

Self-structure and discrimination: implications for coping and wellbeing

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Declaration

I declare that this thesis is the product of my own work carried out under the supervision of Professor Kate Reynolds and Dr Ken Mavor. Where other authors were involved in the work I declare that I have clearly stated my contribution. I affirm that this thesis is in accordance with The Australian National University Guidelines for higher degree research.

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December 2015

Abstract

Substantial research demonstrates the negative effects of discrimination on the psychological wellbeing of stigmatised groups. While the ultimate goal should be to reduce occurrences of discrimination, in the interim it is important to identify resiliency factors which may reduce the impact of discrimination. Given that being the victim of discrimination is likely to be experienced as a form of stress, research from the stress and coping literature can be used to inform knowledge in this area. In line with this literature, we examine self-concept structure as a resiliency factor. Self-concept structure refers to how people organise their self-beliefs and incorporates: (a) the number of different identities they subscribe to, (b) the degree to which they see their identities as similar or different, (c) the coherency and stability of self-beliefs and (d) the degree to which people can recognise and articulate their self-beliefs. In order to explore the role of self-concept structure in the context of discrimination we employ three surveys and two experiments, with a total of 577 participants from multiple stigmatised groups including women, international students and same-sex attracted people. Using regression models we examine two forms of self-structure (self-complexity and self-clarity) and whether they mediate and/or moderate the relationships between discrimination, stress, depression and anxiety symptomology. The findings indicate that having clear, coherent and stable self-beliefs may reduce the negative impact of discrimination on depressive symptomology. Furthermore, using a values based intervention from Acceptance and Commitment Therapy appears to be a means to reduce the impact of reading discriminatory articles on mood (a possible precursor to experiencing depressive symptoms). We conclude by discussing the clinical implications for the assessment of psychopathology in stigmatised populations and treatment targets to address the stigmatised self-concept.

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CHAPTER 1: Defining the research problem and overview of the thesis**Defining the research problem**

A strong body of research has established that perceived discrimination is associated with a host of adverse psychological wellbeing outcomes (e.g., Paradies, 2006; Pascoe & Smart Richman, 2009; Schmitt, Branscombe, Postmes, & Garcia, 2014; Williams, Neighbors, & Jackson, 2003). Furthermore, this relationship is likely to be causal, with longitudinal studies providing support for discrimination preceding a reduction in wellbeing, when initial wellbeing levels are controlled for (for a review, see Schmitt et al., 2014). With a view to reducing the impact of discrimination, the focus of research has shifted away from demonstrating the prevalence of negative wellbeing indicators and towards the identification of mechanisms through which discrimination compromises wellbeing. Current conceptual models view discrimination as a form of stress which can have a direct impact on wellbeing and an indirect impact on wellbeing via increased perceptions of stress (Pascoe & Smart Richman, 2009; Schmitt et al., 2014). Although widely accepted, this model fails to account for individuals who report significant discrimination in the absence of psychological health problems (Major, Quinton, & McCoy, 2002; Schmitt & Branscombe, 2002).

In order to address this issue, research has attempted to identify moderating variables which may weaken the strength of the association between discrimination and poor wellbeing outcomes and mediating variables which attempt to explain how the impact of discrimination on wellbeing can be reduced (e.g. Branscombe, Schmitt & Harvey, 1999; Schmitt et al., 2014). The investigation of moderating and mediating variables represents a step towards understanding the factors which may increase resiliency in stigmatised populations. Resiliency describes the presence of positive psychological outcomes in the context of adversity (Luthar, Cicchetti & Becker, 2000; Masten, 2001) and is typically attributed to psychological, social and material resources which protect individuals against negative

experiences such as discrimination (Min, 1995). However, research demonstrates mixed support for existing moderating and mediating factors, suggesting that the current knowledge of resiliency factors is far from complete (Kaiser, Major, & McCoy, 2004; McCoy & Major, 2003; Miller, Rote, & Keith, 2013; Schmitt & Branscombe, 2002; Schmitt et al., 2014). The aim of the current research is to extend knowledge in this area by examining how self-structure may inform this relationship.

