or more) behaviour(s) that are within your control that you would like to try and change during this course.

When we say “within your control” we mean:

- Change is realistic (not changing your entire personality but perhaps a more specific behaviour, i.e. how you think about your ex-partner, how you interact with yourself,
- This is not about changing other people (i.e. your ex-partner, your family or friends)
- Think about what you can control – your response to situations, your coping strategies, your attitude towards yourself and others, how you speak to yourself, how you think about yourself, or even how you take care of yourself.

### **Write your goal for the program:**

CONGRATULATIONS!

You have just finished module 1 of 6 of MindCast. I'm looking forward to meeting you in episode two where we'll explore change and the specific problem area of role transitions.

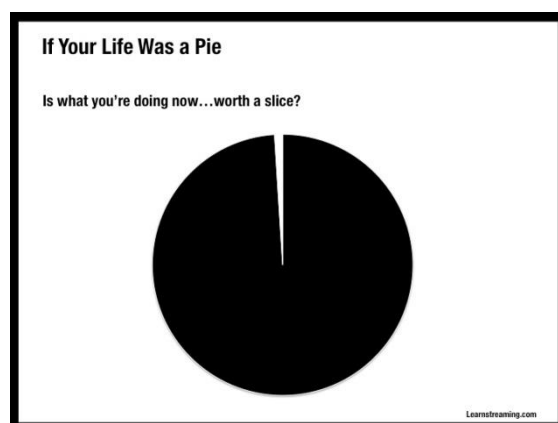
***Episode 2: We'll start by thinking about what balance means to you and start to explore the idea of 'role transition' – moving on from an 'old role' (identifying as a couple in a relationship) to a 'new role' (identifying separately from your ex-partner and being single).***

Welcome to episode 2 of 6!

By participating in this IPT intervention, you are agreeing to consider what life would look like if things changed for you. IPT is all about change and throughout this program we are going to ask that you take some interpersonal risks and experiment with change across different domains in your life.

How did you go with your experiment/challenge from last session? Have you been able to think about what things you would like to try and change across the course?

I'd like to invite you to consider this, if your life was a pie, is what you're doing now...worth a slice?

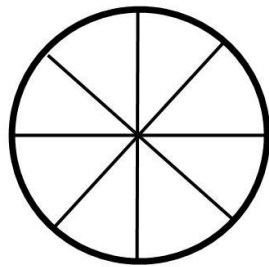


There are lots of different ways to think about our lives, some people prefer to visualise it as a pie with different slices dedicated to aspects of our lives and some prefer to think of wheels, domains that have movement and fluidity.

If we imagine the areas of your life as the spokes on a wheel of a bike, if they are not balanced and one domain of your life takes up more space than anything else, the bike will struggle to move forward. It's highly likely that not only will the bike have difficulty maintaining stability and driving forward in a straight path but it will probably fall over.

When we experience a significantly negative life event, such as a relationship separation, we might let ourselves get completely consumed in the separation experience. We get caught up in negative thoughts about ourselves, our ex-partner, perhaps even family and friends. We start to lose sight of the things that once brought us joy and helped us to relax. We might even start neglecting our physical and mental health which more often than not sees us falling into a vicious negative cycle. You may find yourself dedicating more and more time to trying to figure out what went wrong in the relationship and blaming yourself for the outcome. Slowly, our wheel is left with one spoke...the relationship separation

I'd like you to think about what your current 'life pie' – if you had to populate the circle what portion would you allocate to aspects of your life? To start, think about what takes up the most energy and time for you and allocate a portion to that and work your way down.



How does your life pie look? Is it evenly balanced between different aspects of your life? Or do you find yourself spending too long at work, or use up all your energy thinking about the relationship separation? Do you have time for exercise and social outings?

It is important for you to realise the connection between interpersonal events and your mood. The things we connect with on a daily basis have a profound impact on our overall functioning. If we are consistently engaging in activities or behaviours that leave us feeling drained and negative and we feel that we have no positive social support it is likely that your mood may drop significantly over a period of time.

## **Role transition**

We can think of a relationship separation as a type of role transition. You are moving from an old role (identifying as a couple in a relationship) to a new role (identifying separately from your ex-partner and being single).

Transitioning between roles can be frightening and confusing. Some people may find it difficult to speak to family and friends about mixed or negative feelings. The purpose of working through a role transition is to allow you to organise your story in a way that you can confidently communicate and share your separation experience with people in your social support network.

