Beyond the Unidimensional Account of Suicidal Desire:
Examining the Dynamic Balance of the Wish to Live and the Wish to Die in Clinical and Non-Clinical Settings

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This thesis is presented for the degree of Doctor of Philosophy and Masters of Clinical Psychology of The University of Western Australia

School of Psychological Science

2019
Thesis Declaration

I, Natasha Goods, certify that:

This thesis has been substantially accomplished during enrolment in the degree.

This thesis does not contain material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution.

In the future, no part of this thesis will be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of The University of Western Australia and where applicable, any partner institution responsible for the joint-award of this degree.

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The research involving human data reported in this thesis was assessed and approved by The University of Western Australia Human Research Ethics Committee.
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This thesis contains work prepared for publication, some of which has been co-authored (See statement of contribution on page viii).

____________________________________
Natasha Goods

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The present thesis examined the relative balance between the wish to live and the wish to die in non-clinical and clinical samples, and compared the profiles on indicators of both suicidal risk and resilience. Longitudinal designs were employed in both clinical samples to examine patients’ recovery trajectories.

Study 1 found most university students had a profile reflecting a strong wish to live and weak wish to die, while one-in-five students had a competing wish to live and wish to die of equal, moderate intensity (ambivalent). The ambivalent students had both higher suicidal risk and lower resilience factors than those with a strong wish to live. In Study 2, most patients considered at-risk of suicide at an emergency department had a predominant, strong wish to die, while the remaining one-fifth had either a moderate ambivalent or a predominant, weak wish to live profile. Encouragingly, at six-month follow-up the number of patients with a strong wish to live and weak wish to die mirrored the non-clinical sample. Zest for life was one of the main factors which helped discriminate the patients who recovered from the few who maintained a wish to die. Study 3 assessed the wish to live and the wish to die with more fine-grained temporal precision, and found a substantial number of psychiatric inpatients shifted between profiles over just three days. Inpatients with a balanced wish to live and wish to die of lower intensity (disengaged) and inpatients with a balanced wish to live and wish to die of higher intensity (ambivalent) were meaningfully distinguished, and temporarily disengaging from an inner conflict appeared more beneficial than experiencing it strongly.

Findings evidence the importance of adhering to a bi-dimensional conceptualisation of the wish to live and the wish to die so that patients with
balanced motivations of varying intensities can be distinguished. Further, the longitudinal designs in the patient samples show both the encouraging recovery trajectories of patients and the dynamic qualities of these two motivations. As both suicidal risk and resilience factors helped discriminate patients who recovered from those who did not, interventions need to shift beyond a solely risk-centric approach towards a more balanced approach of targeting both risk minimisation and exploring what makes a life worth living.
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Statement of Contribution

This thesis contains work that has been prepared for publication.

Details of the work:

Location in thesis:
Chapter 2 of the thesis comprises this manuscript

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Natasha was central to this paper including study design, data analysis, data interpretation, and preparation of the manuscript. Supervisors Andrew Page and Werner Stritzke contributed to all aspects of the study, including obtaining ethics approval, study design and data interpretation. Natasha prepared the manuscript and feedback on the manuscript was provided by the principal supervisor (Andrew Page) and co-supervisor (Werner Stritzke).

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Preamble to Thesis

Consistent with the University of Western Australia’s guidelines for PhD submission, this thesis is presented as a series of manuscripts. Studies 1 and 2 have been prepared for publication (see Statement of Contribution for details) and Study 3 is due to be published as a book chapter (see Statement of Contribution). As Study 1 and Study 2 are to be submitted for publication as a joint paper, but are included as separate chapters in the present thesis, some minor revisions have been made to these studies to help facilitate reading. Presentation of this thesis as a series of papers may lead to some repetition, particularly Study 3 which is due to be published as a stand-alone book chapter and thus reviews some findings from Study 1 and Study 2. The General Introduction (Chapter 1) and General Discussion (Chapter 5) have not been submitted for publication. Figures and tables have been inserted into the text to facilitate reading.
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Glossary of Terms

One aim of the present thesis is to show how current literature are implicitly referring to people as ambivalent regardless of the intensity of their competing wish to live and wish to die. As ambivalence requires a level of intensity to be experienced (Cacioppo, Gardner, & Berntson, 1997) this may be problematic, as people with a weak competing wish to live and wish to die, who are being inaccurately labelled as “ambivalent”, may have a unique risk and resilience profile. Thus, it is equivocal to call any patient with an equal magnitude of both desires “ambivalent”. However, as it is widely accepted in the literature to refer to people with a wish to live and wish to die of equal magnitude as “ambivalent” (regardless of the strength of intensity experienced) the present thesis will denote that ambiguity by putting ambivalent into quotation marks (e.g., “ambivalent”) when referring to previous studies and use the term ambivalent without quotation marks only when the label reflects a co-occurring wish to live and wish to die with at least a moderate degree of intensity. Following this logic, the thesis will use the label disengaged when referring to patients with an equally weak or non-existent wish to live and wish to die. Thus, the terms will be as follows:

- “Ambivalent”/“Ambivalence”: these labels (with quotation marks) reflect participants in previous studies who have been referred to as ambivalent regardless of the intensity of their co-occurring wish to live and wish to die.
- Ambivalent/Ambivalence: these labels (without quotation marks) reflect participants who have an equally moderate-to-strong wish to live and wish to die.
- Disengaged/Disengagement: these labels reflect participants who have an equally weak or non-existent wish to live and wish to die.
Chapter 1

GENERAL INTRODUCTION
One of the world’s biggest global killers is suicide (World Health Organization, 2014). In Australia, suicide is now the leading cause of death among all people aged 15 to 44 years (Australian Bureau of Statistics, 2017). To try address these striking statistics, Australian funding for mental health, including suicide prevention, more than doubled in recent years (Parliament of Australia, 2018) and there has been a profound growth in the generation of suicide research (Nock, 2016). Despite this, suicide remains an enduring public health concern, with no sustained reduction in suicide rates across the last three decades (World Health Organization, 2014). Suicide and non-fatal suicidal behaviour has a ripple effect in the community, as it can deeply impact those who are both directly (e.g., family members) and indirectly (e.g., first responders) related to the decedent or person harming themselves (Kinchin & Doran, 2017). Economically, suicidal behaviour is also a burden as it impacts the workforce through means such as lost productivity (Kinchin & Doran, 2017). Equipping experts with tools to better detect and respond to suicidal risk and suicidal behaviour is imperative, as on average one-fourth of individuals who die by suicide are discharged from an inpatient stay within a year of their suicide, and eight percent are discharged within one month (Ahmedani et al., 2014). Emergency department personnel are also on the forefront of direct intervention, as over half of discharged patients who suicide were admitted to an emergency department the same year, and one-fifth had contact within one month (Ahmedani et al., 2014). Being able to accurately and efficiently identify individuals most at risk, and what contributes to resilience in those identified at risk, strengthens clinicians’ ability to intervene and provide appropriate care.
One approach to predict suicide and suicide-related behaviour is to focus on static risk-factors, such as psychiatric diagnosis, demographics, and past behaviour (Fowler, 2012). However, when evaluated alone these enduring risk factors have limited accuracy in their ability to predict suicidal risk due to high rates of false-positives (Fowler, 2012). An alternative approach is to identify collective vulnerabilities or stressors which may help explain the suicidal mind (Barzilay & Apter, 2014). Many of these theories focus on what drives the desire to die, such as hopelessness (Beck, 1986; Beck, Steer, Beck, & Newman, 1993), unbearable psychological pain (Shneidman, 1998), and a motivation to escape (Baumeister, 1990). Contemporary models of suicide have attempted to synthesize risk factors and expand our understanding of how the desire to die transitions to suicidal intent and action (Joiner, 2005; O’Connor, 2011; Klonsky, May, & Saffer, 2016; Rudd, 2006).

Examining suicidal risk factors is undeniably an important component of suicide research given their ability to inform intervention and prevention strategies. Yet, a meta-analysis of 365 studies spanning 50 years found that risk factors only weakly, or inaccurately, predicted suicidal thoughts and behaviours, and the ability to predict suicidal thoughts and behaviours using these risk-factors has not improved over the past five decades (Franklin et al., 2017). Thus, focusing solely on what may drive the desire to die does not provide a consistent and accurate framework for understanding suicidal risk. For this reason, suicide research needs to continue to broaden its scope beyond a risk-orientated approach. This requires the focus to shift beyond the wish to die towards also examining the opposing dimension of this: the wish to live and factors which influence this wish.

Many theories neglect the premise that suicidal risk may involve the co-occurrence of a wish to live and wish to die of equal magnitude (Kovacs & Beck,
That is, suicidal desires are not only characterised by a sole wish to die (i.e., a strong wish to die which outbalances a non-existent or weak wish to live), but may also be characterised by an equally strong wish to live and strong wish to die, known as suicidal ambivalence. As most who experience suicidal ideation do not transition to attempting let alone completing suicide, it suggests that there are factors which restrain an individual from acting on their desire for death. For example, the Integrated Motivational-Volitional Model details how a combination of factors can transition an individual from experiencing suicidal ideation to acting on their desire to die (O’Connor, 2011). In this case, it may be that a co-occurring wish to live of equal magnitude is a restraining factor protecting an individual from experiencing a heightened risk state, and thus examining the wish to live may permit a more holistic assessment of suicidal risk.

The wish to live may act as a restraining factor against a heightened risk state in the same manner in which resilience factors are able to. That is, risk and resilience factors can occupy their own separate dimensions and thus independently impact suicidal risk (Johnson, Wood, Gooding, Taylor, & Tarrier, 2011). That is, even if a person experiences risk factors, the co-occurring presence of resilience factors can help protect a person from suicidality. For instance, university students participated in an experimental task which manipulated their feelings of thwarted belongingness (feeling you do not belong) and perceived burdensomeness (feeling like a burden on others), two of the constructs of the interpersonal theory of suicide which are said to contribute to suicidal desire (Collins, Best, Stritzke, & Page, 2016). That is, during a computerised team game the students in the experimental condition received negative feedback from their ‘teammates’ (who were computer generated)
specifically targeting feelings of belongingness and burdensomeness. Students assigned to the condition in which they experienced high levels of both constructs were more likely to persist and be buffered against the desire to escape this interpersonal adversity if they had higher pre-existing levels of zest for life, a measure of one's desire for life and engagement in it (Collins et al., 2016). Thus higher resilience can mitigate the detrimental effects of risk factors thought to be proximal and causal antecedents of suicidal desire (Joiner, 2005). Following this logic, it may be that a co-occurring wish to live of equal magnitude to the wish to die functions in the same manner, protecting an individual from experiencing a heightened level of risk even in the presence of adverse events or risk factors.

Since understanding the wish to live may contribute to our understanding of suicidal risk, research must also consider which factors help drive this desire. As argued above, risk and resilience factors can occupy their own separate dimensions (Johnson et al., 2011). As adhering to a solely risk-orientated approach is not sufficient to identify individuals at risk of suicide (Franklin et al., 2017), both the wish to live and protective factors need to be further investigated to gain a more holistic understanding of suicidal risk. For instance, a patient reporting low levels of suicidal ideation may appear to be showing promising signs of recovery, however, this patient may also be experiencing simultaneously low levels of protective factors, such as zest for and engagement with life. Without incorporating factors which contribute to a life worth living into risk assessments the complete picture of recovery may not be acquired, leading to an inaccurate evaluation of patient progress.

Thus, the present dissertation aims to contribute to the literature a greater understanding of the life component of risk by assessing for both the wish to live and
the wish to die. The aim is to compare response profiles reflecting the dynamic balance between these two motivations in both non-clinical and clinical settings. The present dissertation further aims to advance the literature beyond a primarily risk-orientated approach by examining how both risk and protective factors are able to distinguish the generated profiles.

The Prevalence of Patients in Different Wish to Live and Wish to Die Response Combinations

The premise that suicide involves an internal conflict between wanting to live and wanting to die is not new (Shneidman, 1964; Weiss, 1957). Vividly described as an individual cutting their own throat while simultaneously crying for help, ambivalence is considered one of the main commonalties of suicidal individuals (Shneidman, 1987). In fact, the competing motivations between living and dying have long been included in therapeutic frameworks encompassing suicidal assessments and treatments (Beck, Kovacs, & Weissman, 1979; Jobes, 2012; Linehan, 1993). While the tumultuous state of ambivalence can make risk assessment more complex, it is considered an opportune time for intervention (Granello, 2012). That is, highly ambivalent individuals who are presented with persuasive arguments (in this case for eating a low-fat diet) are more likely to be persuaded than individuals who are less ambivalent (Armitage & Conner, 2000). Specifically with suicide, this suggests an ambivalent state may provide clinicians the opportunity to foster an individual’s will to live while they are more susceptible to change.

Despite the potential usefulness of identifying suicidal ambivalence, it is relatively recent that the dynamic interplay between the wish to live and the wish to
die was specifically investigated (cf. Bryan et al., 2016; Lento, Ellis, Hinnant, & Jobes, 2013; O’Connor et al., 2012a). One technique which helped renew the research on suicidal ambivalence was the creation of an assessment method called a ‘suicide index’ (Brown, Steer, Henriques, & Beck, 2005). The suicide index involves independently assessing a patient’s wish to live and wish to die, and then subtracting the wish to live item from the wish to die item to produce a difference score (Brown et al., 2005). The obtained difference can be visually depicted as falling somewhere along a linear diagonal (see dotted line in Figure 1.1), with higher scores indicating a greater orientation towards death, and lower scores indicating a greater orientation towards life, and a difference score of zero indicating an equal magnitude of both desires (Figure 1.1).

Figure 1.1. The dotted line represents where a difference score obtained by a unidimensional suicide index may fall. A stronger orientation towards death would be indicated by a difference score above the top half of the dotted line, a stronger orientation towards life would be indicated by a difference score above the bottom half of the dotted line, and an equal magnitude of both wishes would be indicated by a difference score above the middle section of the dotted line (in which the difference score would be zero).
Research on suicidal ambivalence showed that having an equal magnitude of both the wish to live and the wish to die is prevalent across emergency departments, psychiatric hospitals, and community mental health settings (Corona et al., 2013; Kovacs & Beck, 1977; Lento et al., 2013; O’Connor et al., 2012a). Among emergency care patients hospitalised for a suicide attempt, 17% reported an equal magnitude of the wish to live and the wish to die at the time of their suicidal act (Kovacs & Beck, 1977). In inpatient psychiatric hospitals, approximately one in four reported experiencing an equal magnitude of both desires (O’Connor et al., 2012a; Lento et al., 2013), whilst in outpatient clinics, between 25% and 57.5% reported a co-occurring wish to live and wish to die of equal magnitude (Corona et al., 2013; O’Connor et al., 2012b). The pervasiveness of experiencing a co-occurring wish to live and wish to die of equal intensity in clinical settings suggest that this is a common experience for those in crisis, and that increased knowledge on an internal conflict may lead to a more comprehensive understanding of the suicidal mind.

Examining the relative balance of the wish to live and the wish to die in clinical settings further identified the prevalence of patients who predominantly endorsed a wish to live. That is, whilst it may be expected that most patients in clinical settings would have a strong, predominant wish to die, patients with a concurrent strong wish to die and weak wish to live varied from only 11.5% to 42.5% of the clinical samples (Corona et al., 2013; Lento et al., 2013; O’Connor et al., 2012a; O’Connor et al., 2012b). In stark contrast, patients with a strong wish to live which outbalanced a weak wish to die were identified as commonly as their ambivalent counterparts, with the prevalence varying from 23% to 63.5% of the samples (however, in one study no predominant wish to live patients were found; O’Connor et al., 2012b). This means that only enquiring about a patient’s wish to die
would have resulted in most of the patients being incompletely labelled, as patients with an equal magnitude of both desires would not have had their co-competing desire for life taken into account, whilst patients with a strong wish to live which outbalanced a weak wish to die would not have had their strong orientation towards life recognised.

Despite growing knowledge of the dynamic relationship between the wish to live and the wish to die in clinical samples, there remains limited knowledge on how these motivations appear in non-clinical settings. That is, whilst 66.5% of people in a community sample explicitly stated they had experienced an internal debate between reasons for living and reasons for dying (Harris, McLean, Sheffield, & Jobes, 2010), there are no empirical studies specifically examining the direction and magnitude of the wish to live and the wish to die in non-clinical samples. Understanding the relative balance of these desires in non-clinical settings may help inform intervention and prevention strategies. For instance, whilst it is expected that most non-clinical participants have a predominant, strong wish to live, a subset may exhibit some level of risk. If this risk is represented through an equal magnitude of both the wish to live and the wish to die, it suggests that intervention strategies targeted at non-clinical populations may benefit from recognizing this internal debate as an early warning sign. Additionally, understanding the balance of these motivations in non-clinical samples may provide a benchmark in which to compare the clinical samples. For instance, patients could be tracked over time to examine whether their wish to live and wish to die recovery trajectories mirror their non-clinical counterparts following a period of recovery, or whether they maintain some elevated level of residual risk. Thus, the present thesis aims to address the limited knowledge of the relationship
between wish to live and wish to die in non-clinical samples by examining the dynamic balance between these desires in a university sample.

Despite the lack of knowledge of the dynamic balance between these motivations in non-clinical populations, the research in clinical settings (e.g., Corona et al., 2013; Kovacs & Beck, 1977; Lento et al., 2013; O’Connor et al., 2012a; O’Connor et al., 2012b) shows that patients can be distinguished based on the relative balance of their wish to live and wish to die. Critically, it is equally important to ensure that this distinction is clinically meaningful. That is, patients with different wish to live and wish to die response combinations must also demonstrate different risk and resilience profiles. This would mean that, dependent on the strength and magnitude of a patient’s wish to live and wish to die, a clinician would be able to ascertain the level of likely risk being experienced, making the dynamic balance between the wish to live and wish to die clinically relevant.

**The Clinical Relevance of Assessing for both the Wish to Live and the Wish to Die**

Prospective examination of outpatients over a two decade period found that the score derived from a unidimensional suicide index, in which the wish to live item is subtracted from the wish to die item to produce a single difference score, was able to predict suicide attempt status above and beyond seven well-established risk factors: age, hospitalization for a psychiatric disorder, previous suicide attempt, bipolar disorder, major depressive disorder, unemployment status, and suicidal ideation (Brown et al., 2005). That is, a greater orientation towards life (i.e., a lower score on a suicide index) indicated a reduced likelihood of attempting suicide. Further, in a large multi-data study the wish to live and the wish to die items were the most useful single-item predictors of
suicidal behaviour (Harris, Syu, Lello, Chew, Willcox, & Ho, 2015). That is, a very low wish to live and a very high wish to die were two of the best risk factors to identify those in the highest suicidality category. In fact, when comparing individuals with high- and low suicide intent, those with a high intent to die had on average almost five times higher wish to die scores and two and half times lower wish to live scores (Harris, Lello, & Willcox, 2016). Together, these studies (i.e., Brown et al., 2005; Harris et al., 2015; Harris et al., 2016) indicate that the dynamic balance between the wish to live and the wish to die is able to supplement a risk orientated approach by providing additional information pertaining to suicide risk status.

In a further attempt to predict suicidality, patients have commonly been stratified into one of three profiles using the difference score obtained by a unidimensional suicide index: strong wish to live (a low difference score indicating a greater orientation towards life), strong wish to die (a high difference score indicating a greater orientation towards death), and “ambivalent” (a difference score of zero; cf. Corona et al., 2013; cf. Lento et al., 2013; cf. O’Connor et al., 2012a). This stratification permitted researchers to examine whether patients could be meaningfully distinguished based on which profile they belonged to.