Self-structure refers to how individuals organise their self-beliefs within a cognitive framework in memory (e.g., McConnell, 2011; Turner & Onorato, 1999). It reflects a number of different elements, including: (a) the number of different identities a person subscribes to, (b) the degree to which a person see their identities as similar or different, (c) the coherency and stability of a person's self-beliefs and (d) the degree to which a person can recognise and articulate their self-beliefs. Importantly, self-structure is theorised to influence accessibility to self-content and as such, has implications for how individuals respond to stress (Brewin, 2006; Showers, Zeigler-Hill, & Limke, 2006). Research from the stress and resiliency literature supports both a mediating and a moderating effect of self-structure on the relationship between general life stress and wellbeing (e.g. Constantino, Wilson, Horowitz, & Pines, 2006; Linville, 1987; Ritchie, Sedikides, Wildschut, Arndt, & Gidron, 2011), with individual variation in self-structure having implications for how individuals cope with stress and the development and maintenance of psychopathology (Dozois & Dobson, 2001; Ritchie et al., 2011). We argue that self-structure is important to examine as discrimination also represents a form of stress (Pascoe & Smart Richman, 2009) and as such self-structure may well have implications for resiliency and coping in stigmatised populations. Indeed, it is plausible that discrimination may be even more salient to the self-concept than general life stress because it communicates negative views towards the self (Goffman, 1963).

On this basis, we chose to examine the utility of two of the most empirically supported self-structure theories; self-complexity (Linville, 1987; McConnell, 2011) and self-clarity (Campbell et al., 1996). These theories have potential to inform our knowledge of the relationships between discrimination, stress and wellbeing. Specifically, we sought to examine whether self-complexity and self-clarity would moderate or mediate the effects of discrimination on psychological wellbeing. Importantly, integrating these bodies of work on (a) discrimination, stress and well-being and (b) self-structure as a moderator or mediator of the discrimination-wellbeing relationship provides a novel approach as previous literature has considered these two bodies of work separately. In this way, the current thesis makes a unique contribution to the current literature.

Overview of the current thesis

The current thesis begins with an examination of the relationship between discrimination and psychological wellbeing in more detail, given its centrality to the current topic. We review the key meta-analyses from the last decade and the methodological difficulties in this area. We conceptualise stress as a mechanism through which discrimination impacts wellbeing and review previously examined moderators and mediators of the discrimination-wellbeing relationship. We identify the need for further investigation of relevant mediating and moderating factors and the potential utility of self-structure in this context.

Following this, we examine the construct of self-structure and a theoretical framework for understanding the mechanisms through which it informs the relationship between stress and wellbeing in chapter 3. We review the empirical literature on self-clarity and self-complexity (Constantino et al., 2006; Lee-Flynn et al., 2011; Linville, 1985, 1987; McConnell, 2011; Ritchie et al., 2011) and their predictions regarding stress and wellbeing.

We critique the evidence, strengths and limitations for both self-structure theories. Finally, we examine their application to the discrimination and wellbeing relationship.

Chapters 4 to 8 represent empirical chapters in which we explore the role of self-structure as a predictor of wellbeing in the context of discrimination and as a potential mediator or moderator in the relationships between perceived discrimination and wellbeing. Using three surveys and two experimental designs, we investigate these relationships across a total of 577 participants from multiple stigmatised populations, including international students, women and lesbian, gay, bisexual, transgender and intersex (LGBTI) people. Each study makes a unique contribution to the broader aims of the project as follows. In our first empirical study in chapter 4, we propose two models through which self-structure may impact on the relationship between discrimination and depression, including a parallel mediation model and a moderated mediation model. Using a general population, we find greater support for the moderated mediation model for self-clarity, but limited findings for self-complexity. We attempt to build on this model in chapter five, by investigating the relationships between acculturative stress, self-structure and wellbeing using a more controlled longitudinal sample and a stigmatised population (international students). However due to our high attrition rate at time 2, we focus on the time 1 results. In contrast to study 1, acculturative stress emerges as a key mechanism through which psychological wellbeing is influenced, over and above the impact of discrimination. While self-clarity remains a significant predictor of psychological wellbeing, it appears that acculturative stress is a more immediate issue for the wellbeing of international students. Given that international students represent a distinct stigmatised population in that students without an existing stigmatised identity (e.g. gay, physical disability) acquire their stigmatised status when they enter Australia and leave it when they return to their home country, we continue to explore the moderating and mediating effects of self-structure in later empirical chapters with different stigmatised populations.

In chapter six, we use an experimental design to examine whether self-structure has an impact on affective states in the context of gender discrimination. Mood is argued to be a more immediate wellbeing outcome relative to depression and a possible precursor to depression. However, we do not find support for our hypotheses and we explore possible reasons for this. Chapter 7 addresses some of the limitations of the research design of study 3 outlined in chapter 6 and also includes a values affirmation exercise which seeks to apply the findings from the earlier chapters to foster resiliency in a LGBTI population by increasing self-clarity. While no support was found for our prediction that the value affirmation exercise would increase self-clarity, we show that the value affirmation exercise reduced the impact of reading discriminatory articles on mood. This suggests that value affirmations may have utility for increasing resiliency in stigmatised populations. Additionally, this chapter also provides further evidence for self-clarity as a moderator of the relationship between discrimination and depression.