*“Adaptation to change is at the core of adaptation to life. All interpersonal relations occur in a complex psychosocial setting and individuals experience these relationships consistently within that setting”*

A relationship role transition focuses on allowing you to reflect on the separation experience and start to make more meaning around it. Change is the key when thinking about role transition. If we are open and flexible to change, research shows us that it can have a positive effect on our overall physical and mental wellbeing.

Sometimes, what we find is that people who struggle to deal with change may have poor interpersonal resources and can quickly become overwhelmed. This program is designed to help you to take stock of the social supports in your life. Ideas for change might be around reconnecting or improving communication with people currently in our lives or making new connections.

It is important for us to remember that even though the relationship separation may feel wholly negative, most change involves both good and bad elements. As we work through the program we will invite you to think about the different perspectives on your current situation and challenge

If you were to reflect on the relationship separation, what has the experience been like for you?

- What are your expectations of other people or situations and how did these change over time?
- How do you communicate your needs during the separation period and how did this change over time?
- What attempts have you made to try and adjust to the separation, and what has kept a productive adjustment from occurring?

H/W: Using a life pie diagram, could you reflect on how you would fill up the pie at this very moment. How much would you give to dedicating time and energy to the relationship separation? In a new pie, could you visualise what a balanced life would look like for you? What would be the key changes here?

***Episode 3: This episode is all about the Interpersonal Inventory which is basically a register of the key contemporary relationships in your life. We'll be reflecting on where people in your life fit and talking about the dynamic nature of relationships.***

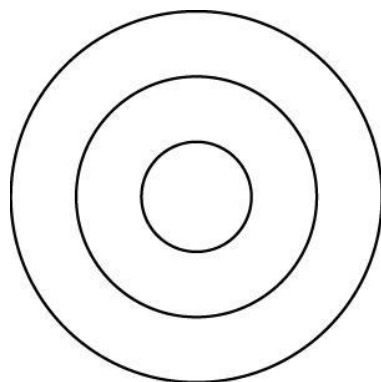
Welcome to episode 3 of 6!

**Recap:** In session two we introduced the idea of a life pie or life wheel and reflected on the elements of our current life that make up the pie. Do certain elements of your life overwhelm the area of the pie? Since the relationship separation are you spending too much time at work and too little time with friends and or family?

We also introduced you to the concept of role transitions which is the area in which we will be working within to empower you to embrace change in your life and reframe your separation experience.

### **Interpersonal Inventory:**

Guide participants to either draw or visualise a “bullseye” set of circles – this will make up the interpersonal inventory.



An interpersonal inventory is a register of the key contemporary relationships in your life. First I would like you to consider the current relationships in your life that are relevant to your current separation experience, people in the here-and-now. These people can also include recent losses or people who have been gone for a while but are still significant in your life.

There are no right or wrong answers; no right or wrong places to put other people on the diagram.



The innermost circle should include people with whom you feel intimate; the middle circle people with whom you feel close; and the outermost area are those who you would classify as extended supports.

General questions about the interpersonal circle:

- Who are the important people in your life?
- How would you describe your social support system?
- Who do you go to for support?
- Who do you support?
- Who do you depend on?
- Who is inside your head at the moment?
- Who is taking up your mental energy?
- Who has loved you well and how?
- Who do you need to tell that you love?

Specific questions about the individuals on the interpersonal circle:

- How often do you see that person?
- What do you like about the relationship?
- What don't you like about the relationship?
- What has changed about the relationship?
- How would you like the relationship to be different?
- What kinds of support do you get from this person?
- How do you support them?
- How would you describe an argument?

H/W: Having a look at your interpersonal inventory, is there anyone on there that you feel that you haven't connect with for a while? How would it feel to make the opportunity to either call or write to them?

***Episode Four: How often do we think about what has lead us to this very moment? We'll be talking about an important IPT concept which is the Life Events Timeline.***

Welcome to session 4 of 6!

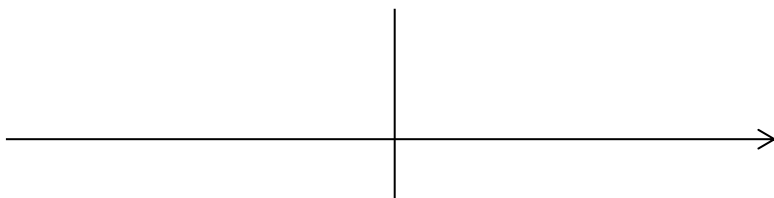
***Recap:*** In the last session we drew out our own interpersonal inventory and reflected on the different levels of social interaction that we currently have in our lives.

In this session/module we are going to take a look at your Life Events Timeline.

The Life Events Timeline is a simple but powerful tool.

Now I'm going to ask you to have a look at...