Using this stratification process, “ambivalent” inpatients self-reported lower suicide risk than inpatients with a strong orientation towards death and weak orientation towards life, but higher suicide risk than inpatients with a strong orientation towards life and weak orientation towards death (O’Connor et al., 2012a). These findings were replicated when examining high wish to die and “ambivalent” outpatients’ responsiveness to treatment, as “ambivalent” outpatients self-reported lower suicidal

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1 The term “ambivalent” or “ambivalence” in quotation marks denotes response profiles reflecting a wish to live and wish to die of equal magnitude regardless of the intensity of these co-occurring wishes.
ideations than high wish to die outpatients after receiving upward of 12 weeks of therapy, with the gains maintained at 12 months follow-up (O’Connor et al., 2012b). These patterns of results occurred despite the fact that “ambivalent” patients and their high wish to die counterparts had equally strong orientations towards death. Together, this suggest that a wish to live may provide a protective quality against the risk experienced of having a co-occurring wish to die of equal magnitude, in both the short- and long-term.

Other studies have identified some discrepancies regarding the protective role of having a wish to live of equal magnitude to the wish to die. When using the same self-report measure of suicide risk (i.e., suicidal ideations) as O’Connor et al. (2012b), no differences were identified between “ambivalent” and wish to die outpatients following a median of 5.5 treatment sessions, though “ambivalent” outpatients did report higher suicide risk than wish to live outpatients (Corona et al., 2013). When examining inpatients, whilst the wish to die and “ambivalent” inpatients had greater suicidal ideation than the wish to live inpatients at treatment commencement, they had equally high suicidal ideation scores as each other (Lento et al., 2013). Further, the three groups’ suicidal ideation scores were unable to be significantly distinguished following 11 weeks of treatment. This suggests that patients had similar outcomes regardless of the relative balance of their initial wish to live and wish to die, and that “ambivalent” and wish to die inpatients were not distinct.

Together, these findings (cf. Corona et al., 2013; cf. Lento et al., 2013; cf. O’Connor et al., 2012a; cf. O’Connor et al., 2012b) show that there is ambiguity regarding the level of risk associated with the three stratified profiles created using a unidimensional suicide index. In particular, it remains unclear whether having a wish to live of equal strength and direction to the wish to die provides any additional protection
compared to having a strong wish to die and weak wish to live. The uncertainty regarding the level of risk associated with the profiles may be partly explained by the use of a unidimensional suicide index, as this methodology may be forcing a variety of wish to live and wish to die response combinations into the same overarching heading of “ambivalence” without differentiating the intensity of the desires. Furthermore, most studies examining the wish to live and the wish to die only examined the balance between these two desires at initial assessment, which restricts knowledge of how these motivations change during recovery.

Limitations of a Unidimensional Suicide Index and the Impact on Understanding the Dynamic Balance between the Wish to Live and the Wish to Die

A unidimensional suicide index is created using a difference score and thus is based upon the underlying assumption that the wish to live and the wish to die occupy opposing poles of the same dimension. That is, it is assumed that these two desires are reciprocally activated so that activation of one desire is reliant on the opposing deactivation of the other desire. In the broader literature, the use of difference scores and unidimensional conceptualisations of motivations and attitudes have been criticized due to restricting information and hindering the ability to interpret responses (Cacioppo & Berntson, 1994; Cacioppo, Gardner, & Berntson, 1997; Kaplan, 1972; Laird & De Los Reyes, 2013). For instance, assuming that internal experiences occur along a single dimension (e.g., ‘positive’ versus ‘negative’) mean that any responses situated in the middle of a bipolar scale are ambiguous, as it cannot be discerned as to whether the respondent is both strongly endorsing a positive and negative pole, or whether the respondent is both weakly endorsing a positive and negative pole (Kaplan, 1972). Thus, a unidimensional approach does not permit all potential response combinations to be
observed and does not provide a clear representation of which responses are being endorsed.

In the suicide literature, assuming a unidimensional relationship between the wish to live and the wish to die using a suicide index may be forcing distinct response combinations into the same overarching heading of “ambivalence” (Bryan et al., 2016; cf. Kaplan, 1972). That is, a unidimensional suicide index is unable to distinguish whether a difference score of zero represents a strong wish to live and a strong wish to die or whether it represents a weak wish to live and a weak wish to die. If having an equally strong wish to live and strong wish to die represents ambivalence, then having an equally weak wish to live and weak wish to die may represent a more disengaged state.²

The prevalence of strongly ambivalent patients (i.e., strong wish to live and strong wish to die) and disengaged patients (i.e., weak wish to live and weak wish to die) forced together under the same umbrella term of “ambivalence” is unknown. For instance, one study may have recruited 80% truly ambivalent patients and 20% disengaged patients, whilst another study may have recruited 20% truly ambivalent patients and 80% disengaged patients. Varying intensities of the co-occurring wish to live and wish to die may represent distinct suicidal risk and resilience profiles, which may partly explain the current conflicting findings regarding the level of risk associated with being “ambivalent”.

Not distinguishing profiles based on the strength of the co-occurring wish to live and wish to die also has implications in terms of monitoring patient progress over time.

² We have defined patients with a weak wish to live and weak wish to die as disengaged rather than indifferent (a term commonly used when referring to the combined weak endorsements of two motivations) as we propose that a person cannot be truly indifferent about life or death, but that it may be more accurately conceptualised as a disengagement from either desire.
General Introduction

The trajectories of change of respondents who are ambivalent may be distinct to the trajectories of change of respondents who are disengaged. For instance, a strong internal conflict may be a more volatile state if a person frequently shifts between the competing desires in an effort to resolve their internal conflict, whilst a disengaged state may be a more stable state if a person is having a temporary ‘time out’ without an internal turmoil to resolve. Alternatively, an ambivalent person’s strong wish to live may function in a similar manner as resilience factors and provide a protective quality against the competing wish to die, increasing the person’s probability of shifting towards life, whilst a disengaged person’s low motivation for both desires may place them at risk by virtue of ‘dropping out of life’ and increase their probability of shifting towards death. By forcing these two presentations together it is not possible to examine these potentially distinct recovery trajectories, and this knowledge may provide information pertaining to which intervention strategies are most beneficial for which presentation.

The ability to examine recovery trajectories of different wish to live and wish to die response profiles has also been hindered by most studies only assessing the wish to live and the wish to die on a single occasion (cf. Corona et al., 2013; Lento et al., 2013; O’Connor et al., 2012a; O’Connor et al., 2012b). The fluid vulnerability theory stipulates that some factors associated with suicidal risk are transient and thus require frequent monitoring (Rudd, 2006). As the wish to live and the wish to die are two factors proposed to be associated with suicidal risk, this suggests that ongoing monitoring beyond initial assessment is required to capture the inherently dynamic qualities of these two motivations. To ensure that the monitoring of these two motivations is conducted in the most beneficial manner, the limitations of adhering to a unidimensional conceptualisation of the wish to live and the wish to die would need to be addressed.
A Multidimensional Conceptualisation of the Wish to Live and the Wish to Die

An alternative conceptualisation to the implicit assumption that the wish to live and the wish to die have a unidimensional reciprocal relationship is the conceptualisation that the wish to live and the wish to die occupy a bi-dimensional space. A multidimensional approach to motivations and attitudes argues that the competing desire of each motivation or attitude occupies its own separate dimension (e.g., a ‘positive’ dimension and a ‘negative’ dimension). For instance, a person can feel simultaneously happy and sad (Larsen, McGraw, & Cacioppo, 2001) or optimistic and pessimistic (Chang, Maydeu-Olivares, & D’Zurilla, 1997). Allowing for the assumption that psychological constructs can occupy their own dimensions provides a greater understanding of the bi-dimensional space that is created, as it is possible to examine how the combinations of these constructs map onto different experiences. For instance, in the addiction literature, a multidimensional model of the inclination to drink, and the inclination to not drink, was developed, whereby four profiles were proposed; avoidance, approach, ambivalence (strong inclination to both drink and not drink) and indifference (weak inclination to both drink and not drink; Breiner, Stritzke, & Lang, 1999; Schlauch, Rice, Connors, & Lang, 2015). Patients in these profiles could be distinguished based on their experiences with alcohol, for instance, highly ambivalent patients consumed more drinks per occasion than indifferent patients (Schlauch et al., 2015). Thus, a bi-dimensional model provided additional knowledge pertaining to patients’ experiences which could inform prevention and intervention strategies.

There is also precedence for a bi-dimensional conceptualisation of the wish to live and the wish to die in the suicide literature. Researchers investigated patients hospitalised for a recent suicide attempt and independently assessed their wish to live and wish to die using two 9-point Likert scales (Kovacs & Beck, 1977). For auxiliary
analyses the researchers focused on the more extreme wish to live and wish to die scores, as they defined scores of zero, one, and two as ‘low’, and scores of six, seven, and eight as ‘high’. Using this method, the researchers were able to sort most patients into four distinct profiles: those with a high wish to live and low wish to die, those with a low wish to live and high wish to die, those with a high wish to live and high wish to die, and those with a low wish to live and low wish to die. As such, it is proposed that patients can be conceptualised as belonging in one of four profiles based on the strength and direction of their wish to live and wish to die: predominant wish to live (strong wish to live, weak wish to die), ambivalent (strong wish to live, strong wish to die), predominant wish to die (strong wish to die, weak wish to live) and disengaged (weak wish to live and weak wish to die) (Figure 1.2).

*Figure 1.2. A multidimensional model of the wish to live and the wish to die. Adapted from “Approaching Avoidance: A Step Essential to the Understanding of Craving”, by M. J. Breiner, W. G. K. Stritzke and A. R. Lang, 1999, Alcohol Research & Health, 23, p. 198.*
Interestingly, Kovacs and Beck (1977) reported that ambivalent patients and disengaged patients had comparable levels of self-report suicidal intent, leading to the suggestion that an ambivalent state may represent equal risk regardless of the strength of ambivalence endorsed. There are two important considerations to take into account when interpreting these findings. First, the researchers did not investigate whether the profiles could be distinguished based on any protective factors. As risk and resilience factors may occupy their own separate dimensions (cf. Johnson et al., 2011) it may be that patients who are strongly ambivalent also possess stronger levels of psychological wellbeing or zest for life compared to those who are disengaged, given that ambivalent patients also have a co-occurring strong desire for life. If so, intervention strategies targeted at ambivalent patients may focus more on continuing to foster these protective qualities, whilst intervention strategies targeted at disengaged patients may first need to focus on identifying and re-engaging with any protective factors. Second, the cross-sectional nature of the study did not allow for the temporal trajectories of change to be assessed. As previously described, strongly ambivalent patients may have a unique and fluid transitional state compared to disengaged patients, and this may mean that over time their risk and resilience profiles change more than patients appearing disengaged.

More recently, the independent monitoring of the wish to live and wish to die on multiple occasions over an 18-month period showed that brief cognitive behavioural therapy was associated with reductions in suicidal behaviour due more to the strengthening of participants’ wish to live rather than the weakening of their wish to die (Bryan et al., 2016). That is, fostering the desire for life may be critical in the recovery of those experiencing risk. These findings support the theoretical premise that the wish to live and the wish to die occupy their own separate dimensions, and suggest that patients may shift between response profiles reflecting the dynamic balance between the
wish to live and the wish to die over time. Critically, the findings also reinforce the importance of focusing on the wish to live and factors which foster this wish, as a patient’s orientation towards life appears vital on their road to recovery.

**Thesis Aims and Overview**

Taking into account the limitations of using a unidimensional suicide index and focusing predominantly on the wish to die, the current thesis aims to investigate both the wish to live and the wish to die in a multidimensional manner. Specifically, three overarching limitations in the literature will be addressed: (1) the use of a unidimensional suicide index which implicitly assumes that the wish to live and the wish to die occupy opposing poles of the same dimension, thus restricting the ability to examine varying intensities of the two motivations when they are of equal strength, (2) the lack of empirical studies examining the dynamic balance between the wish to live and the wish to die in non-clinical samples, and (3) the limited knowledge on how the relationship between the wish to live and the wish to die changes over time, and how these dynamic qualities may help track patients’ recovery trajectories. Thus, the present thesis provides a novel and substantial contribution to the literature by addressing these gaps and limitations, and by acquiring further knowledge on the dynamic relationship between the wish to live and the wish to die. There were four specific aims.

First, the limitation of using a unidimensional suicide index will be directly addressed by employing a multidimensional approach to generate profiles reflecting the dynamic balance between the wish to live and the wish to die.

Second, the generated response profiles will be compared on both indicators of suicidal risk and resilience. That is, given that risk-factors alone do not provide a consistent and accurate framework for assessing risk (Franklin et al., 2017), and suicidal
risk and resilience can be understood to occupy their own separate dimensions (Johnson et al., 2013), the inclusion of protective factors in the present thesis may provide a more holistic understanding of the risk-levels associated with the generated profiles.

Third, profiles will be generated in three different settings to see how these motivations interact in a variety of environments: a non-clinical population (university sample), an emergency care department (patients considered at-risk of suicide upon hospital admission), and an inpatient psychiatric facility. Whilst it is expected that most healthy students will have a predominant wish to live, currently enrolled students are twice as likely to suicide as those who have already graduated (Lageborn, Ljung, Vaez, & Dahlin, 2017). Thus, this sample may exhibit elevated risk, which may be reflected in some individuals as an ambivalent profile, or even as a predominant wish to die profile. Further, by examining the wish to live and the wish to die in both non-clinical and clinical settings the patients’ wish to live and wish to die response combinations can be compared to a group of relatively healthy respondents.

Fourth, clinical samples will be longitudinally investigated using varying degrees of temporal precision to examine how the wish to live and the wish to die change over time. Thus far most studies have only assessed these two motivations at initial assessment, without considering the dynamic nature of the wish to live and the wish to die and how individuals may shift between response profiles over time. Varying degrees of temporal precision are incorporated to assess both the short- and longer-term recovery trajectories of patients. One area of interest is to examine the trajectories of change of patients endorsing an equal magnitude of both desires. An approach-avoidance conflict is an ambivalent state which a person is motivated to resolve (Corr, 2013). Thus, does an ambivalent patient commonly resolve their conflict by transitioning towards a predominant wish to live, or do they more often transition
towards a predominant wish to die? Once patients tip towards life or death, do they remain relatively stable in their new profile, or do they shift again between profiles as they struggle to resolve their inner conflict? Moreover, during follow-up periods, do the patients’ response profiles of the dynamic balance between the wish to live and the wish to die shift to mirror the non-clinical sample, or do they maintain a higher residual level of risk in comparison? These questions will be examined in three studies as follows:

Study 1 (Chapter 2) aims to examine the relative balance of the wish to live and the wish to die in a non-clinical (university) sample and generate response profiles using latent profile analysis. This study further investigates whether the generated response profiles can be distinguished based on indicators of both suicidal risk (e.g., thwarted interpersonal needs and acquired capability) and resilience (e.g., flourishing).

Study 2 (Chapter 3) examines the response profiles yielded with patients at an emergency care department who are considered at-risk of suicide at hospital admission, and to compare these profiles to those yielded in the non-clinical sample. In addition, patients will be monitored over time and their wish to live and wish to die response profiles will be generated again at three- and six-month follow-up. This will allow for examination of profiles over time and track recovery trajectories following discharge from emergency care. Using indicators of suicidal risk and resilience the study aims to examine whether it is possible to prospectively identify which patients are most at-risk of either maintaining or rebounding to a predominant wish to die profile.

Study 3 (Chapter 4) is another longitudinal examination of the relative balance of the wish to live and the wish to die, but in an inpatient psychiatric setting. Here the wish to live and wish to die will be assessed daily for a three-day period. This daily monitoring may prove useful for clinicians who seek to obtain real time information and
provide immediate feedback. The study aims to examine both the stability and variability of these two desires over this three-day period, and to distinguish the generated profiles using indicators of suicidal risk and wellbeing.

The final chapter (Chapter 5) is the general discussion. The discussion will provide an overview of the thesis findings in the context of existing ambivalence literature, outline the implications of the current thesis findings in terms of identifying and monitoring suicide risk, and discuss avenues for future investigation.
Chapter 2

STUDY 1: LATENT PROFILE ANALYSIS OF THE WISH TO LIVE AND WISH TO DIE IN A NON-CLINICAL SAMPLE
Latent Profile Analysis of the Wish to Live and Wish to Die in a Non-Clinical Sample

Suicide is a leading cause of death worldwide (World Health Organization, 2014). Contemporary models of suicide aim to advance our understanding of how the desire to die transitions to suicidal intent and action (Joiner, 2005; Klonsky & May, 2014; O’Connor, 2011). However, this neglects the premise that suicidal risk often involves ambivalence between the wish to live and the wish to die (Brown, Steer, Henriques, & Beck, 2005; Kovacs & Beck, 1977). That is, individuals contemplating suicide may not have a sole wish to die, but instead may have a wish to die which is pitted against a competing wish to live of similar magnitude. The aim of the present study is to examine the dynamic balance of the wish to live and the wish to die in a non-clinical sample. Specifically, latent profile analysis will be used to identify response profiles based on differences in the relative strength of the wish to live and the wish to die, and these profiles will then be compared on indicators of suicidal risk and resilience.

The internal struggle hypothesis challenged the notion of a single death-promoting pathway to suicide and separated the wish to live from the wish to die (Kovacs & Beck, 1977). Those who endorsed an equal magnitude of both desires had lower suicidal intent in comparison to those who endorsed a strong orientation towards death and weak orientation towards life (Kovacs & Beck, 1977). This is despite those in the ambivalent group being similarly high on the desire to die as those in the wish to die group. One way to capture the separate influence of these two forces is to compute a ‘suicide index’ (Brown et al., 2005). The wish to live and the wish to die are assessed with two separate scales, and the wish to live item is subtracted from the wish to die
item (Brown et al., 2005). Higher scores indicate a greater orientation towards death. This suicide index predicted future suicide attempt status over a two-decade period above and beyond several well-established risk factors (Brown et al., 2005). This has clear implications for screening participants presenting at mental health clinics or emergency care departments, as it indicates that those with a greater orientation towards death require more intensive monitoring due to their heightened risk of suicide.

More recently, this suicide index was used to trichotomize patients based on the relative strength of their wish to live and wish to die: wish to live, “ambivalent” (in which the difference score is zero), and wish to die. This yielded relatively large groups of inpatients and outpatients labelled as “ambivalent”, varying from 25% to 57.5% of the samples (Corona et al., 2013; Lento, Ellis, Hinnant, & Jobes, 2013; O’Connor et al., 2012a; O’Connor et al., 2012b). Despite being clinical samples, there were slightly fewer patients in the wish to die groups (11.5% to 42.5% of the samples), whilst the wish to live groups ranged from 0% to 63.5% of the samples. Thus, assessing both the wish to live and the wish to die is valuable, as only assessing the wish to die would have failed to identify the large prevalence of patients presenting with “ambivalent” and predominant wish to live profiles.

Consistent with the earlier findings reported by Kovacs and Beck (1977), “ambivalent” outpatients reported lower suicidal ideations than wish to die patients after receiving up to 12 weeks of treatment, with gains maintained at 12-month follow-up (O’Connor et al., 2012b). However, when using the same self-report measure of suicide risk as O’Connor et al. (2012b), others found no differences between “ambivalent” and wish to die outpatients following a median of 5.5 treatment sessions, though

3 The term “ambivalent” or “ambivalence” in quotation marks denotes response profiles reflecting a wish to live and wish to die of equal magnitude regardless of the intensity of these co-occurring wishes.
“ambivalent” patients did report higher suicide risk than wish to live patients (Corona et al., 2013). In yet another study, inpatients’ stratified into these groups did not differ in suicidal ideation following 11 weeks of treatment (Lento et al., 2013).