In the discussion in chapter 8, we revisit our findings and their theoretical and clinical implications. We highlight how self-clarity may usefully inform our understanding of the relationship between discrimination and wellbeing, with more support demonstrated for the moderating effects of self-clarity. We discuss the utility of value affirmations as a buffer against the negative effects of discrimination on mood in stigmatised populations and their link to existing therapeutic frameworks, including Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999). Finally, we identify the limitations of the current findings and how these may inform directions for future research.

CHAPTER 2: Discrimination and psychological wellbeing: An overview

The relationship between discrimination and psychological wellbeing has been extensively studied. While a review of this research in its entirety is beyond the scope of the current project, we provide an overview of the theoretical and empirical relationship between discrimination and wellbeing. Additionally, we operationalise psychological wellbeing as it will be used in the current project in recognition that there are multiple ways of measuring this construct in the literature. On the basis of scrutinising existing work it becomes clear there are gaps in current understandings of discrimination and psychological wellbeing which the current thesis attempts to address.

A core underexplored issue concerns the factors which may moderate this relationship as the negative impact of discrimination on wellbeing is not uniformly experienced. We review previously researched moderating factors, with a particular focus on individual difference variables given that these have the potential to inform resiliency building interventions with stigmatised populations. It is concluded that there is mixed support for current moderating factors and the case for more research in this area is outlined. We suggest that existing knowledge of moderating factors in the relationship between general life stress and psychological wellbeing may inform the relationship between discrimination and wellbeing, given that discrimination also represents a form of stress. We conclude by introducing the construct of self-structure as a variable that has been previously shown to moderate and mediate the relationship between stress and wellbeing and suggest its utility to contribute usefully to the relationship between discrimination and wellbeing.

Discrimination

Discrimination refers to the differential treatment initiated by individuals and social institutions toward members of socially devalued or stigmatised groups because of their stigmatised group membership (Williams & Mohammed, 2009). Examples of discrimination

can include being called names, being physically threatened or receiving poorer service on the basis of one's group membership. Stigmatised group memberships reflect groups which are viewed as inferior to the majority or dominant groups in society and can include women (Schmitt, Branscombe, Kobrynowicz & Owen, 2002), African Americans (Branscombe, Schmitt & Harvey, 2009) and international students (Schmitt, Spears & Branscombe, 2003). While discrimination can also be experienced by members of valued social groups, research demonstrates that it is particularly harmful to stigmatised group members (Schmitt & Branscombe, 2002; Schmitt, Branscombe, & Postmes, 2003; Wang, Leu, & Shoda, 2011). One explanation for this phenomenon is that members of valued groups to attribute discrimination to isolated events, while stigmatised group members may attribute discrimination to pervasive social conditions that they are likely to re-experience in the future (Branscombe, Fernández, Gómez, & Cronin, 2012). Discrimination reflects a pattern of unfair treatment which tends to be justified by beliefs and is expressed via interactions between individuals and institutions, while intended to maintain the privileges of the dominant groups (Krieger, 1999). Discrimination can be based on a range of characteristics, including sexuality, appearance, gender, religion, disability, age, culture, ethnicity and social class. It can be initiated both at the interpersonal level (i.e. an employer making a derogatory statement about an employee's ethnicity) and by institutional policies, procedures or laws which serve to disadvantage a certain group (Krieger, 1999).

Operationalising discrimination and wellbeing

The measurement of discrimination in the literature has tended to focus on 'perceived discrimination,' which reflects subjective perceptions of discrimination, as distinct from objective encounters with discrimination (Paradies, 2006). In line with previous research, the current thesis focuses on 'perceived discrimination,' as it allows us to place the current research in the context of existing literature. Additionally, perceived discrimination infers that

the self is perceived as a target of discrimination. This process is particularly relevant to the current topic which considers the relationship between perceived discrimination and self-concept structure.