The vertical line is the relationship separation and the horizontal line is a timeline. It is important to notice that there is not definitive end point on the line, a relationship separation might feel like an endpoint, but life continues beyond that transition. The arrow implies that there will be more to your story.



The primary aim of this exercise is to help you to organise your story about the separation in a balanced and realistic way. This exercise is also designed to help you tell your story more effectively to others.

*Guide participants to either visualise or draw a line that represents their life events timeline*

The role transition will be framed around your relationship separation (this is the vertical line). Questions to think about when completing your timeline could be:

- What happened in the lead-up to the separation?
- What happened in the aftermath of the separation?
- Where are you now?
- Where does your goal lie on the timeline?

H/W: Revisit the goals?

***Episode Five: You might be having difficulty moving on from your 'old role' or getting stuck somewhere in between. We are going to explore some of the fear that might be holding you back from change and talk about the positive and negative sides to relationship separation.***

Welcome to session 5 of 6! Well done on your progress, you have almost made it through the entire program!

**Recap:** In the last session we worked on your Life Events Timeline. The timeline is designed to help you track your memories and understanding of the events that lead to your separation and what occurred afterwards. Many people find it helpful to have a chronological understanding of the experience and it often helps people to retell their story to people in their supportive social circle.

In this session we will start to explore the role transition of separation in more detail.

It is important that you can start to recognise that there might be two perspectives on the same experience. Initially, all thoughts connected to the relationship separation may be negative. It may be difficult to see clearly through a fog of anger, sadness and at times deep depression. Our fears may be influencing our view of ourselves and our capability to change and move on. However, with all significant life events there are opportunities to try and see the other side, explore the idea that some positive aspects may have come out of the separation.

In this module we will be exploring the role transition of separation in the context of positive/negative aspects of the separation. This exercise is designed to help you conceptualise the transition in a more balanced, realistic and meaningful way.

*Guide participants to either visualise or draw out their old role vs new role.*

**Role Transition – Relationship Separation**

OLD ROLE	NEW ROLE
POSITIVE      NEGATIVE	POSITIVE      NEGATIVE

### Benefit Finding

What if you shifted the way you thought about your relationship break-up? Instead of focusing on the worries and fears, what if you thought about the benefits of the break-up? Benefit finding refers to a reported positive life change resulting from the struggle to cope with a challenging life event. For some people, experiencing a significant interpersonal transition can help them recognise their personal resilience, strengthen social relationships and learn new ways of coping with stressful life circumstances.

H/W:

- What benefits have or might be attained for you or others, as a result of this experience?
- What have you learnt about yourself following your role transition?

***Episode six: This is the final episode – well-done of getting this far! We'll be talking about self-concept and exploring how we treat the most important person in our lives, ourselves. We'll finish off with a re-cap of what we have talked about across the six episodes to give you an opportunity to re-familiarise yourself with key concepts.***

Welcome to session 6 of 6! You made it to the final episode of the intervention series – this is a great effort and you should be really proud of what you have achieved!

**Recap:** In the previous episode we talked about balancing our idea of what is positive and negative about our role transition. In the episode I invited you to start to challenge some of those reoccurring negative thoughts and actually start to see that there is some light at the end of the tunnel.

In this final session of the MindCast intervention, we are going to explore the idea of self-esteem and re-visit some of the concepts we have worked on throughout the program.

### Self-Esteem

Self-esteem can refer to the way in which we view and think about ourselves. It is a confidence in your own worth and abilities. Self-esteem influences many aspects of our lives including our relationships, our trust in others and our work. Positive self-esteem gives us the strength and flexibility to take charge of our lives and grow from our mistakes without the fear of rejection. However, following a relationship separation, sometimes our self-esteem can be damaged and you might think badly about yourself including thoughts about being unworthy, incapable or incompetent.

Here are some signs of low self-esteem:

- Negative view of life
- Perfectionist attitude
- Mistrusting others – even those who show signs of affection
- Blaming behaviour
- Fear of taking risks
- Feelings of being unloved and unlovable
- Dependence – letting others make decisions
- Fear of being ridiculed

When you are so critical of yourself, you will tend to tend behave in particular ways – often engaging in unhelpful behaviours. You will tend to: • Withdraw or isolate yourself from family or friends, • Try to overcompensate for things, • Neglect things

(opportunities, responsibilities, self-care), or • Be passive rather than assertive with others.