One source of these inconsistencies may lie in the implicit assumption underlying the suicide index, that there is an inverse relationship which assumes that as one desire strengthens the other must weaken. Assuming these desires occur on opposite ends of the same continuum obscures potentially important distinctions, because patients who endorse an equally weak wish to live and wish to die would receive the same score of zero as those who endorse an equally strong wish to live and wish to die. Strongly ambivalent patients who are “mulling over” their decision (Millner, Lee, & Nock, 2016) may represent a unique risk status which may require different risk management than those patients appearing disengaged one way or the other, despite having an identical score of zero on the unidimensional suicide index.

There is as yet little known about the dynamic relationship between the wish to live and the wish to die in non-clinical samples. Evidence suggests that these two motivations can co-occur in non-clinical populations, as in a large community sample recruited from over 40 countries, two-thirds of the respondents reported that they had engaged in an internal debate between reasons for living and reasons for dying (Harris, McLean, Sheffield, & Jobes, 2010). Yet, profiles reflecting the dynamic relationship specifically between the wish to live and the wish to die have not been generated in non-clinical populations. Knowledge on the response profiles reflecting these two motivations in non-clinical samples may help inform appropriate intervention strategies for community populations. For instance, whilst it is expected that most non-clinical participants have a predominant wish to live, there may be a minority indicating some risk. If this risk is more commonly reflected by an equal magnitude of the wish to live
and the wish to die, rather than a predominant wish to die, than interventions targeted at non-clinical populations may benefit from acknowledging the presence of an internal struggle. Additionally, knowledge of how the wish to live and the wish to die interact in non-clinical samples would provide a benchmark in which to compare the interaction of these two motivations in clinical samples. For instance, patients’ recovery trajectories could be tracked to examine whether their response profiles shift to reflect their non-patient counterparts, or whether they maintain higher residual risk.

In the present study, the first aim is to investigate what response profiles based on the two dimensions of the wish to live and the wish to die emerge in a non-clinical sample using latent profile analysis. In a non-clinical sample, one would predict that a larger number would endorse a predominant wish to live compared to outpatient and inpatient samples. However, given that in a large sample of 5,572 university students from 12 nations, 20% to 49% experienced some suicidal ideation (Eskin et al., 2016), one would also expect that some may experience a weak to moderate desire to die. If co-occurring with a similar strength wish to live, this would reflect suicidal ambivalence. This may yield three distinct groups: a strong wish to live group, an ambivalent group, and a weak-to-moderate wish to die group. If the co-occurring wish to live and wish to die are equally weak in magnitude this would reflect a disengaged profile rather than an ambivalent profile, considering that ambivalence would require at least a moderate degree of intensity (cf. Cacioppo, Gardner, & Berntson, 1997). To examine the validity of these response profiles, the second aim is to examine how the response profiles compare on indicators of suicidal risk and resilience.

Method

Participants. Undergraduate students (n = 336; aged 18 to 54 years, M = 21.4, SD = 5.6; 73% female) enrolled in a psychology unit completed an anonymous online
survey of risk and resilience factors while studying at university. The majority self-
identified as White, European-Australian (62.7%), followed by Asian (21.7%),
European (4.5%), Aboriginal/Torres Strait Islander (0.6%), and Other ethnicities
(10.5%). Five participants were removed as they only answered demographic questions,
and 13 participants were removed as they did not complete the questionnaire in the
classroom which was a condition of the study. Thus, 321 participant responses were
used to identify profiles based on the relative strength of their wish to live and wish to
die. The questionnaire had forced response options, meaning students had to answer all
items before proceeding to the next scale. Two participants did not answer any of the
Self-Injurious Thoughts and Behaviour questions but were included in the study.

**Procedure and measures.** Ethics approval was granted from the university’s
Human Resource Ethics Office. The survey was accessible for one week and was
completed within classrooms so that respondents could be supervised. Participants
could discontinue the survey and access a list of free mental health services at any time
or after completing the survey.

**Wish to live/Wish to die (Kovacs & Beck, 1977).** Suicidal ambivalence was
assessed with two items; “I wish to live to the following extent” and “I wish to die to the
following extent”, rated on a 9-point Likert scale from 0 (not at all) to 8 (very much).
These two items are embedded in the Suicide Status Form (SSF) used in the
Collaborative Assessment and Management of Suicidality treatment. In the present
study the responses for wish to live item ranged from 1 to 8 ($M = 7.1$, $SD = 1.4$) and the
responses for the wish to die item ranged from 0 to 8 ($M = 1.1$, $SD = 1.7$). Wish to live
demonstrated good psychometric properties, including convergent validity with several
existing measures of psychological wellbeing (e.g. The Flourishing Scale; Huppert &
So, 2013). Wish to die demonstrated good psychometric properties as well, including
convergent validity with existing measures of risk (e.g. Acquired Capability with Rehearsal for Suicide Scale; George, Page, Hooke, & Stritzke, 2016). As expected, the two items demonstrated discriminant validity with each other.

Self-injurious Thoughts and Behaviour Interview (SITBI; Nock, Holmberg, Photos & Michel, 2007). One question assessed suicide ideation frequency in the past year (“How many times have you thought about suicide?”), and one item assessed thoughts of non-suicidal self-harm (i.e., “Sometimes a person has thoughts of purposely hurting himself or herself without wanting to die, for example, cutting or burning”), both using the following response options (0) = Never, (1) = Once or twice a year, (2) = Once or twice a month, (3) = Once or twice a week, (4) = Three or four times a week, (5) = Almost every day. One item assessed lifetime history of suicide attempts (“How many times in your lifetime have you made an actual attempt to kill yourself in which you had at least some intent to die?”), with the following response options (0) = Never, (1) = Once, (2) = Twice, (3) = Three or four times, (4) = Five or more times, and one item assessed non-suicidal self-harm behaviours (i.e., “Purposely hurting yourself without wanting to die”). One item ensured that respondents clearly distinguished suicide attempts from suicide gestures (i.e., “Doing something to lead someone to believe you wanted to kill yourself when you really had no intention of doing so”). The SITBI has excellent test re-test reliability (average $\kappa = 0.70$) and moderate validity (Nock et al., 2007). In the present study it has good internal consistency ($\alpha = .74$)

The Flourishing Scale (Huppert & So, 2013). This 10-item scale assesses psychological wellbeing ($\alpha = .89$ in the present study). As the scale uses three different Likert scales, a Percent of the Maximum Possible Score (POMP; Cohen, Cohen, Aiken, & West, 1999) was computed and averaged across the separate percentages for each of the three Likert scales.
Interpersonal Needs Questionnaire-15 (INQ-15; Hill, Rey, Marin, Sharp, Green, & Pettit, 2015). The INQ-15 consists of six items measuring perceived burdensomeness (PB) and nine items measuring thwarted belongingness (TB) on a 7-point scale from 0 (Not at all true for me) to 6 (Very true for me) (e.g., ‘I think I make things worse for the people in my life’ and ‘I feel disconnected from other people’). The PB and TB subscales have excellent internal consistency (α = .85 - .90 and α = .81 - .87, respectively; Hill et al., 2015) which was replicated in the present study (α = .92 and α = .92, respectively).

Acquired Capability with Rehearsal for Suicide Scale (George, Page, Hooke, & Stritzke, 2016). This 7-item measure assesses fearlessness of death (two items), pain tolerance (two items), and mental rehearsal for suicide (three items) on a 9-point scale from 0 (Not at all) to 8 (Very strongly) (e.g., ‘I can tolerate much more pain than I used to’). The scale has good internal consistency (α = .91) and test-retest reliability (r = .85; George et al., 2016). The internal consistency of the present scale was good (α = .82).

Analytic approach. Latent profile analysis was conducted to identify the patterned response profiles of participants’ wish to live and wish to die. To address local maxima, specified 1,000 random sets of starting values, 50 iterations, and 100 final stage optimizations were specified (Muthén & Muthén, 2012). These starting values were subsequently doubled for the best fitting model to ensure the model did not reflect a local maximum. The best fitting model was chosen based on a number of fit indices, including: Akaike Information Criterion (AIC; Akaike, 1987), Bayesian Information Criterion (BIC; Schwartz, 1978), and the Sample Size-Adjusted Bayesian Information Criterion (aBIC; Sclove, 1987), in which lower values indicate a better fitting model. Class improvement was also compared using the Lo-Mendell-Rubin Likelihood Ratio Test (LMR LRT) and the Bootstrapped Likelihood Ratio Test (BLRT), with significant
results indicating that the current class is a better fitting model than the previous class (Nylund, Asparouhov, & Muthén, 2007). Class distinction was assessed by the entropy value, in which the value should approach one (Ramaswamy, Desarbo, Reibstein, & Robinson, 1993). While all fit indices are used to select the best fitting model, the BLRT has been found to be a consistent indicator of model fit (Nylund et al., 2007).

The latent profiles were labelled based on a priori criteria. A profile was considered ambivalent if the wish to live and the wish to die scores differed by two units or less. As there are no validated or universally agreed upon difference scores to define ambivalence the choice of two units was made to align with the literature (cf. Lento et al., 2013). If this criterion was met, a strong ambivalent profile required both scores to be greater than five, a moderate ambivalent profile required at least one of the scores to be one unit +/- the midpoint (i.e., 3-5), and a disengaged profile required both scores to be below three. A Strong Wish to Live profile required (a) the wish to live score to be equal to or greater than the midpoint (i.e., \( \geq 4 \)), (b) the wish to die score to be below the midpoint (i.e., \(< 4\)), and (c) for there to be equal to, or greater than, three units of difference between these scores. A Moderate Wish to Live profile required (a) the wish to live score to be equal to or greater than the midpoint, (b) the wish to die score to be below the midpoint, and (c) for there to be less than three units of difference between the desires, but greater than two units difference. A Weak Wish to Live profile required (a) both the wish to live and the wish to die to be below the midpoint, and (b) for there to be greater than two units difference between them, and for the wish to live to be stronger. The criteria for the strength of wish to die profiles were the reverse of those for the wish to live profiles.
Results

A two-class model revealed a Wish to Live-Strong profile (Class 1, \( n = 80.06\% \); \( M_{WTL} = 7.53, M_{WTD} = 0.40 \)) and an Ambivalent-Moderate profile (Class 2, \( n = 19.94\% \); \( M_{WTL} = 5.04, M_{WTD} = 3.81 \); Figure 2.1). Table 2.1 shows that the LMR LRT and the BLRT indicated the two-class solution was a better fit than the one-class solution. The entropy value showed excellent class distinction, and the non-significant LMR LRT value for the remainder of the solutions suggest that the maximum number of classes was reached (Nylund et al., 2007). Thus, among a non-clinical sample, the most common response profile (80.1%) reflected participants’ strong wish to live, whilst a smaller number of participants (19.9%) exhibited some moderate ambivalence between the wish to live and the wish to die.

Profiles were compared on measures reflecting the causal risk factors of the interpersonal theory of suicide (i.e., thwarted belongingness, perceived burdensomeness, and acquired capability), suicidal and self-injurious thoughts and behaviours, and flourishing (Table 2.2).
Table 2.1

Latent Profile Analysis: Summary of Fit Indices for the Non-Clinical Sample

<table>
<thead>
<tr>
<th>Classes</th>
<th>AIC</th>
<th>BIC</th>
<th>aBIC</th>
<th>Entropy</th>
<th>LMR LRT</th>
<th>BLRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-class</td>
<td>2376.68</td>
<td>2391.75</td>
<td>2379.07</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2-class</td>
<td><strong>2024.56</strong></td>
<td><strong>2050.93</strong></td>
<td><strong>2028.72</strong></td>
<td>0.93</td>
<td><strong>.047</strong></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>3-class</td>
<td>1929.09</td>
<td>1966.80</td>
<td>1935.04</td>
<td>0.94</td>
<td>.095</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>4-class</td>
<td>1821.00</td>
<td>1870.03</td>
<td>1828.80</td>
<td>0.96</td>
<td>.196</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; aBIC = sample size-adjusted Bayesian Information Criterion; LMR = Lo–Mendell–Rubin test; BLRT = Bootstrap Likelihood Ratio Test. **Bold** class indicates the best fitting model.

Table 2.2

Descriptive Statistics of the Wish to Live and the Ambivalent Profiles in the Non-Clinical Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wish to Live</th>
<th>Ambivalent</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  SD</td>
<td>M  SD</td>
<td>t(df)</td>
<td>p</td>
<td>g</td>
<td>95% CI</td>
<td></td>
</tr>
<tr>
<td>PB</td>
<td>3.90 14.74</td>
<td>13.23 9.57</td>
<td>-7.63(71.62)</td>
<td>&lt;.001</td>
<td>1.55</td>
<td>(-11.76, -6.89)</td>
<td></td>
</tr>
<tr>
<td>TB</td>
<td>12.35 9.52</td>
<td>24.34 10.05</td>
<td>-9.01(329)</td>
<td>&lt;.001</td>
<td>1.25</td>
<td>(-14.61, -9.37)</td>
<td></td>
</tr>
<tr>
<td>AC</td>
<td>2.59 1.55</td>
<td>4.90 1.73</td>
<td>-10.51(329)</td>
<td>&lt;.001</td>
<td>1.45</td>
<td>(-2.74, -1.87)</td>
<td></td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>0.61 0.81</td>
<td>2.05 1.48</td>
<td>-7.07(62.06)</td>
<td>&lt;.001</td>
<td>1.50</td>
<td>(-1.85, 1.04)</td>
<td></td>
</tr>
<tr>
<td>Suicide Attempt</td>
<td>0.12 0.46</td>
<td>0.57 1.01</td>
<td>-3.27(60.04)</td>
<td>&lt;.001</td>
<td>0.76</td>
<td>(-0.73, -0.18)</td>
<td></td>
</tr>
<tr>
<td>NSSI-Thoughts</td>
<td>0.48 0.78</td>
<td>1.59 1.54</td>
<td>-5.41(61.50)</td>
<td>&lt;.001</td>
<td>1.15</td>
<td>(-1.53, -0.72)</td>
<td></td>
</tr>
<tr>
<td>NSSI-Attempts</td>
<td>0.73 1.30</td>
<td>1.89 1.85</td>
<td>-4.46(66.92)</td>
<td>&lt;.001</td>
<td>0.82</td>
<td>(-1.68, -0.64)</td>
<td></td>
</tr>
<tr>
<td>Flourishing</td>
<td>68.29 15.86</td>
<td>49.97 19.62</td>
<td>6.99(85.55)</td>
<td>&lt;.001</td>
<td>1.10</td>
<td>(13.11, 23.53)</td>
<td></td>
</tr>
</tbody>
</table>

Note. PB = Perceived Burdensomeness; TB = Thwarted Belongingness; AC = Acquired Capability; NSSI-Thoughts = Non-Suicidal Self-Injurious Thoughts; NSSI-Attempts = Non-Suicidal Self-Injurious Attempts; df = degrees of freedom; g = Hedges g. If Leven’s test for Equality of Variances was violated, the violation was corrected by using the adjusted degrees of freedom.
Ambivalent-Moderate participants had significantly greater feelings of not belonging and of being a burden to others, and greater acquired capability than participants with the Wish to Live-Strong profile. Moreover, Ambivalent-Moderate participants experienced more suicidal and self-injurious thoughts, and endorsed more suicide attempts and self-injurious attempts than the Wish to Live-Strong participants. Conversely, the Wish to Live-Strong participants endorsed significantly higher levels of flourishing than Ambivalent-Moderate participants.

**Discussion**

The present study examined the dynamic balance of the wish to live and the wish to die in a non-clinical sample to identify response profiles. Most participants belonged to a profile reflecting a strong wish to live and weak wish to die, whilst almost one-fifth of the sample endorsed a wish to live and wish to die of equal, moderate magnitude. The two identified profiles were able to be distinguished on indicators of suicidal risk (e.g., thwarted interpersonal needs and acquired capability) and resilience (e.g., flourishing), with the ambivalent profile exhibiting heightened risk compared to the predominant wish to live profile.

The response profiles identified in the non-clinical sample supported our expectation that most non-clinical participants would have a predominant wish to live. Whilst a profile reflecting a predominant wish to die was not identified, 20% of the participants were moderately ambivalent. This sizable group of students exhibiting elevated risk is comparable to international trends, with almost 29% of students across 12 countries experiencing suicidal ideation in their lifetime (Eskin et al., 2016). Similarly, enrolled students are twice more likely to suicide than students who graduated from the same university, indicating that attending university is a period of
elevated risk (Lageborn, Ljung, Vaez, & Dahlin, 2017). Thus, the prevalence of suicidal ambivalent students in the present sample appears consistent with the increasing trends in suicide risk among students globally.

Ambivalent participants had higher levels of thwarted interpersonal needs and acquired capability than wish to live participants. The interpersonal theory of suicide posits that an individual is at the greatest risk of suicide if they experience these three factors in unison (Joiner, 2005), suggesting that ambivalent participants may have a heightened risk of partaking in suicidal related behaviour compared to wish to live participants. Indeed, ambivalent participants also had more suicide attempts in their lifetime compared to wish to live participants, with wish to live participants averaging zero suicide attempts in their lifetime and ambivalent participants averaging closer to one. This supports the notion that having conflicted motivations to live and to die is associated with a heightened risk state.

Alongside the heightened risk factors, ambivalent participants also reported significantly less flourishing than wish to live participants. As the ambivalent participants were characterized by a moderate wish to live, rather than strong, this reduction in flourishing may reflect a possible erosion of the wish to live that co-occurs with the heightened wish to die, as participants with a strong wish to live and weak wish to die had substantially higher levels of flourishing in comparison. That is, ambivalent individuals may feel ‘okay’, but not fully engage with a life perceived as worth living.

One key implication of the present study is that the high prevalence of ambivalent students suggests that this demographic is an important target for prevention. Programs aimed at university students may benefit from specifically screening for and addressing signs of suicidal ambivalence. For instance, motivational
interviewing for suicidal ideation (MI-SI) is a targeted therapeutic approach which has been argued to, in adjunct with evidence-based treatment, address suicidal ambivalence and help regain the motivation to live (Britton, 2015).

Another key implication is, given that ambivalent students do not appear to be prospering in life to their full potential, interventions targeted at this demographic may benefit if they focus on fostering wellbeing. Intervention programs which focus specifically on student wellbeing and resilience are an important aspect of student welfare (e.g., Drolet & Rodgers, 2010; Steinhardt & Dolbier, 2010). This makes sense, as students with depression and/or anxiety who were also flourishing in life had the lowest incidents of suicidal ideation, plans, and attempts (Keyes, Eisenberg, Perry, Dube, Kroenke, & Dhingra, 2012). Thus, helping students who exhibit elevated risk flourish in life may both foster their psychological wellbeing and diminish risk. This may help balance ambivalent students’ desire for life with their ability to flourish in life.

A limitation of the present study is the cross-sectional nature of the design, which does not permit conclusions on how the response profiles may change over time, or how students may shift between the identified profiles. Thus, it is unclear whether students remain relatively stable or fluctuate between profiles, for example during periods of elevated stress such as examinations. Further, the use of a psychology student sample means that findings may not be generalizable to the larger community. Future research should implement a longitudinal design to monitor potential changes in the magnitude and direction of students’ wish to live and wish to die, and should examine whether the present findings can be replicated in a community sample.

Future research should also monitor clinical samples’ wish to live and wish to die over time. By using the non-clinical sample’s response profiles as a baseline,
tracking patients’ response profiles over time would allow the patients’ recovery trajectories to be directly compared to their non-clinical counterparts. For instance, it would be possible to examine whether the profiles generated in the clinical sample reflect the non-clinical sample over time, or whether some maintain a profile reflecting elevated risk (i.e., a predominant wish to die). Given this, future research should implement a longitudinal design to monitor potential changes in the magnitude and direction of patients’ wish to live and wish to die.