In relation to the measurement of wellbeing in the current thesis we make two points. First, previous literature has considered the relationship between discrimination and both physical (body) and psychological (mind) wellbeing. As this is a clinical psychology thesis rather than a health psychology thesis, our focus is on the psychological rather than the physical health of those who experience discrimination. Secondly, the measurement of wellbeing in the psychological literature more commonly defines wellbeing as the absence of negative mental health indicators, for example depression and anxiety (Paradies, 2006a). However, this practice of using negative wellbeing indicators is inconsistent with broader conceptualisations of psychological wellbeing which consider it to comprise positive indicators such as life satisfaction and happiness (Dodge, Daly, Huyton, & Sanders, 2012). Existing reviews indicate that discrimination is more strongly associated with negative wellbeing indicators, which may explain why negative wellbeing outcomes are commonly used (Schmitt, Branscombe, Postmes, & Garcia, 2014). In line with previous conceptualisations of wellbeing in the discrimination literature, the current thesis utilises the definition of wellbeing as the absence of mental health symptoms. There is also a distinction in the literature between longer term psychological wellbeing outcomes (i.e. depression and anxiety) which are often used in cross-sectional and longitudinal designs and immediate wellbeing outcomes (i.e. positive and negative affect) which are typically used in experimental designs. In line with this, we employ both long term and immediate psychological wellbeing indicators as we utilise a mix of cross-sectional and experimental designs. This approach also has the additional benefit of examining whether self-structure has an immediate impact on psychological wellbeing or if the effects of self-structure occur over time.

Theoretical relationship between discrimination and wellbeing

Conceptually, discrimination is typically viewed as a threat to the psychological wellbeing of stigmatised people on both an individual and a group level. Early theorising on the impact of discrimination on the individual was highlighted in the seminal work of Goffman (1963). Specifically, Goffman used a symbolic interactionist approach to argue that since the self-concept is developed via social interactions, the self-concept of stigmatised individuals is threatened by the discriminatory views of others. Later theorists propose that discrimination threatens wellbeing because it compromises the fulfilment of basic human needs such as acceptance and belonging (Wirth & Williams, 2009). For example, a review by Baumeister and Leary (1995) documents a substantial body of evidence which shows that human behaviour, emotion and cognition are influenced by the motive to obtain acceptance and avoid rejection from others. This motive is theorised to have evolutionary implications, whereby developing cooperative social relationships and group memberships facilitates survival and reproduction. In this way, not achieving a sense of acceptance and belonging is held to have immediate effects on behaviour, emotion and cognition which over time will result in long-term negative effects on psychological wellbeing. This analysis is also consistent with social identity theory, in which individuals are theorised to be motivated to achieve positive distinctiveness and have their group identities accepted and valued within society (Tajfel & Turner, 1979). Given that discrimination towards certain group members is likely to undermine the need for group acceptance, perceived discrimination would be expected to harm psychological wellbeing.

Empirical relationship between discrimination and wellbeing

A considerable body of work has documented a negative relationship between discrimination and psychological wellbeing (Barnes et al., 2004; Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Williams, Yu, Jackson, & Anderson, 1997). This relationship has been

established across multiple stigmatised groups, including females (Barreto, Ryan, & Schmitt, 2009), diverse sexual orientations (Herek, Gillis, & Cogan, 1999), indigenous Australians (Paradies, Harris & Anderson, 2008) and international students (Schmitt, Spears, & Branscombe, 2003). This relationship is also supported by recent reviews on the discrimination and wellbeing literature (Paradies, 2006; Pascoe & Smart Richman, 2009; Schmitt et al., 2014; Williams, Neighbors, & Jackson, 2003). One limitation of many studies in the field which is identified by most reviews, concerns the large number of correlational studies which limit our ability to infer causality. While it is often assumed that discrimination precedes a reduction in psychological wellbeing indicators, it may also be the case that certain negative psychological wellbeing indicators lead people to perceive discrimination. In particular, depression and anxiety represent common indicators of wellbeing in the literature which are underpinned by cognitive biases which could lead individuals to attribute more ambiguous situations to discrimination (Beck, 1979). For example, depression is characterised by the presence of negative beliefs about the self, others and the world in general, while anxiety is related to the over-estimation of danger and the tendency to catastrophise (Brewin, 2006). It is plausible then that depression and anxiety can be associated with the attribution of more ambiguous events to discrimination. Being a member of an already stigmatised group could lead to the same outcome where there is an expectation of discrimination which affects the number and type of events perceived in this way.

However, the results of longitudinal studies which control for initial wellbeing levels prior to discrimination suggest that discrimination may precede a reduction in wellbeing. For example, in a longitudinal analysis by Pavalko, Mossakowski, and Hamilton (2003), it was shown that perceptions of discrimination in an initial wave of data were related to mental health 7-9 years later, even when mental health in the initial data wave was controlled in the analyses. Additionally, in a study of the relationship between perceived discrimination and mental health over time, there was no evidence of a relationship between psychological

distress or depressive symptoms during the early data waves and reports of discrimination one year later, indicating that poor mental health does not predict perceived discrimination (Brown et al., 2000). Furthermore, in a meta-analysis of 21 longitudinal studies which controlled for wellbeing levels prior to discrimination, Schmitt et al. (2014) showed that the mean weighted effect size of relationship between discrimination and wellbeing was significantly negative. Overall, these results provide support for the hypothesis that discrimination has a casual impact on psychological wellbeing.