We often don't spend time reflecting on our positive qualities. After a relationship separation you may get so caught up in blaming yourself and others that you forget that to have been in a relationship in the first place

- What do I like about who I am?
- What characteristics do I have that are positive?
- What are some of my achievements?
- What are some challenges I have overcome?
  - What are some skills or talents that I have?
- What do others say they like about me?
- What are some attributes I like in others that I also have in common with?
- If someone shared my identical characteristics, what would I admire in them?
- How might someone who cared about me describe me?
- What do I think are bad qualities? What bad qualities do I not have? (CCI Workbook)

FINAL RECAP – *What did we learn?*

Over the course of this program we have:

- Learnt what Interpersonal Psychotherapy is and how it can help support someone following a relationship separation.
- We highlighted how difficult it is to go through a break-up and how important it is to be self-compassionate and give ourselves some time to grieve and process difficult emotions.
- We asked that you consider what aspects of your behaviour that is within your control that you could try and change and to not be afraid when taking interpersonal risks.
- You reflected on the different factors in your life and how they influenced your reaction to the separation.
- You created an 'interpersonal inventory' and started to consider the people's places in your life and when the last time was that you reached out to others.

- You created a timeline that helped to draw out your separation experience in a way that might make it easier to communicate the situation to supportive others.
- The old vs the new role was explored in the context of positive and negatives and we started to think about the concept of benefit-finding after an interpersonal crisis.
- Finally, you reflected on the way in which you think about yourself and were encouraged to try and focus on the positive aspects of your personality and behaviour following the relationship separation.

H/W: Behavioural Activation/Pleasurable activities scale



## Appendix 13.

### Measures used after each podcast session and email sent to participants who scored high on the DQ5

#### Post-podcast measures

##### Rating Scale:

Please read the statement below about the podcast you just listened to, and indicate whether you agree, where 1 means you completely disagree and 10 means you completely agree.

How would you rate this episode?

1 – 10

##### Measure of distress:

##### *Distress Questionnaire-5 (DQ5)*

In the last 30 days:

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
My worries overwhelmed me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt hopeless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found social settings upsetting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I had trouble staying focused on tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anxiety or fear interfered with my ability to do the things I needed to do at work or at home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Email sent to participants if in distress post-podcast

Thank you for taking the time to complete the post-podcast rating scales.

Your answers suggest that it might be good idea to seek support at this time. We know it might be difficult to contact someone for help, but we encourage you to contact some of the services below if you are not currently receiving help. Finding the right professional can help to make significant improvements to your mental health. Please see the links below to find some referral information about services that you might like to explore if you are concerned about your mood, emotions or thoughts.

Also, please remember that you may withdraw from this trial at any time without consequence (until the work is prepared for publication).

Sincerely,  
The MindCast Team

If you have further queries about the project, please contact the Primary Investigator or her Supervisor:

Dominique Kazan  
PhD Candidate/Clinical Psychologist  
Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02)  
Email: [dominique.kazan@anu.edu.au](mailto:dominique.kazan@anu.edu.au)

Dr Alison Calear  
Supervisor  
Centre for Mental Health Research  
Research School of Population Health  
The Australian National University  
Telephone: (02)  
Email: [alison.calear@anu.edu.au](mailto:alison.calear@anu.edu.au)

### Contact Details if in Distress:

If you are currently feeling distressed, or begin to feel so during the online survey, please do not continue with the study. There are services to help you. Please talk to your GP or health professional, or contact one of the services below:

Lifeline Australia: 13 11 14 (24 hours), [www.lifeline.org.au](http://www.lifeline.org.au)  
Kids Helpline (for people aged 25 and under): 1800 55 1800 (24 Hours)  
[www.kidshelp.com.au/](http://www.kidshelp.com.au/)  
Suicide call-back service: 1300 659 467 (24 hours),  
[www.suicidecallbackservice.org.au](http://www.suicidecallbackservice.org.au)  
1800 RESPECT National Sexual Assault and Domestic Violence crisis service (24 hour): 1800 737 732, [1800respect.org.au](http://1800respect.org.au)  
One Door Mental Health Support for Schizophrenia: 1800 843 539,  
[www.onedoor.org.au](http://www.onedoor.org.au)

SANE Mental Health Information: 1800 18 7263 (weekdays, 9am-5pm)  
[www.sane.org](http://www.sane.org)

New South Wales: [NSW Health](#) or 1800 011 511

Victoria: [Vic Health](#) or 1300 651 251 (Suicide Line), <http://suicideline.org.au/>

Queensland: [Queensland Health](#) or 13 43 25 (referral service 13 HEALTH)

Western Australia: WA Health 1800 676 822 ([metro](#)) or 1800 552 002 ([rural/remote](#))

South Australia: [SA Health](#) - 13 14 65 (crisis team)

Tasmania: [Tasmania Health](#) - 1800 332 388 (crisis team)