Therefore, the aims of Study 2 were to use a multidimensional approach to examine the wish to live and the wish to die in an emergency care sample, and to use a longitudinal design to follow patient progress over time. By using latent profile analysis to generate profiles in Study 2, profiles generated in a clinical sample will be able to be directly compared to those generated in a non-clinical sample. As the cross-sectional nature of Study 1 did not allow us to examine the potential fluctuations in these two motivations over time, Study 2 will directly address this limitation by assessing the patients’ wish to live and wish to die at three- and six-month follow-ups, and observe how individuals shift between the generated profiles. This will allow us to identify whether some patients show increased risk of either maintaining or rebounding to a profile reflecting elevated risk, such as a predominant wish to die profile.
Chapter 3

STUDY 2: LATENT PROFILE AND LATENT TRANSITION ANALYSES OF THE WISH TO LIVE AND WISH TO DIE IN EMERGENCY CARE PATIENTS AT RISK OF SUICIDE
Latent Profile and Latent Transition Analyses of the Wish to Live and Wish to Die in Emergency Care Patients at Risk of Suicide

The findings of the previous study identified that most university students had a strong orientation towards life and weak orientation towards death, whilst almost one-fifth had a wish to live and wish to die of equal magnitude. Profile comparisons revealed the risky nature of an ambivalent mind frame, as ambivalent participants endorsed higher levels of thwarted interpersonal needs and lower levels of flourishing than participants with a predominant wish to live. The results of Study 1 therefore contributes to the literature an understanding of the dynamic relationship between the wish to live and wish to die in a non-clinical sample. Specifically, the emergence of an ambivalent profile shows that the wish to live and the wish to die can co-occur, which supports the theoretical premise that these two motivations occupy their own separate dimensions.

Support for the theoretical underpinning that the wish to live and the wish to die occupy their own dimensions also exists within clinical samples. Response profiles reflecting the dynamic balance between the wish to live and the wish to die in patient samples show a considerable proportion of patients have an equal magnitude of both desires (Corona et al., 2013; Lento, Ellis, Hinnant, & Jobes, 2013; O’Connor et al., 2012a; O’Connor et al., 2012b). Furthermore, independent examination of the wish to live and the wish to die with suicidal military personnel over an 18-month period showed that these two motivations were fluid and shifted independently of each other over time (Bryan, Rudd, Peterson, Young-McCaughan, & Wertenberger, 2016). These findings support the conceptualization that the wish to live and the wish to die occupy their own dimensions and thus transcend a unidimensional relationship. Yet, despite this evidence, clinical studies often use a unidimensional suicide index to generate response
profiles (cf. Corona et al., 2013; Lento et al., 2013; O’Connor et al., 2012a). This unidimensional approach inadvertently assumes that the wish to live and the wish to die occupy opposing poles of the same dimension, which restricts the ability for all possible response combinations reflecting these two motivations to be observed or distinguished.

Thus, the first aim of this study is to directly address this limitation by measuring the wish to live and the wish to die separately, and then use latent profile analysis to generate multidimensional wish to live and wish to die response profiles in a sample of emergency care patients considered at-risk of suicide at time of admission. This methodology will allow for the assumption that the two motivations occupy their own dimensions and thus will allow for all possible response combinations to be identified. Further, it will allow us to directly compare the identified profiles to those generated in the non-clinical sample. As patients in the present study had been admitted because of a suicide attempt and/or were endorsing suicidal ideation at admission, it is expected that many will have a predominant wish to die at intake, with fewer patients exhibiting risk perhaps through an ambivalent profile.

Despite evidence that the wish to live and the wish to die are able to shift independently of each other (Bryan et al., 2016), clinical studies examining the wish to live and the wish to die have often employed longitudinal designs with one major limitation: patients’ wish to live and wish to die were only assessed at treatment admission (Corona et al., 2013; Lento et al., 2013; O’Connor et al., 2012a). Whilst this allows examination of how initial profile membership relates to outcomes, it does not show how patients may shift between profiles over time. Tracking the relative balance of patients’ wish to live and wish to die may help identify whether particular recovery trajectories are associated with increased suicidal risk or resilience. For instance, brief cognitive behavioural therapy was associated with more reductions in suicidal
behaviour due to the strengthening of patients’ wish to live rather than the weakening of their wish to die (Bryan et al., 2016). Thus, monitoring and strengthening the wish to live may be an important component of risk management during recovery.

To address this limitation, the second aim of this study is to monitor patients over time and identify which response profiles reflecting the relative balance of the wish to live and the wish to die emerge at three- and six-month follow-ups, and to compare these to the non-clinical sample. Do patients during recovery return to a predominant strong wish to live profile similar to that found in the non-clinical sample, or will they experience a residual wish to die? In so doing, an aim is to investigate how individuals transition between profiles from hospital admission to six-month follow-up using latent transition analysis. Do patients show stability over time, or fluctuate between profiles? If strengthening the wish to live is particularly important during recovery (cf. Bryan et al., 2016) then the transition from a predominant wish to die profile into a predominant wish to live profile should be associated with an increase in general zest for life and a positive future outlook.

**Aim 1: Examine the Relative Balance of the Wish to Live and the Wish to Die in a Clinical Sample over a Six-Month Period**

**Method**

**Participants.** Emergency department patients ($N = 128$; 68% female) were recruited if they were admitted due to an acute suicide attempt or endorsed suicidal ideation. Age was recorded in age bands, with most participants aged 18-25 years (35.9%), followed by 25-34 years (26.6%), 35-44 years (16.4%), 45-54 years (12.5%), 55-64 years (7.0%), and 65-74 years (1.6%). A majority identified as Caucasian (86.7%), followed by East Asian (2.3%), Southeast Asian (2.3%), Aboriginal/Torres Strait Islander (0.8%), Black/African American (0.2%), or ‘Other’ (7.7%). Participants
had to be at least 18 years of age and were excluded if they did not speak English, showed severe cognitive impairment, or presented as intoxicated.

**Procedure and measures.** Ethics approval was granted from the university’s and the hospital’s ethics committees. Once individual treatment plans had been developed, patients were invited to take part in the study. If inclusion criteria were met and consent was provided, the patients completed a series of questionnaires. At three- and six-month follow-up, patients were contacted via telephone by the hospital’s Self-harm and Crisis Counselling Services or by the psychiatrist, who administered the follow-up questionnaires. Patients completed the same wish to live and wish to die questions and SITBI items as the non-clinical sample (Study 1), except the response time frame for the follow-up questions were modified as outlined below.

**Self-Injury and Suicidal Ideation (Nock, Holmberg, Photos, & Michel, 2007).** At follow-ups, frequency of suicidal and self-injurious thoughts in the past week was assessed from (0) = Never, (1) = Once, (2) = Two or three times, (3) = Four or five times, to (4) = Almost every day. Suicide attempts were assessed at follow-ups with respect to the time period since patients commenced the study.

**Depression and Anxiety (Lovibond & Lovibond, 1995).** Two seven-item subscales from the Depression Anxiety Stress Scales-21 assess depression and anxiety from 0 (Did not apply to me at all) to 3 (Applied to me very much, or most of the time). Both subscales have excellent internal consistency in a clinical sample (α = .97 and α = .92, respectively) and concurrent validity by their relationship with other measures of depression and anxiety (Antony, Bieling, Cox, Enns, & Swinson, 1998). Internal consistency of subscales in the present sample was good (α = .85 and α = .83, respectively).
Zest for Life (cf. Linehan, Goodstein, Nielsen, & Chiles, 1983). The Zest for Life scale contains five items adapted from the Survival and Coping Beliefs Subscale of the Reasons for Living Inventory. These five items were selected as they measure an individual’s positive future outlook and general zest for life over the past week. Additionally, the brevity of the measure was required given the brief nature of the patient’s follow-up assessments. Rated on a 9-point scale from 0 (Not at all) to 8 (Very strongly), example items include; ‘I have hope that things will improve and the future will appear happier’, ‘I believe I can find a purpose in life, a reason to live’ and ‘I have a love for life’. The internal consistency in the present study was excellent ($\alpha = .92$) and comparable to the full 23-item SCB-S ($\alpha = .97$).

Results

Of the 128 patients, one patient did not complete the wish to live or the wish to die items at hospital admission, but the patient did complete both items at the follow-up assessments. This patient was excluded from the analyses conducted at hospital admission, but was included in the analyses conducted at both follow-ups. Patients who were admitted for an acute suicide attempt and endorsed suicidal ideation did not significantly differ from the patients who endorsed suicidal ideation but had not been admitted for an acute suicide attempt, on either their wish to live ($M = 3.60; SD = 2.30$ and $M = 2.88; SD = 2.05$, respectively), $t(125) = -1.87, p = .06$, or their wish to die ($M = 6.09; SD = 1.96$ and $M = 6.01; SD = 1.93$, respectively), $t(125) = -.23, p = .82$.

The starting criteria, fit indices, and criteria to label profiles used in the latent profile analyses are the same as those used in the non-clinical sample. A four-class solution was the best fit for the data (Table 3.1). Unlike the non-clinical sample in which most endorsed a strong wish to live, Figure 3.1 shows that the overwhelming
majority (79.53%) endorsed a Wish to Die, either Moderate (Class 3, 34.65%; \( M_{WTL} = 5.81, M_{WTD} = 3.31 \)) or Strong (Class 4, 44.88%; \( M_{WTL} = 7.75, M_{WTD} = 2.41 \)). Some had an Ambivalent-Moderate profile (Class 2, 13.39%; \( M_{WTL} = 4.87, M_{WTD} = 3.71 \)) and a small number endorsed a Wish to Live-Weak (Class 1, 7.09%; \( M_{WTL} = 3.90, M_{WTD} = 1.57 \)). The BIC value was the lowest in the four-class solution and the BLRT value was significant, indicating this was the preferred solution (Nylund, Asparouhov, & Muthén, 2007). The subsequent reductions in AIC and aBIC values were only marginal (1030.35 to 1027.87 and 1026.21 to 1022.77, respectively) suggesting no meaningful difference in fit, and the significant LMR LRT indicated that the four-class solution was a better fit than the three-class solution.

Prior to the three-month follow-up, four patients died by suicide. These patients all belonged to the Wish to Die-Moderate class at hospital admission. Additionally, one patient failed to complete the relevant questionnaires, resulting in 123 respondents at three-months.

*Figure 3.1.* Latent profiles based on the mean ratings for the wish to live and the wish to die at hospital admission.
Table 3.1

*Latent Profile Analysis: Summary of Fit Indices at In-take, Three- and Six-Month Follow-Up*

<table>
<thead>
<tr>
<th>Model</th>
<th>AIC</th>
<th>BIC</th>
<th>aBIC</th>
<th>Entropy</th>
<th>LMR LRT</th>
<th>BLRT</th>
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</thead>
<tbody>
<tr>
<td><strong>In-take</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-class</td>
<td>1653.12</td>
<td>1664.53</td>
<td>1651.88</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2-class</td>
<td>1057.60</td>
<td>1077.51</td>
<td>1055.37</td>
<td>.84</td>
<td>.004</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>3-class</td>
<td>1054.42</td>
<td>1082.86</td>
<td>1051.24</td>
<td>.88</td>
<td>.062</td>
<td>.050</td>
</tr>
<tr>
<td>4-class</td>
<td><strong>1030.35</strong></td>
<td><strong>1067.33</strong></td>
<td><strong>1026.21</strong></td>
<td><strong>.93</strong></td>
<td><strong>.059</strong></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>5-class</td>
<td>1027.87</td>
<td>1073.37</td>
<td>1022.77</td>
<td>.88</td>
<td>.052</td>
<td>.088</td>
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<tr>
<td><strong>Three-months</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-class</td>
<td>898.36</td>
<td>909.61</td>
<td>896.96</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2-class</td>
<td>838.71</td>
<td>858.40</td>
<td>836.26</td>
<td>.94</td>
<td>.096</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>3-class</td>
<td><strong>816.95</strong></td>
<td><strong>845.07</strong></td>
<td><strong>813.45</strong></td>
<td><strong>.83</strong></td>
<td><strong>.498</strong></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>4-class</td>
<td>794.62</td>
<td>831.18</td>
<td>790.07</td>
<td>.85</td>
<td>.348</td>
<td>&lt;.001</td>
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<tr>
<td><strong>Six-months</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-class</td>
<td>899.24</td>
<td>910.46</td>
<td>897.81</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2-class</td>
<td>790.46</td>
<td>810.09</td>
<td>787.96</td>
<td>.98</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>3-class</td>
<td><strong>733.42</strong></td>
<td><strong>761.46</strong></td>
<td><strong>729.84</strong></td>
<td><strong>.96</strong></td>
<td><strong>.004</strong></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>4-class</td>
<td>726.54</td>
<td>763.00</td>
<td>721.86</td>
<td>.96</td>
<td>.025</td>
<td>.013</td>
</tr>
</tbody>
</table>

*Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; aBIC = sample size-adjusted Bayesian Information Criterion; LMR = Lo–Mendell–Rubin test; BLRT = Bootstrap Likelihood Ratio Test. Bold classes indicate the best fitting models.*
At three-month follow-up, a three-class solution was the best fit (Table 3.1). Compared to admission profiles, there was a clear shift towards patients endorsing a wish to live. That is, 93.50% of the sample now endorsed a Wish to Live, which for some was Moderate (Class 1, 28.46%; $M_{WTL} = 4.95$, $M_{WTD} = 2.84$) but for the majority was Strong (Class 2, 65.04%; $M_{WTL} = 6.37$, $M_{WTD} = 1.04$). Only a few individuals were characterised by a Wish to Die-Moderate (Class 3, 6.5%; $M_{WTL} = 6.21$, $M_{WTD} = 3.76$), which is in stark contrast to the nearly 80% at intake with either a moderate or strong Wish to Die profile. Compared to the two-class solution, the three-class model had better BIC, AIC, and aBIC values (Table 3.1). While the four-class solution had superior fit indices, it was rejected as one of the classes contained only two patients (1.63% of the sample; Hipp & Bauer, 2006).

At six-month follow-up, an additional patient did not complete the questionnaire, resulting in 122 respondents. Similar to the three-month follow-up, a three-class solution was the best fit for the data (Table 3.1). Again, the overwhelming majority were characterised by a Wish to Live-Strong (Class 3, 79.51%; $M_{WTL} = 6.31$, $M_{WTD} = 0.97$; Figure 3.2). Some belonged to an Ambivalent-Moderate profile (Class 2, 13.11%; $M_{WTL} = 4.99$, $M_{WTD} = 3.24$) and a small minority endorsed a Wish to Die-Strong (Class 1, 7.38%; $M_{WTL} = 3.11$, $M_{WTD} = 6.44$). The three-class solution contained the lowest BIC value, and the BLRT value was significant (Nylund et al., 2007). The reduction in AIC and aBIC values following the three-class solution were marginal (733.42 to 726.54 and 729.84 to 721.86, respectively), and the LMR LRT demonstrated that the three-class solution was a better fit than the two-class solution.
Aim 2: Examine the Longitudinal (6 month) Transition of Patients between Profiles Following Discharge from Hospital using Latent Transition Analysis

Results

Latent transition analysis provides information on the probability of individuals moving between discrete stages over time (Lanza & Bray, 2010). As such, the best fit models identified by the latent profile analyses were used to assess how individual patients transitioned between the classes from hospital admission to six-month follow-up.

Of the 122 patients remaining at six-month follow-up, all but 26 endorsed a wish to live \((N = 95)\), and these patients could be classified into three transition patterns. Most \((N = 71)\) identified a wish to die at emergency department in-take, but transitioned to endorse a wish to live at both three- and six-month follow-ups. A smaller number \((N = 17)\) endorsed ambivalence at initial intake, but transitioned to a wish to live profile at both three- and six-month follow-ups. A minority \((N = 7)\) appeared to resolve their...
crisis at time of admission and identified a wish to live at all three time points. One patient who did not complete the wish to live and the wish to die items at hospital admission belonged to a wish to live profile at both follow-ups.

Of the remaining 26 patients, 17 endorsed ambivalence at six months and nine endorsed a wish to die. For the 17 ambivalent patients three transition patterns emerged: most ($N = 14$) shifted from a wish to die profile at intake to a wish to live profile at three months, and then shifted to an ambivalent profile at six months. A minority ($N = 2$) endorsed a wish to live at both intake and three months, but transitioned to an ambivalent profile at six months, and one patient endorsed a wish to die at both intake and three months, but transitioned to an ambivalent profile at six months. Lastly, for the nine patients who endorsed a wish to die at six months two transition patterns emerged: those who transitioned from a wish to die at intake to a wish to live at three months, but then back to a wish to die at six months ($N = 7$), and those who maintained a wish to die during all three assessments ($N = 2$).

The transition probability matrix (Table 3.2) shows that only patients endorsing a strong wish to die at intake showed an elevated probability of endorsing a moderate wish to die at three months, whereas for the other three profiles this probability was zero. However, even for the strong wish to die patients at intake, the greatest probability was to endorse a strong wish to live at three months, although this was much lower than for the three less severe intake profiles. If a patient endorsed a moderate wish to die at three months, the probability of endorsing a moderate wish to die also at six months more than doubled compared to the earlier probability of initially transitioning from a Wish to Die-Strong profile at initial intake to a Wish to Die-Moderate profile at three months.
Patients were then combined into three groups based on their profile at the six-month final assessment: recovery group (patients who endorsed a wish to live), non-recovery group (patients who endorsed a wish to die), and ambivalent group. Using one-way analyses of variance (ANOVA’s) and the Games-Howell test for post hoc analyses
due to unequal sample sizes, we examined what variables distinguished the groups from intake to follow-up.

Table 3.3 shows that groups differed in suicidal ideation, non-suicidal thoughts of self-injury, and suicide attempts, with the effect sizes of these differences increasing five- to ten-fold from intake to the six-month follow-up. The recovery group showed a large decline in those risk variables over time, whereas the ambivalent group showed a lesser decline, and the non-recovery group showed a more dynamic pattern of an initial decline followed by an increase. Conversely, while there were no significant differences in zest for life at in-take, the groups significantly differed in zest at the follow-ups, with the effect size of those differences increasing six-fold by the three-month follow-up, and further increasing by six months to an over 15-fold difference compared to the time of admission to emergency care. The recovery group’s zest for life was nearly twice as high as that of the non-recovery group at six months, with the ambivalence group reporting an intermediate level of zest.
Table 3.3

*Descriptive Statistics of the Recovery, Non-Recovery, and Ambivalent Profiles at all Assessment Periods*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Recovery N = 95</th>
<th>Non-Recovery N = 9</th>
<th>Ambivalent N = 17</th>
<th>F (df = 2, 120)</th>
<th>$\eta^2_{\text{partial}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td><strong>In-take</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>15.86</td>
<td>4.63</td>
<td>18.67</td>
<td>2.00</td>
<td>16.47</td>
</tr>
<tr>
<td>Anxiety</td>
<td>11.68</td>
<td>5.48</td>
<td>17.88b</td>
<td>2.64</td>
<td>11.81</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>2.78</td>
<td>1.51</td>
<td>3.89</td>
<td>1.27</td>
<td>3.35</td>
</tr>
<tr>
<td>Suicide Attempts</td>
<td>1.82</td>
<td>1.18</td>
<td>1.78</td>
<td>1.48</td>
<td>2.12</td>
</tr>
<tr>
<td>NSSI-Thoughts</td>
<td>1.52</td>
<td>1.49</td>
<td>2.89</td>
<td>2.09</td>
<td>1.47</td>
</tr>
<tr>
<td>NSSI-Attempts</td>
<td>2.08</td>
<td>1.73</td>
<td>2.33</td>
<td>1.80</td>
<td>2.06</td>
</tr>
<tr>
<td>Zest for Life</td>
<td>3.26</td>
<td>2.26</td>
<td>2.09</td>
<td>1.62</td>
<td>2.30</td>
</tr>
<tr>
<td><strong>Three months</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>0.75a</td>
<td>1.06</td>
<td>2.00</td>
<td>1.50</td>
<td>2.35a</td>
</tr>
<tr>
<td>Suicide Attempts</td>
<td>0.08</td>
<td>0.35</td>
<td>0.56</td>
<td>1.33</td>
<td>0.12</td>
</tr>
<tr>
<td>NSSI-Thoughts</td>
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<td>0.76</td>
<td>1.00</td>
<td>1.58</td>
<td>0.82</td>
</tr>
<tr>
<td>NSSI-Attempts</td>
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<td>0.82</td>
<td>0.44</td>
<td>1.33</td>
<td>0.41</td>
</tr>
<tr>
<td>Zest for Life</td>
<td>5.66a</td>
<td>1.14</td>
<td>4.04</td>
<td>2.05</td>
<td>4.41a</td>
</tr>
<tr>
<td><strong>Six months</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidal Ideation</td>
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<td>0.74</td>
<td>2.78</td>
<td>1.20</td>
<td>2.35</td>
</tr>
<tr>
<td>Suicide Attempts</td>
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<td>0.22</td>
<td>0.44</td>
<td>0.12</td>
</tr>
<tr>
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<td>1.89a</td>
<td>1.62</td>
<td>0.94</td>
</tr>
<tr>
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<td>0.44</td>
<td>1.33</td>
<td>0.53</td>
</tr>
<tr>
<td>Zest for Life</td>
<td>5.96b</td>
<td>0.83</td>
<td>3.09</td>
<td>1.68</td>
<td>4.29</td>
</tr>
</tbody>
</table>

*Note. NSSI-Thoughts = Non-Suicidal Self-Injurious Thoughts; NSSI-Attempts = Non-Suicidal Self-Injurious Attempts; Recovery = patients with a stronger wish to live at six-months; Non-Recovery = patients with a stronger wish to die at six-months; Ambivalent = patients with wish to live and wish to die of equal moderate magnitude at six-months.