Mechanisms through which discrimination impacts wellbeing

Research on discrimination and wellbeing has shifted from documenting the prevalence of the impact of discrimination on wellbeing, towards understanding the mechanisms through which this process occurs. This shift reflects an important step towards reducing the prevalence of discrimination-related health problems. Discrimination is typically conceptualised as a form of psychological stress which impacts wellbeing through two pathways: a) as a stressor, discrimination has a direct impact on the development of mental health symptoms; b) discrimination indirectly impacts wellbeing by triggering an increase in stress which leads to an increase in mental health symptoms (Mewes, Asbrock, & Laskawi, 2015; Pascoe & Smart Richman, 2009) (see Fig. 1). Pascoe and Smart Richman (2009) conducted an investigation of the first pathway (from discrimination directly to mental health). They used a meta-analysis of 110 studies to investigate the zero-order relationship between perceived discrimination and mental health. Results indicated that increases in perceived discrimination were associated with significantly more negative mental health outcomes, providing support for a direct impact of discrimination on wellbeing. Pascoe and Smart Richman (2009) also examined whether perceived discrimination led to an increase in psychological stress responses. To do this, six studies were identified which examined psychological stress responses to experimentally manipulated discrimination experiences. Of

the 18 relationships identified, 89% showed that perceived discrimination was related to negative psychological stress responses, suggesting that perceived discrimination may trigger a negative stress response. Finally, a substantial body of work has investigated the stress-mental health pathway and there is evidence for the onset of depressive and anxiety symptoms following higher levels of significant stressors (for a review, see Brown & Harris, 1989; Hammen, 2005).

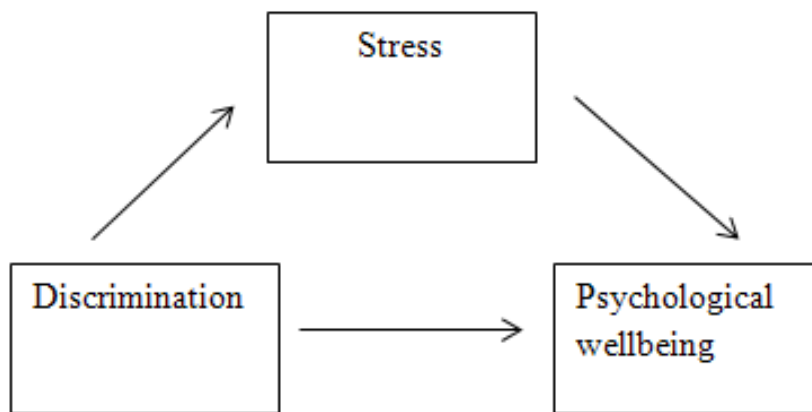


Fig 1. Mediation model depicting discrimination having a direct impact on psychological wellbeing and an indirect impact via stress

However, while the conceptual model described above is widely accepted, it fails to account for individuals who do not report compromised psychological wellbeing, despite significant discriminatory experiences (Major, Quinton, & McCoy, 2002; Schmitt & Branscombe, 2002). Previous research has attempted to account for individual variation in wellbeing outcomes through the identification of individual and contextual factors which moderate the relationship between discrimination and psychological wellbeing (Ellemers & Barreto, 2015; Pascoe & Smart Richman, 2009; Schmitt et al., 2014). Exploring this second pathway, a number of theoretical moderators have been identified and investigated and are generally categorised as either contextual moderators or personal moderators which describe individual difference factors.

Contextual moderators

While several contextual factors have been proposed to moderate the relationship between discrimination and wellbeing, research demonstrates the most consistent support for two factors which concern the degree to which a stigma is concealable and controllable. First, the degree to which a stigma is concealable (e.g. being gay) versus visible (e.g. being obese) is theorised to have differing implications for wellbeing in the context of discrimination. Specifically, the concealability of stigmas has been demonstrated to moderate the relationship between discrimination and psychological wellbeing, with concealable stigmas strengthening this relationship (Schmitt et al., 2014). One explanation for this is that because people with concealable stigmas have the choice of hiding their stigma from society, they may have less contact with stigmatised others, which is an important source of social support (Chaudoir, Earnshaw, & Andel, 2013). In the absence of such support it is more likely that being a target of discrimination will negatively impact on well-being.