Australian Capital Territory: [ACT Health](#) - 1800 629 354 (crisis team)

Northern Territory: [NT Health](#) - 1800 682 288 (crisis team)

**Mental health info lines:**

BeyondBlue: 1300 22 4636 (24 hours), [www.beyondblue.org.au](http://www.beyondblue.org.au)

Relationships Australia: 1300 364 277 (9-5), [www.relationships.org.au](http://www.relationships.org.au)

Mensline: 24 telephone counselling and support for men, 1300 789 978,  
[mensline.org.au](http://mensline.org.au)

## Appendix 14.

### Intervention invitation/reminder emails

#### **Invitation to post-test survey – MindCast Intervention Condition**

*Subject heading: Post-test survey invitation*

Hello,

We would really like to thank you for being a part of the MindCast trial!

We hope that you enjoyed the podcasts and have a little more insight into what continued counselling could look like.

We would like to invite you to complete the following survey which takes you through a number of similar questions and gives you an opportunity to give us some feedback on the podcast series. This survey should take about 15mins to complete.

Survey link: [https://anu.co1.qualtrics.com/jfe/form/SV\\_bKokPq5e21Y8hTv](https://anu.co1.qualtrics.com/jfe/form/SV_bKokPq5e21Y8hTv)

Your contribution will help us to better refine the program for future use and provide us with valuable insight into how we can deliver accessible programs for people who have experienced a relationship separation.

We will also be sending out a very final survey in approx. 2 months and it would be greatly appreciated if you could find 10mins to fill it out when it comes through!

Thank you again for participating and we look forward to your feedback!

If you have any technical difficulties or questions please email:  
mindcast.rsph@anu.edu.au

Cheers,  
Dominique and the MindCast Team

#### **Invitation to post-test survey – Control condition**

Hello,

We would really like to thank you for signing up to be a part of the MindCast trial! We know you have been waiting for access to the podcast series but as this podcast is part of a study trial, your group has been placed on a waitlist before being given access to the full six episodes.

They are coming, we promise!

Before getting access to the podcasts, we would like to invite you to complete the following survey which takes you through a number of similar questions that you completed a few weeks ago. This survey should take no longer than 15mins to complete.

Survey link: [https://anu.co1.qualtrics.com/jfe/form/SV\\_bKokPq5e21Y8hTv](https://anu.co1.qualtrics.com/jfe/form/SV_bKokPq5e21Y8hTv)

Your contribution will help us to better refine the program for future use and provide us with valuable insight into how we can deliver accessible programs for people who have experienced a relationship separation.

We will also be sending out a very final survey in approx. 2 months and it would be greatly appreciated if you could find 10mins to fill it out when it comes through!

Thank you again for participating and we look forward to your feedback!

If you have any technical difficulties or questions please email:  
[mindcast.rsph@anu.edu.au](mailto:mindcast.rsph@anu.edu.au)

Cheers,  
Dominique and the MindCast Team

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**Post-test survey reminder (both intervention and control groups)**

*Subject heading: Reminder to complete the post-test survey*

Hello!

This email is just a gentle reminder for you to complete the MindCast Survey when you're ready. You don't need to have listened to all of the podcasts before you complete this survey, just let us know how many you got through!

We are really grateful that you have chosen to participate in this study and think it's really important that we capture your feedback. This will help us better refine the MindCast series and continue to learn about what types of services are helpful to people and why.

The survey won't take more than 15mins to complete and your answers are very important to us!

SURVEY LINK: [https://anu.co1.qualtrics.com/jfe/form/SV\\_bKokPq5e21Y8hTv](https://anu.co1.qualtrics.com/jfe/form/SV_bKokPq5e21Y8hTv)

Thanks in advance for your time!

Cheers,  
Dominique and the MindCast Team

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**Final reminder (both intervention and control groups)**

*Subject heading: Reminder to complete the post-test survey*

Hello!

We are so happy that you signed up for the MindCast trial but there is one missing piece in the puzzle - what did you think about us?

Our team will be forever grateful if you could take a moment to give us your feedback on the MindCast podcast series.

**Remember, you don't need to have finished all the podcasts to complete the survey - if you only managed one episode we'd still love to know about it!**

The survey won't take more than 15mins to complete and your answers are very important to us! Your answers help us complete the picture for this study!

SURVEY LINK: [https://anu.co1.qualtrics.com/jfe/form/SV\\_bKokPq5e21Y8hTv](https://anu.co1.qualtrics.com/jfe/form/SV_bKokPq5e21Y8hTv)

Thanks in advance for your time!