* overall main effect at $p < .05$; ** overall main effect at $p < .001$.

*a Significant difference from one other group; b Significant difference from both groups.
Discussion

The present study aimed to identify response profiles reflecting the relative strength of the wish to live and the wish to die in an emergency care sample. Most emergency care patients at admission endorsed a moderate-to-strong wish to die, with one in five endorsing either an ambivalent or weak wish to live profile. Monitoring the patients’ wish to live and wish to die over a six-month period showed that for only a small minority of patients (7.4%) did the relative balance between the wish to live and the wish to die remain stable. That is, seven had resolved their crisis at intake and maintained a wish to live profile at all three time points, and only two patients maintained a wish to die at all three assessments. All others reported changes, with most (79.5%) transitioning to a strong wish to live by the six-month follow-up, which is comparable to the proportion of participants in the non-clinical sample who reported a strong wish to live (80%). Some variable transition patterns included setbacks after initial gains, and tragically, four patients with a moderate wish to die profile at intake had died by suicide prior to the three-month follow-up.

Most patients (79.5%) endorsed a predominant wish to die at hospital admission. The prevalence of patients’ belonging to a wish to die profile in the present study is considerably larger than the prevalence of patients’ belonging to a predominant wish to die profile in non-emergency sample studies, in which the wish to die profiles varied from 11.5% to 42.5% of the samples (Brown et al., 2005; Corona et al., 2013; Lento et al., 2013; O’Connor et al., 2012a; O’Connor et al., 2012b). In comparison, the present study aligns closely with the only other emergency care sample study, in which 68.4% of the patients belonged to a predominant wish to die profile (Kovacs & Beck, 1977). Thus, the acute, emergency presentation of suicide risk in emergency care departments lead to higher instances of patients experiencing a strong orientation towards death.
Whilst there were only a few patients in the wish to live profile at hospital admission, *all* patients who endorsed a wish to live at admission continued to endorse a wish to live at both follow-up assessments, and this desire continued to strengthen. Thus, being more orientated towards life at hospital admission suggests a good longer-term recovery trajectory, even if this orientation towards life is only weak. Moreover, if patients transitioned towards endorsing a strong wish to live by the three-month follow-up there was a 91% probability that they would continue to endorse a strong wish to live at six months, regardless of their initial profile. This suggests that early recovery of a predominant wish to live (i.e., within three months) bolsters the probability of maintaining gains over time.

Even if the moderate wish to live was balanced by a similar strength wish to die at hospital admission this appears to serve a protective function. Prospective transition probabilities show that patients in the moderate ambivalent profile at hospital admission had a 94% probability of transitioning to the Wish to Live, Strong profile at three months, and a zero probability of transitioning to the predominant wish to die profile. This indicates that ambivalence may be instrumental for facilitating early and steady progress toward recovery.

Whilst most hospitalized patients had positive recovery trajectories such that the proportion of those with a predominant wish to live profile at the six-month follow-up mirrored those in the non-clinical sample (i.e., 80%), patients with a *strong* wish to die at admission had the highest likelihood of maintaining a wish to die at three months, whilst all four patients who died by suicide prior to three-month follow-up had endorsed a moderate wish to die. Clearly, any imbalance in the direction of a wish to die at hospital admission flags the highest risk and may be considered a suicide warning sign. Compared to suicide risk factors, suicide warning signs signal proximal or imminent
suicidal risk rather than longer-term risk (Rudd et al., 2006). In the current emergency care sample, patients were twice more likely to belong to the wish to die profile at six months if they belonged to a wish to die profile at three months.

Of the three groups at six months (i.e., recovery, non-recovery, and ambivalent), the recovery group had greater zest for life than both the non-recovery and ambivalent group at all time points. Thus, patients who regain or maintain a predominant wish to live appear to be more fully engaged with life following discharge from emergency care. By contrast, both the ambivalent and non-recovery group decreased in zest for life between three- and six-months. The non-recovery group had the least zest, whilst the ambivalent group’s zest was in-between the non-recovery and recovery group.

In addition to greater zest for life, the recovery group had lower ideation scores than both the non-recovery and ambivalent group on all occasions. This suggests that, alongside a greater engagement with life, recovered patients also spend less time thinking about wanting to die. Specifically, whilst the recovery group reduced their ideations to an average of ‘once’ in the past week by three months, respondents in both the non-recovery and ambivalent group endorsed ideations on average ‘two or three times’ during the past week. Thus, any ideation scores greater than once per week three months post discharge may signify a heightened risk of either maintaining or shifting towards a wish to die or ambivalent profile.

These findings have important clinical implications. First, differences in the relative balance of the wish to live and the wish to die at hospital admission and during recovery were associated with different risk and recovery trajectories. An imbalance toward a moderate-to-strong wish to die at hospital admission is a warning sign, as those patients had a higher probability of maintaining a stronger imbalance towards
death or dying by suicide during the three months post discharge. These patients should be closely monitored during follow-up care until their response profile has shifted toward a greater orientation towards life and has remained stable.

Second, the trajectories of change following discharge showed that some patients returned to a predominant wish to die profile after showing signs of recovery. Thus, more frequent monitoring beyond the immediate post discharge period (i.e., beyond three months post discharge) is also critical to identify the small minority of patients who show signs of a renewed imbalance towards death relative to life. In particular, those with suicidal ideation more than once per week and who show signs of disengaging from life should be monitored closely.

Third, most patients with a greater orientation towards death shifted toward having a greater orientation towards life at six-month follow-up. Zest for life appeared instrumental in the recovery process, with the effect size of differences in zest between recovered and non-recovered patients increasing over 15-fold between admission and six months. This indicates that risk management should be broadened beyond a predominantly risk-orientated approach to provide more frequent and ongoing support for re-engaging patients with aspects in their life that make life worth living again. This is especially critical for those belonging to a wish to die profile at admission.

Fourth, all ambivalent patients at hospital admission had a greater orientation towards life at three-month follow-up, with 94% endorsing a strong wish to live. This suggests that ambivalence can be a first step toward re-aligning with their desire for life. Patients who shifted to endorse ambivalence at six months (13%) had zest for life scores between those in the recovery and non-recovery groups, but their suicidal ideation scores more closely aligned with their non-recovery counterparts. Thus, whilst
ambivalence may be a step in the right direction, ambivalent patients still require
similarly close monitoring as those with a predominant wish to die, and more assistance
in fostering an engagement with life than those with a predominant wish to live.

The current findings need to be interpreted with some limitations in mind. First,
the limited sample size of the non-recovery group may have impacted the ability to
identify some significant between-group differences. Second, whilst the longitudinal
design provided information pertaining to class movement over time, the assessments
were not frequent enough to capture potentially critical changes which may occur well
before the first three-month follow-up, or to detect short-term volatility in daily
fluctuations in the balance of the wish to live and the wish to die. For example, daily
monitoring of inpatients’ distress levels can help inform readiness for discharge based
on clinically meaningful change (Page, Cunningham, & Hooke, 2016). Thus, future
research should assess the wish to live and the wish to die more frequently to examine
whether fluctuations in a brief period can provide additional information pertaining to
patient risk and recovery.

The aim of Study 3 was to use again a multidimensional approach to examine
the wish to live and the wish to die in an inpatient sample and to implement a
longitudinal design with a different temporal precision. The tri-monthly assessments in
Study 2 provided knowledge on the longer term recovery trajectories of patients,
however, it did not capture the potentially more fluid daily changes in the wish to live
and the wish to die. If these two motivations shift within a three-day period, this
information may help provide real-time feedback to clinicians and help inform
treatment interventions. Thus, Study 3 will address this by monitoring psychiatric
inpatients’ wish to live and wish to die daily over a three-day period, and observe how
individuals shift between profiles over this time.
Chapter 4

STUDY 3: DAILY MONITORING OF THE WISH TO LIVE AND THE WISH TO DIE WITH SUICIDAL INPATIENTS
Daily Monitoring of the Wish to Live and the Wish to Die with Suicidal Inpatients

A striking aspect of suicide is that the rates of successful attempts are dramatically smaller than those of suicidal thoughts (Klonsky, May, & Saffer, 2016). Contemplating, mulling over, and considering plans to end one’s life mostly do not result in a fatal outcome. That people can have repetitive and intrusive thoughts about killing themselves, even with an intense wish to die, but without acting on it, points to the existence of potentially restraining factors. As outlined by Bryan (2019), one such factor is the wish to live. As he and others have noted, a wish to live is not the bipolar opposite of a wish to die (Bryan, Rudd, Peterson, Young-McCaughan, & Wertenberger, 2016; Kovacs & Beck, 1977). The wish to live and wish to die are partially independent constructs, such that circumstances can arise so a moderate or even intense wish to live can co-occur with an elevated wish to die. The co-occurrence of these two wishes pits competing motivations against one another, leading to a state of ambivalence.

An ambivalent motivational space is uncomfortable and impels a resolution with one competing desire winning out. For example, an approach-avoidance conflict is an ambivalent state which is ultimately resolved by an action in one direction or the other (Corr, 2013). Thus, the ambivalent motivational state when both the wish to live and wish to die are elevated is not a permanent mode of being. Rather, it is inherently unstable and dynamic. As such, the concept of ambivalence is eminently compatible with fluid vulnerability theory (Rudd, 2006). This theory draws attention to the dynamic nature of suicidal risk; observing that the probability of transition from suicidal ideation to action is not solely a function of a trait-like property of the individual or the environment, but varies as a function of variable factors. Fluid vulnerability theory is
not necessarily incompatible with the existence of enduring diatheses, but it highlights the importance of understanding risk and resilience factors that raise and lower the probability of suicidal action.

Understanding the dynamic balance between the wish to live and wish to die has promise as a unique predictor of suicide risk status (Brown, Steer, Henriques, & Beck, 2005). The present chapter will summarize an investigation of this interplay in samples at different levels of suicide risk tested across time. The time period in these samples will first be months, but then, the temporal focus will shift to the level of days. The first aim is to examine response profiles reflecting differences in the dynamic balance of the wish to live and the wish to die, and to determine whether the identified profiles differ on their level of suicidal risk and resilience. The second aim is to examine how the dynamic balance of the wish to live and the wish to die may shift over time.

The first sample used cross-sectional data from a large non-clinical sample of university students (Study 1). This provides a baseline against which shifts in the dynamic balance of the wish to live and the wish to die in high-risk clinical samples can be compared.

The second sample included patients recruited from an emergency care department with elevated suicide risk at the time of admission (Harrison, Stritzke, Fay, & Hudaib, 2018; Study 2). These patients had been admitted because of a suicide attempt, or had reported suicidal ideation at intake. The relative strength of the wish to live and wish to die were assessed at intake and then re-assessed three and six months following discharge.

Analyses of response profiles are then presented in a sample of psychiatric inpatients. Specifically, the patients’ wish to live and wish to die was monitored over a period of three days following the first day on which a patient had reported suicidal ideation.
The Dynamic Balance of the Wish to Live and the Wish to Die in a Non-Clinical Sample

Using latent profile analyses, Study 1 found that the most common latent profile (80%) of the relative strength of university students’ wish to live and wish to die reflected a strong orientation towards life and a weak orientation towards death. This was unsurprising as one would expect that a relatively healthy sample of young people would be characterized by a wish to live. However, in the remaining one-fifth of the sample, a moderately strong wish to live was matched by a comparable wish to die. These ambivalent participants reported both more suicidal risk and less psychological wellbeing than their predominant wish to live counterparts. That is, ambivalent participants had elevated levels of perceived burdensomeness (i.e., feeling they are a burden on others), thwarted belongingness (i.e., feeling they do not belong), and acquired capability for suicide (George, Page, Hooke, & Stritzke, 2016). The interpersonal theory of suicide posits that the simultaneous endorsement of these three constructs signals an elevated risk of suicide (Joiner, 2005). Compared to the wish to live participants, ambivalent participants also exhibited reduced psychological wellbeing as indicated by lower scores on a scale of flourishing (cf. Huppert & So, 2013).

In sum, when the wish to live is assessed alongside the wish to die in a non-clinical sample, the dynamic balance between the two is characterized by a predominant wish to live in four of five participants. But equally important, and equally non-surprising given increasing evidence that university students are at particularly high risk for suicidal thoughts and behaviours (e.g., Lageborn, Ljung, Vaez, & Dahlin, 2017), one in five of the participants had a balanced latent profile indicating moderately strong
suicidal ambivalence. There was no latent profile reflecting a predominant wish to die, or a disengaged profile, where participant report very low or zero levels in both the wish to live and the wish to die. The absence of this latter profile is interesting, because it suggests that generally people in a non-clinical population are not neutral or disengaged about life or death. Rather, to the extent that the balance between the two is dynamic, this variability occurs with at least some level of intensity one way or the other or as tension between the two motivational forces.

**The Dynamic Balance of the Wish to Live and the Wish to Die in Emergency Care Patients**

In contrast to the non-clinical population, the most common (80%) latent response profile among emergency care patients who were at high acute risk of suicide at hospital admission reflected a strong orientation towards death and weak orientation towards life (Study 2). The remainder had either a moderate ambivalent profile (13%) or a weak wish to live profile (7%). It is noteworthy that, like in the non-clinical sample, no disengaged profile emerged where both the wish to live and the wish to die were very low. The same patients were re-assessed three and six months after discharge. After three months, their wish to live and wish to die response profiles showed both a growing wish to live and a weakening wish to die. Importantly, at the six-month follow-up, the percentage of patients (80%) endorsing a strong wish to live and a weak wish to die was comparable to the percentage of individuals with the same predominant wish to live profile in the non-clinical sample. Thus, after a six-month recovery period, most people in the previously suicidal group had a similar level and relative balance of the wish to live and the wish to die as a non-suicidal group. However, a minority of people continued to report a strong desire to die, or a moderate desire to die with a co-occurring
moderate desire to live. It is important to consider the level of potential suicidal resilience among these different groups.

By six months, patients with a strong wish to live and weak wish to die reported the highest levels of zest for life (cf. Harrison, et al., 2018; Linehan Goodstein, Nielsen, & Chiles, 1983). In contrast, those who still had a strong predominant wish to die reported the lowest levels of zest for life, with the ambivalent patients reporting intermediate levels of zest for life. Thus, a gradual shift in the dynamic balance of the wish to live and the wish to die in favour of a strengthening and consolidation of a predominant wish to live is reflected in a broader strengthening of zest for and hence re-engagement with life.

So far, recent findings of differences in the dynamic balance of the wish to live and the wish to die across a non-clinical and an acute emergency care sample have been summarized, as well as changes in this relative balance over a six-month period in the clinical sample. Next, the relative strength of the wish to live and the wish to die among a psychiatric inpatient sample will be examined, but over a three day period. An inpatient sample provides the opportunity to have daily contact with a patient and thus allows the dynamic nature of the wish to live and the wish to die to be examined with a different degree of temporal resolution capturing short-term fluidity and stability.

**Daily Monitoring of the Wish to Live and the Wish to Die in an Inpatient Setting**

A psychiatric inpatient sample is arguably different to both an emergency care and non-clinical sample because inpatients are deliberately removed from daily life stressors, where the inpatient stay, in Australia, can be a few weeks in duration (Australian Institute of Health and Welfare, 2018). In contrast, patients considered at-risk of suicide in an emergency department are only provided a temporary reprieve
whilst the decision is made regarding the best course of action. In Australia, 72% of patients spent four hours or less in the emergency department (Australian Institute of Health and Welfare, 2017), with the average stay of mental health or suicidal patients between five and six hours (Fry & Brunero 2004). Thus, whilst patients presenting to an emergency department are often discharged within the same day, psychiatric inpatients can be provided ongoing intervention in an environment temporarily removed from external life stressors. This ‘time out’ does not only provide a reprieve from the daily grind of ongoing hassles and distress, but also from the pressure of making immediate decisions or the need to urgently resolve the current crisis. As such, response profiles of the dynamic balance of the wish to live and the wish to die in an inpatient sample may also include some that reflect this disengaged state of mind. Accordingly, unlike in non-clinical samples and those in acute, ambulatory clinical care, one would expect some proportion of inpatients to endorse both a weak desire to live and weak desire to die (i.e., temporarily disengaged from thinking about life or death). Of course, for some an inpatient admission may be particularly distressing and thus their admission may not be perceived as a removal from external stressors.

One benefit of using an inpatient sample is the opportunity of having daily contact with patients. As mentioned earlier, fluid vulnerability theory (FVT) posits that suicide risk is inherently dynamic and waxes and wanes over time (Rudd, 2006). Therefore, suicide risk and protective factors should be monitored regularly (Bryan & Rudd, 2016). As such, the wish to live and the wish to die were monitored across a daily interval for three days to examine the potential stability and variability of the inpatients’ relative balance in both desires. This three-day monitoring period was triggered on the first day a patient reported suicidal ideation during their inpatient stay.
While it is not yet clear what the optimal temporal resolution for monitoring may be, daily monitoring of inpatients’ suicide ideations for a week yielded five overarching ideation profiles representing either stability or different trajectories of change in ideation scores, and the greatest fluctuations occurred immediately after elevated suicidal ideation (Restifo, Kashyap, Hooke, & Page, 2015). Further, endorsing strong ideations for two-consecutive days resulted in an increased risk of self-harming behaviour (Restifo et al., 2015), relative to a profile in which the suicidal ideation dropped over this two day period. Thus, whilst the sensitivity of change of inpatients’ wish to live and wish to die is currently unknown, it appears reasonable that daily monitoring for a brief period of time may be sufficient in identifying both the stability and the variability of inpatients’ self-reported wish to live and wish to die.

Patients were first allocated to one of four possible response profiles reflecting a two-dimensional matrix based on the relative strength of their wish to live and wish to die (cf. Kovacs & Beck; 1977). By assuming a multidimensional relationship between the wish to live and wish to die it was possible to examine the potentially independent changes of both desires over time.