Additionally, the degree to which the stigmatised are, or are perceived as, in control of the stigma or removing the stigma is also empirically supported to be a moderator of the discrimination and psychological wellbeing relationship. Specifically, the relationship between discrimination and wellbeing is stronger for individuals with a 'controllable' stigma (e.g. obesity) (Schmitt et al., 2014). One reason for this is that having control about removing or maintaining a stigma may encourage an individual to try and remove the stigma in order to fit in with the norms and standards of a non-stigmatised group, as opposed to identifying with stigmatised others (Hogan, Reynolds & O'Brien, 2011). If attempts to remove the stigma fail, individuals may be left isolated as they are not fully accepted by other stigmatised group members or out-group members (Garstka, Schmitt, Branscombe, & Hummert, 2004; Tajfel & Turner, 1979).

Individual moderators/mediators

In contrast, evidence for individual level moderators and mediators is mixed, suggesting that our knowledge in this area is far from complete (Kaiser, Major, & McCoy, 2004; Miller, Rote, & Keith, 2013; Schmitt & Branscombe, 2002; Schmitt et al., 2014). Key individual factors which have been investigated include identification with a stigmatised group identity, social support and engagement coping strategies. First, having a strong connection to a stigmatised social or group identity may protect an individual from the stress of discrimination by preventing negative stereotypes from infiltrating an individual's self-concept (Branscombe, Schmitt, & Harvey, 1999). Early research by Branscombe, Schmitt and Harvey (2009) supported a mediating effect of identification, whereby discrimination increased identification with other stigmatised group members which in turn enhanced psychological wellbeing. Social identity captures the social connections between two or more people where there is a sense of shared similarity and commonality (group membership) and distinctiveness from other collectivities. Such groups are important for self-definition (they have cognitive and emotional significance) and serve as a reference for self with respect to attitudes and behaviour (Tajfel, 1972; Turner, 1982, 1985). Group identification is the level of belonging or connection to a particular collectivity. However, reviews show that the majority of tests of group identification have produced non-significant results, although those that are significant show more support for identification having a protective effect on wellbeing rather than an exacerbating effect (e.g. Pascoe & Smart Richman, 2009; Schmitt et al., 2014).

Social support describes the emotional or instrumental assistance from friends, family and social networks (Branscombe et al., 2014) and has also been theorised to protect wellbeing from the effects of discrimination (Clark, 2003). While multiple positive functions of social support have been proposed, in the context of stigma it may fulfil needs for acceptance and inclusion which are threatened by acts of discrimination (Goffman, 1963). In contrast, reviews of studies which have tested social support as a moderator show that most

studies do not find a moderating effect of social support (e.g. Pascoe & Smart Richman, 2009; Schmitt et al., 2014). However, one explanation for this may be that a sense of shared identity is needed for individuals to recognise certain actions as social support and in this way social support in the absence of a shared identity may not be recognised as such (Haslam, Jetten, Postmes & Haslam, 2009).

Additionally, research using a stress and coping framework (e.g. Lazarus & Folkman, 1984) suggests that the strategies people use to cope with a stressor influence the degree to which their wellbeing is compromised by stress. Within the discrimination literature, engagement coping has been suggested as a protective factor, while disengagement coping is generally considered to be less protective. Specifically, engagement coping refers to attempts to modify the stressor or one's reactions to it, while disengagement describes efforts to avoid the stressor or avoid thinking about it (Varni, Miller, McCuin, & Solomon, 2012). However, a review of the literature by Schmitt et al. (2014) found that while engagement coping was associated with better wellbeing than disengagement coping, the evidence was weak at best (Schmitt et al., 2014).

Self-structure and the discrimination-wellbeing relationship

The overarching goal within the discrimination and wellbeing literature should be to reduce occurrences of discrimination. Yet discrimination is likely to remain a common experience for many in a range of social settings. As long as this remains there is likely value in also exploring resilience factors that ameliorate the impact of discrimination. Individual factors are the most likely targets, as they are more amenable to change than contextual factors. However, a review of the existing literature suggests that our knowledge of individual factors (i.e., stigmatised group identity, social support and engagement coping strategies) is mixed at best and there is much work to be done before we can develop an intervention to support stigmatised group members.

Given that discrimination represents a form of stress, the stress and wellbeing literature may help progress current knowledge of resiliency factors which may moderate the effects of stress on psychological wellbeing and can therefore be applied to discrimination and wellbeing. In line with this goal, we explore self-concept structure (also known as self-structure) as a potential moderator or mediator of the relationship between discrimination and wellbeing. Self-structure refers to how information about the self is organised within a cognitive framework (McConnell, 2011) and to our knowledge it has not been examined within the context of discrimination.

We argue that since discrimination communicates negative information about the self and whether others respect and value or like the self, how self-knowledge is structured is likely to have implications for the development of psychopathology in response to discrimination-related stress. Specifically, how the self-concept is structured is theorised to influence the accessibility of self-beliefs (Brewin, 2006). Negative and maladaptive self-schemas developed early in life remain dormant until activated by significant stressors which facilitate access to them and make an individual vulnerable to the development of psychopathology (Beck, 1967). Additionally, particular forms of self-structure may also facilitate better coping to discriminatory events, such as having a large number of distinct self-representations. In line with this theoretical approach, the implications of self-structure will be described in detail in Chapter 3.