Cheers,  
Dominique and the MindCast Team

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**Invitation to three-month follow-up survey - MindCast Intervention Condition**

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*Subject heading: Three-month follow-up survey invitation*

Hello again from the MindCast Team!

We hope you've been going well!

We're sending you this email to let you know that the final follow-up survey is now available for you to complete in the online study portal.

Please visit the following link as soon as you can: [https://anu.co1.qualtrics.com/jfe/form/SV\\_3TXKTqPS6KukPjL](https://anu.co1.qualtrics.com/jfe/form/SV_3TXKTqPS6KukPjL)

It will take you approximately 15 minutes to complete. This will be the final survey you are invited to complete as part of the study.

**\*PRIZE ALERT\*** The MindCast project is also offering the opportunity for you to go into a prize draw once you complete the follow-up survey. You can go into a draw to win one of two \$50 gift vouchers for the Coles/Myer group – which is good timing as Christmas is just around the corner!

Once you complete the survey, you will be asked if you would like to put your name in the prize draw. There will be a section at the end of the survey for you to enter your email address. The winners will be notified by December 2017.

We thank you again for all the time you have committed to this project.

Cheers,  
The MindCast Team

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**Invitation to post-test survey – Control condition**

---

Hello again from the MindCast Team!

We hope you've been going well!

We're sending you this email to let you know that the final follow-up survey is now available for you to complete in the online study portal.

Please visit the following link as soon as you can: [https://anu.co1.qualtrics.com/jfe/form/SV\\_3TXKTqPS6KukPjL](https://anu.co1.qualtrics.com/jfe/form/SV_3TXKTqPS6KukPjL)

It will take you approximately 15 minutes to complete. This will be the final survey you are invited to complete as part of the study.

**\*PRIZE ALERT\***The MindCast project is also offering the opportunity for you to go into a prize draw once you complete the follow-up survey. You can go into a draw to win one of two \$50 gift vouchers for the Coles/Myer group – which is good timing as Christmas is just around the corner!

Once you complete the survey, you will be asked if you would like to put your name in the prize draw. There will be a section at the end of the survey for you to enter your email address. The winners will be notified by December 2017.

We thank you for your patience for being part of the wait-list group. You now have complete access to the full six episodes of MindCast, just click here to access: [https://anu.co1.qualtrics.com/jfe/form/SV\\_4GjImN0dT30zvGB](https://anu.co1.qualtrics.com/jfe/form/SV_4GjImN0dT30zvGB) ***\*Please complete the survey above before accessing podcasts\****

We thank you again for all the time you have committed to this project.

Cheers,  
The MindCast Team

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### **Three-month follow-up survey reminder (both intervention and control groups)**

*Subject heading: Reminder to complete the three-month follow-up survey*

Hello!

This email is just a final reminder that we would greatly appreciate your feedback on the MindCast survey.

Even if you didn't participate or were only able to listen to a couple of episodes, your answers provide us with valuable information that will help us to redevelop the program for future use.

To complete the survey, just click on the following link: [https://anu.co1.qualtrics.com/jfe/form/SV\\_3TXKTqPS6KukPjL](https://anu.co1.qualtrics.com/jfe/form/SV_3TXKTqPS6KukPjL)

**\*PRIZE ALERT\*** Last chance to go into the prize draw to win one of two \$50 gift vouchers for the Coles/Myer group – which is good timing as Christmas is just around the corner!

Thanks again!

The MindCast Team



## Appendix 15.

### Ethics approval for variation request



aries@anu.edu.au

Tue 12/09/2017 1:33 PM

To: Dominique Kazan

Cc: Human.Ethics.Officer@anu.edu.au; Philip Batterham

PhD

THIS IS A SYSTEM-GENERATED E-MAIL. PLEASE DO NOT REPLY. SEE BELOW FOR CONTACT DETAILS

Dear Ms Dominique Kazan,

Protocol: 2017/089

MindCast: A randomised controlled trial of a podcast intervention for relationship separation

I am pleased to advise the Chair of the Human Research Ethics Committee has approved the variation you submitted on 03/09/2017 requesting:

"We would like to apply for a variation for our current RCT. Due to low numbers of responses received for our first post-test survey, we would like to offer participants an incentive to complete the final follow-up survey (at 3 months). We had a positive initial recruitment response (124 participants) but due to attrition over time, it was difficult to maintain a high response-rate over the three week period. It is proposed that we allow participants a choice to go into a randomised draw to win a \$200 voucher (for a homewares store i.e. JB Hi-Fi, Target, Woolworths) by entering their emails at the end of the survey to be drawn at the completion of the study.