The first aim was to investigate the patients demonstrating stability, by examining those who remained in the same response profile for three consecutive days. Patients with stable profiles were compared on their level of psychological distress, suicidal ideation, and psychological wellbeing. Since inpatients’ levels of distress and wellbeing are reliable indicators of functioning (Newnham, Hooke, & Page, 2010; Page, Cunningham, & Hooke, 2016) and predictors of self-harming behaviour (Restifo et al., 2015), the clinical relevance of particular profiles in this motivational space were examined. First, the relationship between the variables of interest and the two imbalanced profiles (i.e., strong wish to live and weak wish to die group, or strong wish
to die and weak wish to live group) were examined to see how the two profiles compared on indicators of risk and wellbeing. It would be expected that those with a strong, predominant wish to live would exhibit less risk and greater wellbeing than those with a strong, predominant wish to die. Next, the relationship between the variables of interest and the two balanced profiles (i.e., Ambivalent and Disengaged) were examined to identify how patients with an equal magnitude of both desires (but of varying intensity) compare, and also to examine how the imbalanced and balanced profiles compared. Little is known about the distinctions between ambivalent and disengaged patients. It may be that disengaged patients represent less risk due to having a ‘time out’ which permits them a moment’s pause from the inner turmoil that ambivalent patients experience, or, it may be that disengaged patients represent heightened risk by virtue of ‘dropping out of life’, whilst ambivalent patients may be more strongly attached to life.

The second aim was to investigate the patients demonstrating variability in the wish to live and wish to die, that is, patients who shifted between response profiles over the three days. Evidence suggests that the wish to live and the wish to die are sensitive to change over long periods of time (Bryan et al., 2016; Study 2), however it remains uncertain as to whether patients’ wish to live and wish to die fluctuate in a meaningful way over briefer periods. If patients do shift between profiles, we aimed to assess whether trajectories of change indicate improvement by patients shifting directly towards a predominant wish to live (in a similar manner to the emergency department patients had studied over a six month period), or whether patients transition through one of the two balanced profiles (i.e., ambivalent and disengaged) as an intermediate step before they transition towards a greater desire for life. Alternatively, intermediate
balanced profiles may indicate a continued fluid recovery status with an equal or greater probability of dropping back to a predominant wish to die profile.

**Method**

**Participants**

Patients were recruited from a private psychiatric hospital. The present sample was selected from the total number of inpatients admitted between 15 January 2017 and 15 July 2017 (N = 1,043). To be selected, patients were required to have three day minimum admissions and they had to answer questions pertaining to their current wish to live and wish to die. The final sample consisted of 602 patients with an average age of 36.81 (SD = 15.66), and most identifying as female (69.9%). The mean length of stay was 18.38 days (SD = 13.13). Over half of the sample were single (56.8%), followed by married/de facto (30.9%), divorced/separated (11.0%), and widowed (1.3%). The most common principal diagnosis was an affective disorder (47.3%), followed by an anxiety or stress disorder (18.6%), personality disorder (8.3%), a substance use disorder (6.8%), and the remainder had other disorders.

**Procedure and Measures**

Ethics approval was obtained from the Human Research Ethics Board. All patients admitted to the psychiatric inpatient hospital were invited to answer a question assessing their suicidal ideation over the past 24 hours; “I have thoughts about killing myself”, assessed on a 6-point scale from 0 (At no time) to 5 (All of the time), which is an item part of the DI-5. If a patient endorsed any score equal to or greater than one (i.e., experiencing at least some suicidal ideation) they were prompted to indicate their current wish to live and wish to die (e.g., “my wish to live has been” and “my wish to die has been”). Both items were assessed on a 4-point scale from 0 (None) to 3 (Strong). This scale is reduced compared to the 9-point scale used in the previous
studies as it was already being administered in the inpatient clinic. Patients were requested to complete these two items for the duration in which they endorsed suicidal ideations, and for the two days following their discontinued endorsement. Patients answered these questions as part of a daily assessment monitoring patient progress via electronic tablet devices available in their room. The wish to live and the wish to die items were included to assess the strength of these desires only among people who had endorsed suicide ideation to reduce the burden of assessment on patients generally.

**DI-5 Daily Index (Dyer, Hooke, & Page, 2014).** This five-item scale measures affective psychological distress in the preceding 24 hours. The items include feelings of depression, anxiety, worthlessness, not coping, and thoughts about killing one’s self. The DI-5 has excellent internal consistency (Day 1 - $\alpha = 0.86$; Day 7 – $\alpha = 0.89$), test-retest reliability, validity, and demonstrated sensitivity to change within an inpatient sample (Dyer et al., 2014). The ideation item from the general distress scale was removed to avoid confounding of the two constructs. This yielded a four-item general distress index and a single suicide-specific ideation rating. All items were rated on a 6-point scale from 0 (At no time) to 5 (All of the time), with higher scores indicating higher frequencies. The four-item distress index had good internal consistency at Time 1, Time 2, and Time 3 ($\alpha = 0.77$, $\alpha = 0.83$, $\alpha = 0.85$), which was comparable to the internal consistency achieved by the full DI-5 index ($\alpha = 0.79$, $\alpha = 0.85$, $\alpha = 0.87$) and the published reliability (Dyer et al., 2014).

**WHO-5 Wellbeing Index (Bech, Gudex, & Johansen, 1996; Newnham, Hooke, & Page, 2010).** This five-item scale measures positive wellbeing over the past 24 hours, including feelings of cheerfulness, calmness, freshness, feeling active, and belief that life is filled with interesting things. Rated on a 6-point scale from 0 (At no time) to 5 (All of the time), higher scores indicate greater wellbeing, with a score of 11
or higher indicating positive wellbeing in an inpatient sample (Newnham et al., 2010). This scale has good internal consistency ($\alpha = 0.89$), validity, and demonstrated sensitivity to change within an inpatient setting (Newnham et al., 2010).

**Results**

Little’s Missing Completely at Random analysis (Little, 1988) showed that cases were missing completely at random for the Wish to Die items [$\chi^2(8) = 8.13; p = 0.42$], the Wish to Live items [$\chi^2(8) = 3.15; p = 0.92$], and the suicidal ideation item [$\chi^2(5) = 7.32, p = .20$]. It also showed items were missing completely at random for the DI-4 scale [$\chi^2(5) = 5.23, p = 0.38$] and the WHO-5 scale [$\chi^2(7) = 6.75; p = 0.45$].

Expectation maximization was used to impute missing data.

Patients were distributed into four profiles based on the relative strength of their wish to live and wish to die (cf. Kovacs & Beck, 1977). Scores of two and three were defined as ‘strong’, and scores of zero and one were defined as ‘weak’. Since wish to live and wish to die are the dimensions, the term *Strong Wish to Live* will refer to people with high scores on the wish to live item and low scores on the wish to die item. Likewise, *Strong Wish to Die* will describe people with high scores on the wish to die item and low scores on the wish to live item. The two remaining profiles are *Ambivalent* (with high ratings on both the wish to live and wish to die items) and *Disengaged* (with low ratings on both items).

On the first day that inpatients endorsed suicidal ideation (i.e., Time 1) 313 patients were classified in the Strong Wish to Die profile, 138 patients in the Strong Wish to Live profile, 85 patients in the Disengaged profile, and 66 patients in the Ambivalent profile.
Comparing Patients who Remain Stable in One of the Four Response Profiles on Variables of Distress, Suicidal Ideation, and Wellbeing

Nearly 62% of the sample (N = 391) remained stable in their profile for three consecutive days. The largest group had a Strong Wish to Die profile (N = 197), followed by patients with a Strong Wish to Live profile (N = 111), and two smaller groups of patients with a Disengaged profile (N = 39) or an Ambivalent profile (N = 24). These groups were compared on indicators of suicidal risk and wellbeing.

**Psychological Distress.** Mean distress scores for each of the four stable profile groups are shown in Figure 4.1. A 4 (profile groups) × 3 (time) mixed model ANOVA showed there was a significant main effect of group, \( F(3, 367) = 104.94, p <.001, \eta^2_{\text{partial}} = .46 \). The Stable Wish to Die group reported the most distress, whilst the Stable Wish to Live group reported the least distress, with the Stable Ambivalent group and the Stable Disengaged group reporting intermediate distress levels. The two extreme groups were significantly different in distress from the two intermediate groups and from each other, whereas the two intermediate groups did not significantly differ in distress on any of the three days (\( p = .805, p = .678, p = .269 \), respectively). There was also a significant main effect for time, \( F(1.91, 699.91) = 25.25, p <.001, \eta^2_{\text{partial}} = .06 \), with a general trend of groups showing some decrease in distress. There was no significant group by time interaction, \( F(5.72, 699.91) = 0.56, p = .750, \eta^2_{\text{partial}} = .01 \).
Suicidal Ideation. Mean suicidal ideation scores for each of the four stable profile groups are shown in Figure 4.2. A 4 (profile groups) × 3 (time) mixed model ANOVA showed there was a significant main effect of group, $F(3, 367) = 223.76, p < .001$, $\eta^2_{\text{partial}} = .65$, such that the Stable Wish to Die group reported the highest level of suicidal ideation and the Stable Wish to Live group reported the lowest level. However, unlike for distress scores where the Stable Ambivalent and Stable Disengaged groups had similar intermediate scores, the Stable Ambivalent group had significantly higher suicidal ideation scores than the Stable Disengaged group at each of the three time points (see Figure 4.2). In fact, the suicidal ideation scores of the Stable Disengaged group were not significantly different from the Stable Wish to Live group on any of the three days ($p = .927, p = .246, p = .082$, respectively), whereas the suicidal ideation

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

Figure 4.1. Mean difference scores representing distress levels for each stable group across three days.

Note. WTD = Stable Wish to Die Group; AMB = Stable Ambivalent Group; DIS = Stable Disengaged Group; WTL = Stable Wish to Live Group.
scores for the Stable Ambivalent group were closer to the Stable Wish to Die group than to the Stable wish to Live group (see Figure 4.2). Thus, based on the suicidal ideation scores, the Stable Ambivalent group was associated with a significantly higher risk than the Stable Disengaged group which was similarly low to the Stable Wish to Live group.

There was also a significant group by time interaction, $F(5.89, 720.62) = 2.98, p = .007, \eta^2_{\text{partial}} = .02$. To investigate this interaction further, the effect of time was examined separately for each group. Both the Stable Wish to Die group [$F(2, 392) = 42.79, p < .001, \eta^2_{\text{partial}} = .18$] and the Stable Wish to Live group [$F(2, 220) = 28.10, p < .001, \eta^2_{\text{partial}} = .20$] significantly decreased in suicidal ideation over the three days. In contrast, both the Stable Ambivalent group [$F(1.58, 36.40) = 2.47, p = .109, \eta^2_{\text{partial}} = .10$] and the Stable Disengaged group [$F(2, 76) = 0.61, p = .548, \eta^2_{\text{partial}} = .02$] showed no change in their ideation levels.

![Figure 4.2](image.png)

*Figure 4.2.* Mean difference scores representing suicidal ideation levels for each stable group across three days.

*Note.* WTD = Stable Wish to Die Group; AMB = Stable Ambivalent Group; DIS = Stable Disengaged Group; WTL = Stable Wish to Live Group.

* $p < .05$. ** $p < .01$. *** $p < .001$. 
While this would suggest a good risk prognosis for patients in the Stable Disengaged group given that their ideation scores are low and not different from the Stable Wish to Live group, the risk profile for patients in the Stable Ambivalent group is more uncertain. Although their ideation scores are lower than those from the Stable Wish to Die group on each of the three days, they remain at that heightened level, whereas the ideation scores for the Stable Wish to Die group show a steady decrease over time.

**Psychological Wellbeing.** Mean psychological wellbeing scores for each of the four stable profile groups are shown in Figure 4.3. A 4 (profile group) x 3 (time) mixed model ANOVA showered there was a significant main effect of group, $F(3, 367) = 41.18, p < .001, \eta^2_{\text{partial}} = .25$, such that the Stable Wish to Live group reported the most psychological wellbeing and the Stable Wish to Die group reported the least psychological wellbeing. Although the Stable Ambivalent group had higher wellbeing scores than the Stable Disengaged group on each of the three days, this was not significant ($p = .058, p = .503, p = .681$). However, it is noteworthy that the higher wellbeing scores of the Stable Ambivalent group were similar to the high scores of the Stable Wish to Live group ($p = 1.00, p = .167, p = .265$), and the lower wellbeing scores of the Stable Disengaged group were generally more similar to the low wellbeing scores of the Stable Wish to Die group ($p = .340, p = .034$, and $p = .110$, respectively) (see Figure 3). Thus, based on the psychological wellbeing scores, the ambivalent patients appear to be faring better than the disengaged patients whose wellbeing is similarly low as in those with a predominant wish to die.

There was also a significant group by time interaction, $F(5.24, 640.65) = 5.25, p < .001, \eta^2_{\text{partial}} = .04$. To investigate this interaction further, the effect of time was once more examined separately for each group. The Stable Wish to Die group [$F(1.75,
343.25) = 15.54, $p < .001$, $\eta^2_{\text{partial}} = .07$], the Stable Wish to Live group [$F(1.80, 198.37) = 18.45, p < .001$, $\eta^2_{\text{partial}} = .14$] and the Stable Disengaged group [$F(1.40, 53.29) = 4.76, p = .22$, $\eta^2_{\text{partial}} = .11$] all increased their wellbeing levels over the three days. Only the Stable Ambivalent group did not show any significant change, $F(1.23, 28.20) = 0.90, p = .37$, $\eta^2_{\text{partial}} = .04$. Thus, whilst the Stable Ambivalent group had comparable wellbeing levels to the Stable Wish to Live group, it was the Stable Disengaged group which demonstrated a consistent increase in wellbeing.

In sum, ambivalent and disengaged patients reported similar levels of intermediate distress, but ambivalent patients were higher in suicidal ideation, yet also showed a trend for higher wellbeing which did not change over time. In contrast, there was some steady increase in wellbeing over the three days within the disengaged patients. This pattern is consistent with the hypothesis that ambivalent patients’
heightened wish to live, which balances out a simultaneously heightened wish to die, is experienced as a positive step and hence moderate level of wellbeing. On the other hand, this degree of wellbeing, like the level of suicidal ideation scores, remained precariously poised and unchanging over the three days in the ambivalent group, whereas wellbeing steadily improved in the disengaged group. This suggests that an ambivalent profile is perhaps a more uncertain state, whereas for the disengaged profile change may be steadier and less volatile.

**How do Patients Shift between the Four Profiles over the Three-Day Period?**

Whilst many (61.6%) patients remained stable in their profile across the three days, a substantial number (38.4%) shifted between profiles during this time. First, the aim is to examine the transition patterns of patients who were in one of the two imbalanced profiles at Time 1 (i.e., the Strong Wish to Die profile and the Strong Wish to Live profile).

Figure 4.4 shows that of the 313 patients in the Strong Wish to Die profile at Time 1, only 34 (10.9%) transitioned to the Strong Wish to Live profile by Time 3, indicating there is a low probability of patients with a predominant wish to die shifting to a profile reflecting a predominant wish to live in only three days. Of the 77 patients who showed an *early* shift away from the Strong Wish to Die profile (i.e., at Time 2), 24 (31.2%) transitioned to the Strong Wish to Live profile at Time 3. Alternatively, of the 39 patients who showed a *late* shift away from the Wish to Die profile (i.e., at Time 3), 10 (25.6%) transitioned to the Strong Wish to Live profile. Thus, whilst the overall likelihood of shifting from a Strong Wish to Die profile at Time 1 to a Strong Wish to Live profile at Time 3 was low, the earlier the shift the greater the odds. However, a late
shift away from the Strong Wish to Die profile was still beneficial to about one in four patients.

**Figure 4.5** shows that of the 138 patients in the Strong Wish to Live profile at Time 1, only two (1.4%) ended up in the Strong Wish to Die profile at Time 3. Thus, substantially fewer patients transitioned from the Strong Wish to Live profile to the Strong Wish to Die profile than vice versa. Of the 18 patients who showed an early shift away from the Strong Wish to Live profile (i.e., at Time 2), more than twice shifted back to the Strong Wish to Live profile at Time 3 ($N = 8$; 44.4%) compared to maintaining or shifting to the Strong Wish to Die profile ($N = 4$; 22.2%). Alternatively,
of the nine who showed a *late* shift away from the Strong Wish to Live profile (i.e., at Time 3), only two (22.2%) ended up in the Strong Wish to Die profile. Thus, whilst any shift away reduced the likelihood of a patient ending up in the Strong Wish to Live profile, there remained a greater probability of them returning to the Strong Wish to Live profile compared to shifting to the Strong Wish to Die profile.

**Time 1**

- **WTL (N = 12)**
  - AMB (N = 1)
  - DIS (N = 10)
  - WTD (N = 7)

**Time 2**

- **WTL (N = 9)**
  - AMB (N = 0)
  - DIS (N = 7)
  - WTD (N = 2)

- **AMB (N = 1)**
  - AMB (N = 0)
  - DIS (N = 0)
  - WTD (N = 1)

- **DIS (N = 10)**
  - WTL (N = 5)
  - AMB (N = 0)
  - DIS (N = 4)
  - WTD (N = 1)

- **WTD (N = 7)**
  - WTL (N = 3)
  - AMB (N = 1)
  - DIS (N = 1)
  - WTD (N = 2)

**Time 3**

**Figure 4.5.** Flow chart showing the trajectory of change of patients who endorsed a strong wish to live and weak wish to die at time one.

*Note.* WTL = Wish to Live; AMB = Ambivalent; DIS = Disengaged; WTD = Wish to Die.

Next, the aim is to examine what happens when patients with a greater orientation towards life or death shift towards one of the two intermediate profiles (i.e., Ambivalent or Disengaged). Figure 4.4 shows that of the 28 patients (8.9%) who shifted from the Strong Wish to Die profile to the Disengaged profile at Time 2, five times more shifted to the Strong Wish to Live profile at Time 3 than back to the Strong Wish
to Die profile ($N = 5; 17.9\%, N = 1; 3.6\%$, respectively). Conversely, of the 22 patients who shifted from the Strong Wish to Die profile to the Ambivalent profile at Time 2, only two shifted to the Strong Wish to Live profile at Time 3 whereas nine returned to the Strong Wish to Die profile. Thus, a shift to the Disengaged profile has a better prognosis than a shift to the Ambivalent profile.

An analogous pattern of results was found when examining patients in the Strong Wish to Live profile, as half of the 10 patients who shifted to the Disengaged profile at Time 2 returned to the Strong Wish to Live profile at Time 3, but only one shifted to the Strong Wish to Die profile (see Figure 4.5). Only one patient from the Strong Wish to Live profile shifted to the Ambivalent profile at T2, and this patient transitioned to the Strong Wish to Die profile at Time 3. Thus, these pattern of results suggest that a disengaged profile is a more stable intermediate profile on the transition towards life than an ambivalent profile, which is more precariously fluid and volatile in its progress.

Lastly, the aim is to examine the transition patterns of patients who belong to either the Ambivalent profile (see Figure 4.6) or Disengaged profile (see Figure 4.7). Although patients in the Ambivalent or the Disengaged profile at Time 1 had an almost equal probability of shifting to the Wish to Live profile by Time 3 (33.3\% and 35.3\%, respectively), twice as many ambivalent patients shifted to the Strong Wish to Die profile at Time 3 compared to disengaged patients (19.7\% and 9.4\%, respectively). Thus, this is consistent with the notion that disengaged patients have a better prognosis in terms of recovery pattern than ambivalent patients, regardless of whether the disengagement was a starting or intermediate profile.
Figure 4.6. Flow chart showing the trajectory of change of patients who endorsed a strong wish to live and strong wish to die at time one. 