In conclusion, discrimination represents a significant risk factor which may undermine the wellbeing of stigmatised group members. Current research has shifted towards understanding the factors which contribute to the resiliency of stigmatised group members by moderating or mediating the relationship between discrimination and wellbeing. A review of the literature in this area demonstrates mixed support for current moderators and mediators.

We seek to contribute to this area by examining self-structure in Chapter 3 as a potential moderator or mediator of the relationship between discrimination and wellbeing.

CHAPTER 3: Self-structure: implications for stress and wellbeing

Recent theorising about the self-concept suggests that in addition to containing self-content (i.e. information perceived to be true about oneself), the self-concept also has a structural component (Feinstein, Davila, & Yoneda, 2012; McConnell & Strain, 2007). This component, known as self-structure, refers to the organisation of knowledge about the self (i.e. self-representations) in memory within a cognitive framework (McConnell, 2011). Importantly, self-structure is theorised to influence accessibility to self-content and as such, has implications for how individuals respond to stress (Brewin, 2006; Showers, Zeigler-Hill, & Limke, 2006). Clinical cognitive theories of self-structure propose that vulnerable individuals hold negative and maladaptive self-representations, which may be triggered by stressful life events and contribute to the onset of depression and anxiety (e.g. Beck, 1967; Brewin, 2006; Dozois & Dobson, 2001). However, social cognitive theories of self-structure suggest that certain elements of self-structure may also moderate individual affective responses to stress in non-clinical populations (e.g. McConnell, 2011; Showers et al., 2006). In this chapter, we investigate the theoretical and empirical basis for self-structure and how it might inform the relationship between discrimination related stress and psychological wellbeing. We review evidence from the stress and coping literature which highlights self-structure as a factor which contributes to individual resiliency by moderating or mediating the relationship between general life stress and wellbeing and we highlight how these findings may also be applicable to the discrimination-wellbeing relationship. Finally, we link self-structure to a theoretical framework by Brewin (2006) which provides a basis for understanding the mechanisms through which self-structure influences the discrimination-wellbeing relationship and a scaffold through which we test our predictions.

Clinical cognitive models of self-structure

Current understandings of self-structure have been largely informed by clinical cognitive models (e.g. Bower, 1981; Bower, 1987; Brewin, 2006; Ingram, 1984). Common to these theories is the assumption that individuals have multiple self-representations and that these are represented as nodes within a larger associative network in memory. Similar to other information stored in memory, only a small subset of self-representations is accessible in working memory at any one time and these are held to influence affect, cognition and behaviour (Andersen & Chen, 2002). Nodes that contain stored information can be activated by both external cues (e.g. context) and internal cues (e.g. mood, thoughts), while the activation of a particular node is thought to activate related nodes. These models account for the development of psychopathology via the activation of maladaptive and negative self-representations in memory. Nodes are activated through stressful life events and negative mood states, with negative self-representations taking precedence over more positive and adaptive representations (e.g. Brewin, 2006).

The cognitive model of self-structure described above is well supported by empirical research. First, the concept of multiple self-representations reflects a shift away from early theories which considered the self as a unitary construct (e.g. Allport, 1955; Rogers, 1951; Snygg & Combs, 1949). However, it is consistent with current self-theories which consider self-structure as multifaceted and dynamic, in which individuals can identify with multiple self-representations, while self-representations may also change over time (e.g. Constantino et al., 2006; McConnell, 2011; Turner & Onorato, 1999). It is also consistent with empirical evidence in which individuals have been demonstrated to offer multiple self-representations when asked to describe themselves, including social roles, relationships, affective selves, true selves, goal related selves, temporal selves, public selves and private selves (Linville, 1987; McConnell, Strain, Brown, & Rydell, 2009; Showers et al., 2006). For example, in a study of

140 undergraduate students, McConnell et al. (2009) found that on average participants identified 4.23 self-representations (which included what could be classified as social identities that are tied to a sense of similarity to others; Turner & Onorato, 1999), while less than 3% identified only one self-representation. While there are clear limits to self-descriptions as a measure of self-representations (e.g. introspective access, self-presentation), other researchers have found it to measure self-knowledge that is predictive of behaviour (Linville, 1985; Showers, 1992).