-----  
Chair response 05/09/2017:

Thank you for your variation request. The introduction of an incentive is reasonable given the attrition between survey waves, but you need to provide for review the means by which you will advise participants about the incentive - for example, details of the incentive, how you will select the winner, how you will notify people about the outcome (given confidentiality provisions of the research, etc.) This material would normally be included on Information Sheets, but if the Information Sheet is already out with participants, you need to inform them of this new provision, so can you please provide details of how you will do this along with any associated text you will send/use to provide this advice to participants?

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Researcher response 12/09/2017:

Please see my response to the ethics variation request 2017/089. (in Documents tab)

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Chair response 12/09/2017:

Approved. Thank you for providing additional details about how you will implement the incentive and advise participants about these provisions."

## Appendix 16.

### Demographic and outcome measures for the RCT

DEMOGRAPHIC QUESTIONS	
30. What is your gender	Male Female Other
31. Which of the following options best describes how you think of yourself?	Heterosexual or straight Gay or lesbian Bisexual Other Prefer not to say
32. What is your current age in years?	
33. What is the highest qualification that you have completed?	Have not completed h/s Completed h/s Cert/Dip/Ass Degree Bachelor Degree Higher degree
34. How would you describe your current employment status?	Employed full-time Employed part-time Casual Unemployed Not in the labour force
35. Do you have any children	Yes No
36. How long have you been separated from your previous partner?	Less than one month 1 – 3 months 3 – 6 months
37. How long did your previous relationship last?	Less than one month 1 – 6 months 6 – 12 months 12 – 24 months 2 – 5 years 5 – 10 years 10 years +
38. What was the status of your previous relationship?	Married De-facto In a relationship (not living) Other
39. Who initiated the separation	Me Ex-partner Both
40. Have you had any thoughts of suicide as a result of your relationship break-up?	Yes No
41. Have you attempted suicide as a result of your relationship break-up?	Yes No
42. Are you currently seeing a psychologist/counsellor?	Yes No

43. Are you currently taking medication for mental health reasons?	Yes No
<b>Suicidal Ideation Attributes Scale (SIDAS)</b>	
<ol style="list-style-type: none"> <li>1. In the past month, how often have you had thoughts about suicide?</li> <li>2. In the past month, how much control have you had over these thoughts?</li> <li>3. In the past month, how close have you come to making a suicide attempt?</li> <li>4. In the past month, to what extent have you felt tormented by thoughts about suicide?</li> <li>5. In the past month, how much have thoughts about suicide interfered with your ability to carry out daily activities, such as work, household tasks or social activities?</li> </ol>	Scale: <ul style="list-style-type: none"> <li>• 0 (never) to 10 (always)</li> </ul>
<b>Patient Health Questionnaire (PHQ-9)</b>	
<p>Over the last 2 weeks, how often have you been bothered by any of the following problems?</p> <ol style="list-style-type: none"> <li>10. Little interest or pleasure in doing things?</li> <li>11. Feeling down, depressed or hopeless?</li> <li>12. Trouble falling or staying asleep, or sleeping too much?</li> <li>13. Feeling tired or having little energy?</li> <li>14. Poor appetite or overeating?</li> <li>15. Feeling bad about yourself – that you are a failure or have let yourself or your family down?</li> <li>16. Trouble concentrating on things such as reading the newspaper or watching television?</li> <li>17. Moving or speaking so slowly that people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual?</li> <li>18. Thoughts that you would be better off dead or hurting yourself in some way?</li> </ol>	Scale: <ul style="list-style-type: none"> <li>• Not at all</li> <li>• Several days</li> <li>• More than half the days</li> <li>• Nearly every day</li> </ul>
<b>Psychiatric Symptom Frequency Scale (PSF)</b>	
<p>In the last year have you ever:</p> <ol style="list-style-type: none"> <li>7. Felt that life is hardly worth living?</li> <li>8. Thought that you really would be better off dead?</li> <li>9. Thought about taking your own life?</li> <li>10. Thought that taking your life was the only way out of your problems?</li> <li>11. Made plans to take your own life?</li> <li>12. Attempted to take your own life?</li> </ol>	Yes/no answers
<b>Interpersonal Needs Questionnaire (INQ; Thwarted Belongingness and Perceived Burdensomeness)</b>	
<ol style="list-style-type: none"> <li>1. These days the people in my life would be better off if I were gone</li> <li>2. These days the people in my life would be happier without me</li> <li>3. These days I think I am a burden on society</li> <li>4. These days I think my death would be a relief to the people in my life</li> <li>5. These days I think the people in my life wish they</li> </ol>	Scale: <ul style="list-style-type: none"> <li>• Not at all true for me</li> <li>• Somewhat true for me</li> <li>• Very true for me</li> </ul>