Note. WTL = Wish to Live; AMB = Ambivalent; DIS = Disengaged; WTD = Wish to Die.

Figure 4.7. Flow chart showing the trajectory of change of patients who endorsed a weak wish to live and weak wish to die at time one. 

Note. WTL = Wish to Live; AMB = Ambivalent; DIS = Disengaged; WTD = Wish to Die.
Discussion

Inpatients were distributed into one of four profiles based on the relative strength of their wish to live and wish to die: Strong Wish to Live, Strong Wish to Die, Ambivalent, and Disengaged. Most (61.6%) patients remained stable in their profile over three days, with the majority belonging to the Stable Strong Wish to Die profile. This is not unexpected for an inpatient sample, given that potential harm to self is often a particularly salient consideration when opting for a psychiatric inpatient admission. Despite profile stability being the most common pattern, over one-third of patients shifted between the profiles over three days.

Toward a Multidimensional and Fluid Conceptualization of Suicidal Desire

It is important to note that the patients’ wish to live and wish to die scores were distributed across the entire bi-dimensional motivational space, and hence yielded four distinct profiles. These profiles reflected different degrees of either reciprocal activation of desires where one was dominant over the other, or co-activation of desires where both desires were present at equal magnitude. Furthermore, along this co-activation axis, patients differed on whether the two desires where balanced at a high degree of intensity (ambivalence) or at a low degree of intensity (disengagement; cf. Cacioppo, Gardner, & Berntson, 1997). This supports the theoretical premise that the wish to live and the wish to die should be considered in conjunction and conceptualized as separate dimensions (cf. Bryan et al., 2016). Indeed, together with the evidence for an ambivalent profile in non-clinical and emergency care samples reviewed earlier in the chapter, the present findings of psychiatric inpatients with both ambivalent and disengaged profiles, confirm that a solely risk-centric approach, which only monitors a person’s wish to die and disregards the strength of a person’s concurrent wish to live, is
not only theoretically untenable, but potentially detrimental to best practice in patient care and risk prevention. These advances in our understanding of the importance of a life-oriented approach to managing risk in suicidal individuals are also much more aligned with the lived experience perspective (Ellis & Bryan, 2019; Davidow & Mazel-Carlton, 2019). That is, a long overdue paradigm shift is needed from the narrow focus on death and dying to a more balanced approach which meets the need of at-risk individuals to find the support and means to nourish their wish to live and re-engage with their life as worth living, while respecting their experience of a simultaneous wish to die.

In addition to being multidimensional, suicidal desire is dynamic and fluid. It is dynamic because the relative strength of the wish to live and the wish to die can vary over time, and it is fluid because shifts in the relative balance can occur over periods of months or days, and likely even hours. This is particular pertinent when the wish to live and the wish to die are balanced at equal levels of intensity. Inspection of the ambivalent and disengaged patients shows that distinguishing these two presentations is clinically meaningful. In terms of risk, the disengaged patients not only had less suicidal ideation than their ambivalent counterparts, but their ideation levels were similarly low to those with a strong wish to live. Using cut-off scores for the suicidal ideation items established by Restifo and colleagues (2015) to predict self-injury from daily monitoring of temporal trajectories of suicidal ideation, the suicidal ideation scores of both the disengaged and ambivalent patients are associated with a lower risk of subsequent self-injury (4%) compared to patients with a Strong Wish to Die profile (18%). This is despite ambivalent patients having similarly high wish to die scores as Strong Wish to Die patients! Moreover, the ideation scores for the disengaged and ambivalent patients were below the threshold of three on the scale, which classified
them as “remitting” patients, in contrast to the Strong Wish to Die group who were above this threshold, which classified them as ‘non-remitting” patients (for cut-off scores, see Restifo, Kashyap, Hooke, & Page, 2015).

Although the ambivalent patients reported higher levels of suicidal ideation than the disengaged patients, they also reported higher levels of wellbeing. This is consistent with the notion that ambivalence is experienced with some level of volatile intensity between competing states. This combination of higher suicidal ideation and higher wellbeing, with the latter remaining stable over the three days, contrasted with the disengaged patients who had lower suicidal ideation along with lower wellbeing, but their wellbeing was increasing to a moderate level over the three days. Thus, the motivational balance for ambivalent patients occurs at a higher level of intensity which might make the balance more precarious as a weakening in one dimension could quickly intensify the impact of the already strong and then predominant weight of the other. In contrast, the low intensity motivational balance for disengaged patients is consistent with a timeout from the struggle. As such, the more gradual increase in wellbeing from low levels is perhaps a promising sign of the inpatient stay facilitating a slow but gradual recovery from an overwhelming crisis state.

Examination of the recovery trajectories over time also showed that of the two balanced profiles suicidal ambivalence is a more fluid and transient state. Only 36% of ambivalent patients remained in this profile for the full three days, whereas more of the disengaged patients (46%) maintained their respective profile during the three days.

Encouragingly, when ambivalent patients did shift away from their conflicted state, more transitioned towards life (i.e., Strong Wish to Live profile; 33%) than towards death (i.e., Strong Wish to Die profile; 20%). Disengaged patients showed a
similar pattern of movement towards life (35%), but compared to the proportion of ambivalent patients who had transitioned to a Strong Wish to Die profile, less than half did so from a disengaged profile (20% versus 9%, respectively). Hence, more patients in the Ambivalent and Disengaged profile transitioned toward life compared to death, but those with an ambivalent profile were at greater risk of shifting toward a predominant wish to die profile. This suggests again that ambivalent patients are more precariously fluid in their recovery than disengaged patients.

The same pattern of ambivalence being associated with a more precarious fluid risk trajectory, and disengagement with a more gradual and steady shift toward a Wish to Live Profile, was apparent when examining the trajectories of those patients who had a Strong Wish to Die profile at Time 1, but had shifted to one of the two balanced profiles at Time 2. If the shift was to the Ambivalent profile, patients were four times more likely to revert back to the Strong Will to Die profile than to move to the Strong Wish to Live profile. In contrast, if the shift was to the Disengaged profile, patients were five times more likely to shift the Strong Wish to Live profile than to revert back to the Strong Wish to Die profile.

Whilst the disengaged patients appeared to be on a more promising short-term trajectory than the ambivalent patients, the patients who had a Strong Wish to Live profile, as expected, reported the lowest level of suicidal ideation and highest level of psychological wellbeing. Moreover, 80% of the Strong Wish to Live patients remained stable in their profile for the three days. For the few that did shift away, patients who started in the Strong Wish to Live profile had a higher probability than any other patients to re-align with their initial profile.
In stark contrast, patients who maintained a Strong Wish to Die profile (63%) had the highest level of suicidal ideation and the lowest level of psychological wellbeing compared to the other stable groups. Based on published cut-off scores for daily inpatient monitoring of suicidal ideation (Restifo et al., 2015), patients with a stable Strong Wish to Die profile over a period of at least two consecutive days have the highest risk of self-harm. The study did not distinguish self-harm with and without the intent to die.

A limitation of the present study is the small sample sizes for two of the four groups (Disengaged and Ambivalent), however, it may be that this is an accurate reflection of the prevalence of these presentations in an inpatient sample. Further, the large number of trajectories of change resulted in small percentages of patients transitioning via particular patterns, meaning results needed to be described rather than analytically evaluated. Future studies need to further examine these response profiles in an inpatient sample to examine whether the present results are able to be replicated.

Conclusions

There is now growing and compelling evidence that the longstanding practice of conceptualizing and monitoring suicidal desire only as the strength of the wish to die, without regard to also enquiring about a potentially competing wish to live, is neither theoretically sound nor clinically aligned with the experience of at-risk individuals or suicidal patients. The relative strength of the wish to live and the wish to die is variable, and changes in this relative balance are associated with different trajectories of risk and resilience. It is therefore essential to pay greater attention to the patients’ struggle to (re)engage with a life worth living and the need to shore up their wish to live, despite a wish to die that for some remains ever present (notwithstanding health professionals’
anxiety to eliminate it in their clients). Importantly, this multidimensional approach to understanding the dynamic interplay of risk and resilience aligns well with meeting the needs of those with lived experience who advocate for a more collaborative, patient-centered approach, where the suicidal person can have the space and support to find ways of keeping alive, and wanting to do that for themselves.
Chapter 5

GENERAL DISCUSSION
General Discussion

To advance our knowledge on suicidal risk it is critical that research conceptualises and monitors suicidal desire as the dynamic relationship between both the wish to live and the wish to die, rather than a risk-centric approach of focusing solely on the desire for death. The present dissertation aimed to advance our knowledge on the dynamic relationship between the wish to live and the wish to die by: (i) adopting the theoretical underpinning that these two motivations occupy their own distinct dimensions, (ii) examining the dynamic balance between these two motivations across both non-clinical and clinical settings, and (iii) examining the stability in and fluidity in these two motivations across both days and months. The current research showed the critical importance of monitoring both the wish to live and the wish to die, as well as patients’ (re)engagement with life during recovery. The findings of the present dissertation thus have both theoretical and applied implications, as they further advance our knowledge on the measurement and monitoring of suicidal risk and may also help inform best-practice prevention and intervention strategies.

Patients’ Shift through a Bi-Dimensional Motivational Space is often towards a Greater Wish to Live and a Strengthening of Resilience Factors

Monitoring changes in patients’ wish to live and wish to die in the psychiatric inpatient ward and the emergency care department showed that patients shifted towards a growing desire to live in both the short term and the longer term. In just three days, the number of inpatients in the strong wish to live profile increased by nearly half (see Figure 5.1). Monitoring of the emergency care patients’ wish to live and wish to die following discharge showed most patients shifted from a profile reflecting a predominant wish to die at hospital admission (79.5%) to an equally large profile
reflecting a predominant wish to live at six-month follow-up (79.5%; see Figure 5.2). In fact, the number of people endorsing a strong wish to live response profile at six months mirrored the number of university students endorsing a predominant, strong wish to live (80%; see Figure 5.3). Thus, in both a period of days and months the patient samples showed evidence of transitioning through the bi-dimensional motivational space towards a greater will to live, with patients’ longer term trajectories reflecting a non-clinical sample.

**Figure 5.1.** The prevalence of inpatients in each of the four profiles at first assessment (top panel) and third assessment (bottom panel).

**Figure 5.2.** The prevalence of emergency care patients in each of the four profiles at intake (top panel) and six-month follow-up (bottom panel).
As patients transitioned towards a greater orientation towards life, their strengthening will to live was associated with a strengthening of resilience factors. In the emergency care sample, one of the largest effect sizes at six-month follow-up was zest for and engagement with life ($\eta^2_{\text{partial}} = .47$). The importance of engaging with a life worth living during recovery coincides with the lived experiences of people who recovered their desire to live following suicidality, or learnt to live with their suicidality, as a common theme identified was connection in the world (Lakeman & FitzGerald, 2008). That is, (re)connecting with others, culture, and spirituality gave meaning to life and was seen as imperative during recovery, whilst detachment from others and the community was found to be a shared experience of those who attempted suicide (Lakeman & FitzGerald, 2008). In fact, a systematic review and narrative synthesis of 87 studies which examined the recovery processes of people with mental health diagnoses identified five overarching themes relating to the recovery process: connectedness, hope and optimism about the future, identity, meaning in life, and
empowerment (Leamy, Bird, Boutillier, Williams, & Slade, 2011). Thus, emergency care patients’ strengthening their engagement with and zest for life following discharge from emergency care is consistent with the literature, which shows that engaging with a life worth living is an important component of recovery.

The benefits of patients having a stronger orientation towards life is further emphasised when focusing on those who maintained a greater will to live. In the inpatient sample, those who maintained a predominant, strong wish to live profile for three days had the highest psychological wellbeing and the lowest suicidal ideation compared to the three other profiles. In fact, these strong wish to live inpatients also strengthened their wellbeing and reduced their suicidal ideation levels during the three day period. In the emergency care sample, all patients who endorsed a predominant wish to live at hospital admission continued to endorse a wish to live at follow up assessments, and this desire continued to strengthen. Together, this suggests that even during times of adversity having a greater orientation towards life is associated with stronger wellbeing and weaker risk factors, as well as good trajectories of change over time. This coincides with findings in which reductions in suicidal behaviour among military personnel was more associated with treatment strengthening their wish to live rather than weakening their wish to die (Bryan, Rudd, Peterson, Young-McCaughan, & Wertenberger, 2016).

Together, these patterns of results show that as patients shift through the bi-dimensional motivational space (whether this is following discharge from emergency care or during an inpatient admission) their wish to live and wish to die response profiles reflect a transition towards a predominant wish to live. Further, having a greater orientation towards life was associated with a strengthening of resilience factors and a weakening of suicidal risk factors. These good trajectories of change following acute
risk aligns with the Golden Gate Bridge study, in which 515 suicide attempters were retrospectively examined 26-plus years later, and almost 94% were still alive or had died of natural causes (Seiden, 1978). That is, the overwhelming majority resolved their suicidal crisis towards life, just as identified in the present dissertation.

The specific trajectories of change of ambivalent and disengaged patients show that having a competing wish to live and wish to die of equal magnitude (regardless of intensity) could be viewed as a transitory step on the journey towards a strengthening will to live. That is, in the emergency care sample, all ambivalent patients at hospital admission had a predominant wish to live by three-month follow-up, which was maintained at six months. In the inpatient sample, over one-third of ambivalent and disengaged patients transitioned to the strong wish to live profile by Time 3. Thus, an equal magnitude of both desires appears to be a temporary transitional period as a patient shifts towards a greater will to live, in both the short term and the longer term. This good transition pattern towards a wish to live is positive for the small number (N = 17) of emergency care patients who transitioned towards an ambivalent profile at six-month follow-up, as it suggests that most of these ambivalent patients will eventually (i.e., within three months) shift away from their conflicted state and transition through the bi-dimensional motivational space towards a growing wish to live. As the present dissertation found that one-in-five university students had an ambivalent profile, future studies should examine whether ambivalent students have the same good recovery trajectories, given that, unlike with the patient samples, students are not provided the same suite of care options.
Ambivalence and Disengagement represent their own Unique Change Trajectories and Risk and Wellbeing Profiles

While the ambivalent and disengaged patients often transitioned towards a greater wish to live, the present dissertation showed that their shift through the bi-dimensional space and the risk and wellbeing profiles of these two presentations are not equal.

In terms of trajectories of change, the disengaged patients had more beneficial trajectories than their ambivalent counterparts. That is, whilst a similar proportion of ambivalent and disengaged inpatients shifted to the strong wish to live profile by Time 3, over twice as many ambivalent patients shifted to the strong wish to die profile compared to disengaged patients. In fact, when patients with a strong wish to die at Time 1 shifted to ambivalence at Time 2, they were four times more likely to rebound back towards a strong wish to die rather than shift towards a strong wish to live. In contrast, when patients with a strong wish to die at Time 1 shifted to disengagement at Time 2, they were five times more likely to shift towards a strong wish to live rather than shift towards a strong wish to die. Thus, patients with a strong inner conflict have a higher likelihood of shifting towards a greater desire to die compared to patients with a weak or non-existent inner conflict.

When the inpatient findings are interpreted alongside the emergency care findings, that ambivalent patients’ one-in-five chance of tipping towards a wish to die in the short term decreases in likelihood in the long term, as ambivalent patients appear to stabilise over time and resolve their crisis towards a stronger wish to live (as none of the ambivalent patients at hospital admission reported a stronger orientation towards death at follow-up assessments). Suicidal ambivalence thus appears to be a state of temporary
inner conflict which, whilst clearly facilitating most patients towards a predominant wish to live, may precariously tip one-in-five patients towards a wish to die in the short term.

The notion of ambivalence being a precarious state aligns with the lived experience of people with recurrent suicide attempts, as these people were described as making decisions regarding living and dying ‘on a moment to moment basis’ (Bergmans, Gordon, & Eynan, 2017, pp. 638). That is, they were described as living in a state of uncomfortable tension between life and death, which was summarised as the conflict between ‘deciding not to die in the moment’ (i.e., enduring life in times of extreme distress) and ‘deciding to live in the moment’ (i.e., making a conscious decision to shift towards life; Bergmans et al., 2017). Ambivalent people being described as living in a state of uncomfortable tension may explain why the ambivalent profile in the inpatient study was the least stable of all profiles (i.e., only 36% of inpatients maintained their ambivalent profile over the three days, compared to 46% of the disengaged inpatients, 63% of the wish to die inpatients, and 80% of the wish to live inpatients). Thus, the present dissertation suggests that (i) most ambivalent patients will not maintain their concurrent strong desire for life and strong desire for death even for a brief period of time and (ii) more ambivalent patients than disengaged patients will shift towards a greater orientation towards death.

Inspection of the ambivalent and disengaged patients’ risk and resilience profiles further show that it is clinically meaningful to distinguish patients based on the intensity of their competing wish to live and wish to die. In terms of risk, ambivalent inpatients had higher levels of suicidal ideation than disengaged inpatients, who had similarly low levels of suicidal ideation as the wish to live inpatients. In the emergency care sample, the ambivalent patients had similarly high risk variables (i.e., suicidal ideation) to those
with a strong wish to die, and in the university sample the ambivalent students had significantly higher suicidal risk variables (i.e., thwarted interpersonal needs and acquired capability) than those with a strong wish to live. Together, this suggests that ambivalent people, regardless of whether the ambivalence is moderately or strongly inclined, have risk variables more similar to people with a strong wish to die and weak wish to live compared to people with a strong wish to live and weak wish to die. In sum, as the moderate-to-strong ambivalent respondents had higher scores on risk variables than the predominant wish to live respondents in all three studies, it suggests that ambivalence cannot be considered a low-risk presentation.

In terms of wellbeing, the ambivalent inpatients reported higher levels of psychological wellbeing than their disengaged counterparts, who had comparatively low levels of wellbeing as those with a predominant wish to die. This suggests that the low intensity of motivational balance for disengaged patients was not only associated with reduced symptomology (i.e., suicidal ideations) but was also associated with a reduced sense of wellbeing. Thus, whilst disengaged patients may be ‘safer’ than ambivalent patients, those who are disengaged are clearly not thriving in life. Whilst ambivalent inpatients may have had promising wellbeing scores, in the other two studies, the ambivalent respondents’ resilience levels were most aligned with those who had a predominant wish to die. In the emergency care sample, the ambivalent patients had similarly low zest for life as patients with a strong wish to die, and in the university sample the ambivalent students had significantly less flourishing than students with a strong wish to live. Thus, as with suicidal risk factors, these patterns of results indicate that ambivalent people have resilience frameworks more similar to those with a strong wish to die and weak wish to live, rather than those with a strong wish to live and weak wish to die.
To the best of our knowledge, the series of studies in the present thesis are the first to specifically generate response profiles reflecting the wish to live and the wish to die in a multidimensional manner, allowing for the distinction between profiles reflecting a competing wish to live and wish to die of higher intensity (ambivalence) and profiles reflecting a competing wish to live and wish to die of lower intensity (disengagement). This re-conceptualisation of the wish to live and the wish to die thus contributes a novel understanding of how the varying intensities of inner conflicts impact patient trajectories of change and their risk and wellbeing profiles. This may directly inform clinical decision-making, for instance, it is important that clinicians do not assess disengaged patients as ‘safe’ because of their weak wish to die, as this ignores that their wish to live is also weak (and it is the latter which is clinically important). In fact, while both ambivalent and disengaged patients were more likely to shift towards a predominant wish to live rather than a predominant wish to die, both presentations need to be monitored carefully to identify those who resolve their conflict by shifting towards a predominant wish to die within a short period of time.