<p>could be rid of me</p> <p>6. These days I think I make things worse for the people in my life</p> <p>7. These days, other people care about me</p> <p>8. These days, I feel like I belong</p> <p>9. These days, I rarely interact with people who care about me</p> <p>10. These days, I am fortunate to have many caring and supportive friends</p> <p>11. These day, I feel disconnected from other people</p> <p>12. These days, I often feel like an outsider in social gathering</p> <p>13. These days, I feel that there are people I can turn to in times of need</p> <p>14. These days, I am close to other people</p> <p>15. These days, I have at least one satisfying interaction everyday</p>	
<b>General Benefit Finding Scale (GBFS)</b>	
Available upon request.	
<b>Psychological Adjustment to Separation Test (PAST)</b>	
<p>In the last two weeks:</p> <p>20. I find it hard to do things without a partner</p> <p>21. I constantly think about my former partner</p> <p>22. I feel isolated</p> <p>23. Days with special meaning for my ex-partner and I are really difficult (e.g. birthdays and anniversaries)</p> <p>24. I miss my former partner a lot</p> <p>25. I am used to not seeing my former partner anymore</p> <p>26. I wish my former partner and I could try to make the relationship work</p> <p>27. I don't really know why my former partner and I separated</p> <p>28. I find it difficult to enjoy myself</p> <p>29. It is hard looking at photos and other things that remind me of my former partner</p> <p>30. I don't have time to see my friends</p> <p>31. I feel like I am on a constant emotional roller-coaster ride</p> <p>32. I get angry more than I used to</p> <p>33. I make an effort to organize social activities</p> <p>34. I feel desperately lonely</p> <p>35. I feel like my life has less purpose in it now</p> <p>36. I sometimes have difficulty controlling my emotions</p> <p>37. I feel rejected by my former partner</p> <p>38. Little things seem to upset me now</p>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Strongly disagree</li> <li>• Disagree</li> <li>• Neither agree nor disagree</li> <li>• Agree</li> <li>• Strongly agree</li> </ul>
<b>Attitudes Toward Seeking Professional Help (ATSPH)</b>	
<p>1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention</p> <p>2. The idea of talking about problems with a</p>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Disagree</li> <li>• Partly disagree</li> </ul>

<p>psychologist strikes me as a poor way to get rid of emotional conflicts</p> <ol style="list-style-type: none"> <li>3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy</li> <li>4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help</li> <li>5. I would want to get psychological help if I were worried or upset for a long period of time</li> <li>6. I might want to have psychological counselling in the future</li> <li>7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help</li> <li>8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me</li> <li>9. A person should work out his or her own problems; getting psychological counselling would be a last resort</li> <li>10. Personal and emotional troubles, like many things, tend to work out by themselves</li> </ol>	<ul style="list-style-type: none"> <li>• Partly agree</li> <li>• Agree</li> </ul>
<b>Specific Help-Seeking</b>	
<ol style="list-style-type: none"> <li>1. I sought professional help after my relationship break-up</li> <li>2. I would be interested in seeking professional help after my relationship break-up</li> </ol>	<p>Scale: Yes/no</p>
<b>Place of Use Questionnaire</b>	
<ol style="list-style-type: none"> <li>1. On average, how often did you listen to the podcasts during the study?</li> <li>2. How many of the podcasts did you listen to?</li> <li>3. Did you listen to specific podcasts more than once?</li> <li>4. Where did you listen to the podcasts for the study?</li> <li>5. What device did you use the most to listen to your podcast?</li> </ol>	
<b>Perceptions of Intervention Questionnaire</b>	
<ol style="list-style-type: none"> <li>1. I enjoyed using the program.</li> <li>2. I found the program to be helpful.</li> <li>3. The program was easy to understand.</li> <li>4. I found the program to be interesting.</li> <li>5. I would use the program in the future.</li> <li>6. I would recommend the program to other people who might benefit from it.</li> <li>7. The skills I learned from the program helped me a lot in my everyday life.</li> <li>8. I felt the podcast hosts approach is a good fit for me</li> <li>9. I felt that the podcast host understood my</li> </ol>	<p>Scale:</p> <ul style="list-style-type: none"> <li>• Completely disagree</li> <li>• Completely agree</li> </ul>

experience	
<b>Open-ended Questions</b>	
1. What did you find most valuable/helpful from the podcast program?	Open-ended
2. What did you find least valuable/helpful from the podcast program?	Open-ended
3. If you have any other comments on the podcast program, please enter them here:	Open-ended