The Disengaged Profile only Emerging in the Inpatient Sample Suggest Inpatients may be Distinct from University Students and Emergency Care Patients

A disengaged profile only emerging in the inpatient setting suggests that patients in an inpatient environment may be distinct from patients in an emergency care ward or students in a university sample. That is, inpatients are temporarily removed from external stressors in a setting which provides ongoing care, and this combination may provide a momentary timeout and ability to recuperate. A review of reasons why a patient may be admitted to a psychiatric inpatient facility noted one reason for admission could be respite for the patient, in which the patient can be temporarily removed from an adverse environment which may be worsening their condition
(Bowers, 2005). If the reason for admission is respite from external stressors, than the primary aim of the admission should be the removal of the person from that stressor until the situation has ‘cooled down or resolved’ (Bowers, Chalpin, Quirk, & Lelliott, 2009). Thus, when experiencing a crisis, a person’s removal from external stressors which are potentially worsening their condition may reduce the pressure the person feels to resolve the crisis right now, and hence there is also no immediate need to continue contemplating suicide as a potential solution for the crisis. The temporary timeout in an inpatient setting may thus not immediately strengthen the person’s already weak will to live, but it may afford the ability to temporarily disengage from the need to resolve whether they want to live or die, as the urgency of any decision making is momentarily removed. Following this logic, it may be less common for university students and emergency care patients to disengage from an internal debate during a crisis, as they are not removed from external stressors (for a longer period of time). Thus, it appears more likely that these people will experience the conflict at a higher intensity rather than at a lower intensity.

There is some evidence that appears to contradict our reasoning for why a disengaged profile is more common in an inpatient setting, as a small percentage (7.4%) of emergency care patients have previously been found to have a weak wish to live and a weak wish to die whilst admitted to an emergency department due to a suicide attempt (Kovacs & Beck 1977). Patients in Kovacs and Becks (1977) study were often assessed within 48-hours of admission (or once patients in the intensive care unit were transferred to the regular ward), whilst patients in the present emergency care sample were typically assessed within a 4-hour time frame. Thus, the hospital stay in Kovacs and Becks (1977) study was not as brief as is typical for a present day emergency department stay (and may be more consistent with a brief inpatient stay), whilst the
present emergency care sample were highly ambulatory in nature and were assessed within a few hours. A small profile reflecting disengagement in the previous emergency care sample is therefore consistent with our argument that disengagement is more common in an inpatient sample, as Kovacs and Becks (1977) sample appears more similar to an inpatient sample rather than an acute ambulatory care sample.

Another potential explanation for the level of disengagement experienced in the inpatient sample is the high prevalence of medication use in psychiatric wards. A side effect of some medications may be the numbing of emotions, with one qualitative study of inpatients reporting some believed their medications blunted their emotional experience; ‘I think [medication has] done really well, I’m not feeling anything’ (Reavey et al., 2017, p. 215). In the short term, this bluntness of emotion was considered by some patients as a positive experience to minimize harm. Thus, it may be that the prevalence of medication use in an inpatient setting increases the likelihood of identifying people with emotional numbness, which in turn may increase the likelihood of identifying a profile reflecting a weak wish to live and weak wish to die.

The systematic research program in the present dissertation provides a novel contribution to literature of how the bi-dimensional relationship between the wish to live and the wish to die compares between both non-clinical and clinical samples, and specifically between acute clinical settings (emergency department) and longer term clinical settings (inpatient ward). This allowed us to compare wish to live and wish to die response combinations and identify clear distinctions between settings, such as the higher likelihood of being disengaged in an inpatient setting. Future studies need to continue to examine the bi-dimensional relationship of these two motivations between settings, and also further examine our reasoning for why disengagement is more common in an inpatient environment. For instance, future research may combine the
current research design with a qualitative analysis of inpatients’ perspectives of being removed from external stressors.

**A Set Back on the Road to Recovery: A Minority of Patients Maintained a Predominant Wish to Die**

In the emergency care sample, a minority ($N = 7$) of patients either maintained or rebounded towards a predominant wish to die profile by six-month follow-up. In the inpatient sample, 63% of inpatients with a predominant, strong wish to die at first assessment maintained their predominant, strong wish to die at final assessment. Patients with a predominant wish to die profile in both the emergency care and inpatient setting consistently had the highest suicide risk factors and least psychological wellbeing (i.e., most frequent suicide ideation and least zest for life). Thus, it is essential to identify which patients either maintain or rebound towards a strong wish to die profile so that appropriate intervention strategies can be implemented.

The two main outcome variables which distinguished emergency care patients who maintained or rebounded towards a strong wish to die from those who resolved their crisis towards a strong wish to live were zest for life and suicidal ideation. Patients with a strong wish to die profile at final assessment had significantly less zest for life at both three- and six-month follow-up compared to those with a strong wish to live ($\eta^2_{\text{partial}} = .18$ and $\eta^2_{\text{partial}} = .47$, respectively) and also significantly more suicidal ideation ($\eta^2_{\text{partial}} = .22$ and $\eta^2_{\text{partial}} = .50$, respectively). In fact, emergency care patients in the wish to die profile at six months endorsed suicidal ideation ‘two or three’ times weekly at three-month follow-up, whilst patients in the wish to live profile endorsed suicidal ideation ‘once’ per week. Thus, patients who have been discharged from emergency care who have more frequent suicidal ideation and less engagement with life at three-
month follow-up appear to have a higher likelihood of belonging to a predominant wish to die profile six months after discharge. Of note, patients who maintained or rebounded to the predominant wish to die profile at six-month follow-up and patients who transitioned to the ambivalent profile at six-month follow-up were not distinguishable on zest for life or suicidal ideation (or any other outcome variable of interest) at three months. Thus, the risk signs noted above could also indicate an increased risk of transitioning towards an ambivalent profile.

Having a greater orientation towards death at admission to an emergency care department was also a variable of interest when comparing patients who shifted towards a greater will to live from those who did not. Patients were twice more likely to belong to the wish to die profile at six-month follow-up if they belonged to the wish to die profile at hospital admission, and all four patients who suicided between hospital admission and three months had a moderate imbalance towards death. A suicide warning sign signals proximal or imminent suicidal risk (Rudd et al., 2006), and thus the present findings suggest that any imbalance in the direction of the wish to die at hospital admission may be considered a warning sign. The importance of assessing for and monitoring patients’ wish to die aligns with findings by Bryan et al. (2016), in which military personnel strengthened their wish to die in a similar period of time to their suicidal behaviour. These findings emphasise the importance of adhering to a bi-dimensional conceptualisation of suicidal desire which examines both the wish to live and the wish to die.
Implications

The first implication of the present dissertation is that research needs to conceptualise the wish to live and the wish to die as occupying their own distinct dimensions (cf. Bryan et al., 2016). The bi-dimensional conceptualisation of these two motivations permitted the distinction between persons who balanced their wish to live and wish to die at a higher degree of intensity (ambivalence) and persons who balanced their wish to live and wish to die at a lower degree of intensity (disengagement; cf. Cacioppo & Berntson, 1994). Had a unidimensional conceptualisation of these two motivations been adhered to than this distinction would not have been possible, as disengaged patients would have obtained a difference score of zero on a unidimensional suicide index and thus would have been operationalised as “ambivalent” (as would the actual ambivalent patients). As there were clinically meaningful differences between disengaged and ambivalent patients, forcing them together under the same umbrella term of “ambivalent” may thus be confounding our understanding of these patients’ risk and resilience frameworks. To the best of our knowledge, the current studies are the first to specifically generate response profiles reflecting the dynamic balance between the wish to live and the wish to die using a bi-dimensional conceptualisation, allowing for a novel understanding of how varying intensities of competing wish to live and wish to die response profiles differ.

The second implication of the present dissertation is that suicide research needs to shift away from a predominant focus on risk factors towards a more balanced approach of also examining resilience and wellbeing factors. Had a conventional risk-orientated approach been adhered to than disengaged patients would have appeared relatively unremarkable with their low level of suicidal ideation, as their low level of psychological wellbeing would not have been accounted for. Further, zest for life would
not have been identified as one of the primary differentiating factors between patients who recovered and those who did not. The inclusion of resilience and wellbeing factors thus provided information pertaining to suicidal desire and recovery which would have been neglected with a solely risk-orientated approach.

It is important to note that the present dissertation did show the importance of also examining respondents’ wish to die and suicide risk factors. For instance, assessing the wish to die showed that a stronger orientation towards death at hospital admission doubled the likelihood of maintaining this imbalance at six-month follow-up, and the frequency of suicidal ideations experienced three months post discharge was a primary differentiating factor between patients who recovered and those who did not. Thus, the present dissertation advocates for a balanced approach in which the assessment of suicidality includes the examination of both the wish to live and the wish to die, as well as suicidal risk and resilience factors. Our premise of examining suicidal desire with a bi-dimensional framework coincides with the bi-dimensional risk and resilience model, which posits that resilience factors can moderate the level of suicidality experienced in times of heightened risk (Johnson, Wood, Gooding, Taylor, & Tarrier, 2011).

The third implication is that the wish to live and the wish to die need to be conceptualised as having both stable and dynamic qualities. In terms of stability, nearly 62% of inpatients remained stable in their profile over three days, and nine emergency care patients maintained an imbalance towards either life or death at all three assessments (of which only two maintained an imbalance towards death). Whilst this speaks to the rarity of maintaining a predominant wish to die longer term, it suggests some people may have a more elevated baseline desire to die. In terms of fluidity, more than one-third of inpatients and 92% of emergency care patients reported changes in the magnitude and direction of their wish to live and wish to die, evidencing that these
desires are frequently shifting. These findings coincide with the fluid vulnerability theory, which posits that suicidality is influenced by factors which are both inherently stable and dynamic (Rudd, 2006). That is, people have different baseline risk levels (stable) which can elevate in times of acute crisis (dynamic). Thus, the present dissertation provides support for the theoretical premise that suicidal desire comprises both stable and dynamic qualities, and evidences that a single assessment is not sufficient in identifying the transient nature of these two motivations.

The fourth implication of the present dissertation is that emergency department personnel should be educated on the positive long-term trajectories of change of most discharged emergency care patients. A systematic review found most hospital staff endorsed negative attitudes towards patients who self-harmed, such as irritation, anger, and frustration (Saunders, Hawton, Fortune, & Farrell, 2012). In particular, there was a sense of cynicism from staff towards repeat self-harmers, with attitudes of ‘why bother’. Emergency department personnel may harbour a sense of frustration towards repeat presentations (i.e., repeat overdose patients) due to feeling they are unable to ‘cure’ the patient (Boyes, 1994). Thus, the encouraging message that most patients transition towards a strong wish to live six months post discharge may help facilitate a sense of empowerment. Further, this knowledge may also help contextualise patients presenting with suicidality, as rather than being viewed for their current symptomology they may instead be viewed for their positive long term potential.

A fifth implication is, given the importance of (re)engaging with life during recovery, mental health professionals and emergency department personnel should facilitate discussion beyond a solely risk-reductionist approach toward a more balanced approach of also discussing their will live and (re)engagement with a life worth living. A person living with chronic suicidality described how the ‘knee-jerk’ reaction of
typical risk assessments (i.e., assessing for suicidal plans, intent, and means) leads to an aversion to discuss suicide, which contradicts the very nature of speaking with a mental health professional (Ellis & Bryan, 2019). Thus, it was recommended that interventions should broaden beyond a risk-centric approach towards a collaborative relationship in which the suicidal patient and professional have a balanced approach of risk minimisation and exploring what makes life worth living.

For instance, given the prevalence of ambivalent respondents across studies, intervention strategies in both non-clinical and clinical settings may further benefit from specifically acknowledging the likelihood of an internal debate. Motivational-interviewing for suicidal-ideation (MI-SI) is a brief therapeutic approach which specifically aims to address suicidal ambivalence by focusing on and fostering the life component of the internal debate, and reducing focus on the death component of the debate (Britton, 2015). That is, MI-SI theorises that directing conversation towards the patient’s will to live, rather than their will to die, may facilitate an actual re-engagement with life behaviours. A pilot study which recruited 13 hospitalised veterans experiencing suicidal ideation examined the effectiveness of up to two sessions of MI-SI, and found that these patients reported reductions in the severity of their suicide ideations immediately after the last session and at two-month follow-up (Britton, Conner, & Maisto, 2012). It is important to note that MI-SI does not replace more conventional risk assessments, but should rather be considered an adjunct to both risk assessments and other treatments specifically targeting suicidal risk (Britton, 2015). This is an important consideration, given the present dissertation advocates for a bi-dimensional conceptualisation of suicidal desire. In addition to MI-SI, the collaborative assessment and management of suicidality and dialectical behaviour therapy are both
therapeutic frameworks which specifically assess a person’s reasons for living and aim to foster a person’s desire for life (Linehan, 1993; Jobes, 2012).

A sixth implication is that more intensive intervention strategies are required three months post discharge from emergency care, given that all four patients who suicided did so during this period. In fact, a prospective examination of suicide rates following discharge from inpatient services found that 0.4% of patients (of which over 100,000 patients were observed) suicided within one year of discharge, and of those almost half (46%) suicided within the first three months (Desai, Dausey, & Rosenheck, 2005). Together, this suggests that the first three months post discharge from a mental health admission (regardless of whether it is an emergency department or inpatient admission) are particularly perilous, and suggest more intensive interventions and follow-up procedures are required.

One intervention which helped reduce suicide rates following discharge from an inpatient hospital was increased social support in the first three months post discharge (King, Klause, Kramer, Venkataraman, Quinlan, & Gillespie, 2009; King et al., 2019). The Youth-Nominated Support Team for Suicidal Adolescents-Version II (YST-II) is a programme in which adolescents nominate a support person who they would like to have regular contact with for three months following hospitalisation. The nominated support person is trained by specialists (i.e., psychologists) on how to provide regular support to their adolescent, and they were informed to (a) encourage the adolescent to participate in healthy activities, (b) listen to any concerns the adolescent has and help problem-solve, and (c) encourage continued engagement with treatment. Four-hundred forty-eight adolescents were randomly assigned to either treatment as usual (TAU group) or treatment as usual with the additional YST-II component (YST-II group), and prospective analyses up to 14-years after study enrolment found the TAU group had a
8.2-fold increased risk of death than the YST-II group (only including suicides and drug-related deaths not coded as accidental; King et al, 2019). Thus, additional support in the first three months following discharge appears to be an effective measure to reduce mortality rates, and suggests that future studies should examine whether this support-focused intervention is also effective for patients discharged from emergency care.

Lastly, ambivalent patients may require more intensive monitoring than disengaged patients, given they reported stronger suicide risk factors. That is, the present dissertation provided novel findings regarding the benefits of temporarily disengaging from an internal struggle compared to experiencing it strongly, and thus suggest that clinicians may need to be particularly vigilant when monitoring ambivalent patients due to their more frequent suicide ideation and higher likelihood of tipping towards a wish to die.

**Limitations and Future Research**

It is important to note that the design of the current longitudinal studies (whether six months or three days) did not include any control groups, and hence it is not known to what extent the observed trajectories of change over the monitoring period were influenced by any effects associated with any treatments patients may or may not have received during that period. Thus, it is not possible to know if the predominant movement towards a growing wish to live is a consequence of treatment which patients may have been receiving. Likewise, we do not know if the observed stability of patients with a predominant wish to live in the inpatient sample is a result of the provision of treatment and it could be, had treatment not been available, then more people may have trended towards an increasing wish to die. Future longitudinal research is needed among
non-clinical samples, first, so that the potential risk profiles are identified, and second, because it would be useful to clarify the preventive and potentially positive remediating effect on suicide risk that treatment would be expected to have. For instance, future studies should continue to focus on university samples, as the cross-sectional design of the current non-clinical study restricted the ability to examine whether ambivalent students would have the same good trajectories of change as ambivalent patients.

In addition to monitoring university students to examine the naturalistic waxes and wanes of their wish to live and wish to die, future studies should also examine the effectiveness of implementing intervention strategies which specifically target suicidal ambivalence (e.g., MI-SI). Whilst bolstering student resilience has been identified as an important aspect of student welfare (e.g., Drolet & Rodgers, 2010; Steinhardt & Dolbier, 2010), attending university is still associated with elevated suicidal risk (Lageborn, Ljung, Vaez, & Dahlin, 2017). Thus, it is important that research continues to examine the effectiveness of specific interventions targeted at this population, and as the present dissertation identified that one-in-five university students were ambivalent, it suggests that specifically targeting this motivational balance may prove useful.

Future studies should also examine the wish to live and the wish to die with more fine-grained temporal precision than currently used. A previous study identified that more than one quarter of inpatients had suicidal ideation scores which fluctuated a standard deviation from their previous suicidal ideation score obtained only a few hours earlier (Kleiman, Turner, Fedor, Beale, Huffman, & Nock, 2017). Thus, it may be that the wish to live and the wish to die change in magnitude and direction in a matter of hours, and this information may further inform our understanding of the suicidal mind. Further, future studies should also endeavour to incorporate longer follow up periods with inpatient samples, as a limitation of the present thesis is the brief period in which
the inpatients’ wish to live and wish to die were monitored. Thus, future studies should incorporate longer follow up periods to ensure that the disengaged patients’ new primary alignment with life is maintained long term.

The present dissertation argues that one reason a disengaged mind frame may be more common in an inpatient environment, compared to a university setting or an emergency care department, is due to inpatients being provided the opportunity to temporarily remove themselves from external stressor(s). It was theorized that this opportunity to recuperate in a supported environment may allow a person to disengage from the effortful need to make an immediate decision between life and death during a crisis. Future studies should test if our premise can be replicated by specifically measuring inpatients’ perception of their inpatient stay. For example, to what extent do they indeed view their inpatient stay as a time out from having to think about life and death, and how is this related to current wish to live and wish to die endorsements.

Disengaged patients only being identified in the inpatient sample may also have been partly due to the property of the scale. That is, the central tendency bias suggests that respondents can avoid using the extreme scale responses and instead cluster around the midpoint (Nadler, Weston, & Voyles, 2015). In the inpatient sample, the wish to live and the wish to die were assessed using 4-point scales, and these short response formats naturally reduced the opportunity to select middle responses, potentially increasing the likelihood of identifying patients with equally weak desires. This proposition is supported by the fact that the present dissertation generated profiles reflecting a moderate ambivalent state rather than a strong ambivalent state in both the university and emergency care sample, in which 9-point scales were used (as respondents may have been averse to using the extreme points of the longer scales). Thus, the property of the scales may have potentially increased the probability of identifying disengaged and
strongly ambivalent respondents in the inpatient setting compared to the other two studies. It is also important to note that the reduced scales in the inpatient sample meant that the distinction between profiles was smaller, meaning there was only a one point difference between certain profiles, and only three points difference between the profile representing a stronger skew towards death and the profile representing a stronger skew towards life.

**Conclusion**

In summary, the present dissertation provides evidence that a risk-centric approach which neglects examining patients’ wish to live may be at a detriment to best practice. Further, support was provided for the theoretical premise that a wish to live is not the bipolar opposite of a wish to die. The co-occurrence of these two wishes pits competing motivations against one another, leading to a state of ambivalence if they are of equally moderate-to-strong intensity and a state of disengagement if they are of equally weak intensity. Among the various groups of patients, both stability and fluidity in the suicidal vulnerability was observed, demonstrating the importance of monitoring fluctuations in patients’ wish to live and wish to die. Arguably the greatest variability in the short term was evident among people who had an ambivalent profile, and while this tended to resolve in a favour of a wish to live (especially in the longer term) these patients had a higher risk of set-back than those who were disengaged. It is also important to note that there remain a relatively small group of people who continue to report a strong wish to die in the longer term. Thus, clinicians need to continue to work on preventive programs and clinical interventions that advance beyond a solely risk-centric approach towards a more balanced approach of focusing on both risk minimisation and (re)engagement with life, so that people can be helped to shift their
focus from contemplating death to embracing a path toward a life that they see as worth living.
Chapter 6

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