Second, the idea that self-structure influences the accessibility of self-representations is also consistent with theoretical and empirical research. For example, according to an associative network account, the accessibility of one item should also increase the accessibility of self-representations which share related features while reducing the accessibility of items which do not share related features. This describes the encoding specificity principle (Tulving, 1979), in which the activation of one item also increases the accessibility of items which share overlapping features. This principle is a core component of theories of depression, whereby negative mood is argued to trigger the retrieval of negative memories, which in turn increase negative mood (e.g. Ingram, 1984). It is also consistent with the idea of functional antagonism as described in self-categorization theory (SCT; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). This principle states that as the salience of one self-categorisation or self-representation increases, the salience of others will tend to subside. For example, if an individual becomes more aware of their unique goals or qualities, the salience of their personal identity will be amplified, while the salience of their social identity is reduced.

Empirical evidence that self-structure influences the accessibility of self-representations is also demonstrated in a study conducted by Renaud and McConnell (2002). This involved participants completing a self-concept task, whereby a list of attributes were placed in groups reflecting meaningful aspects of their lives. Following this, participants

returned several weeks later for what appeared to be an unrelated, three-part study. In the first and third parts of the study, participants were given identical lexical decision tasks in which the target words matched the attributes in the self-concept task. In between the lexical decision tasks, participants wrote for five minutes about one of their self-aspects. Importantly, participants were relatively faster with lexical judgments about attributes that were related to the self-aspect they wrote about, while they were not faster for attributes associated with other self-aspects.

Limitations of clinical cognitive models

Clinical cognitive models that draw on self-structure theory and research provide a useful framework for understanding the development, maintenance and treatment of psychopathology, particularly depression, although a smaller body of work has examined their role in anxiety disorders (e.g. Stopa, Brown, Luke, & Hirsch, 2010). However, if self-structure does contribute to the accessibility of self-representations, this may also have implications for the wellbeing of non-clinical populations who sit outside the scope of clinically focused models. In line with this, the focus of clinical cognitive models is on the dysfunctional self-concept (i.e. one that is characterised by negative and maladaptive beliefs). However, it is possible that certain types of self-structure may in fact facilitate positive wellbeing and coping in the face of negative mood and stress. Finally, cognitive models assume the presence of clearly articulated self-representations (that can be recognised and communicated), yet many models of psychopathology, including social anxiety, borderline personality disorder and narcissistic personality disorder, describe an unclear sense of self as a central feature (Fuchs, 2007; Morf & Rhodewalt, 2001; Stopa, 2009)

These limitations can be addressed, somewhat, through the use of social-cognitive (rather than a purely cognitive) model which attempts to understand how self-structure might inform coping and wellbeing in non-clinical populations. Furthermore, the issue of poorly

articulated self-representations is addressed by self-clarity which is a social psychological self-structure theory that provides a link between unclear self-representations and psychological wellbeing (Campbell et al., 1996). On this basis, the current thesis aims to further current knowledge by the use of a social-cognitive model.

Rationale for selection of self-structure theories

Several social theories have attempted to address the self-structure elements which may contribute to resiliency and coping, with clear distinctions arising between theories. One distinction in the literature relates to theories of pluralism and theories of unity (Campbell, Assanand, & Paula, 2003). Pluralism theories suggest that having multiple distinct self-representations is important because it allows individuals to contain the impact of a negative stressor to the relevant cognitive structure. In contrast, unity proponents suggest that having integrated cognitive structures is important because it provides individuals with a sense of continuity and self-integrity which are essential to positive wellbeing. Importantly, the relationships between unity and pluralism theories indicate that they are conceptually distinct (i.e. high unity does not relate to low pluralism) and therefore both theories may hold benefits for stress management (Bigler, Neimeyer, & Brown, 2001; Campbell et al., 1996; Constantino et al., 2006). On this basis, the current thesis employs a representative model from each of the unity and pluralism ‘camps’ to advance knowledge of the relationships between discrimination, stress and wellbeing.

A second important consideration when selecting self-structure theories relates to how the individual and the group are represented within the self-concept (Yer, Jetten, Tsvirikos, Postmes & Haslam, 2009). For example, according to self-categorisation theory (SCT; Turner, 1982; Tajfel, 1987), the self-concept reflects self-categorisations in which either personal identities (i.e. personal attributes and interpersonal relationships) or social identities (i.e. self-defining groups) are made salient via the social context (Yer et al., 2009).

Consequently, an individual's self-concept can become influenced by social identity in more collective situations via a process known as depersonalisation, whereby the self is perceived as similar to and interchangeable with other in-group members (Tajfel, 1978). Given that stressful life events often occur within a social context, proponents of SCT have demonstrated the benefits of identifying with multiple group identities for wellbeing in the context of major life transitions (Yer et al., 2009; Jetten et al., 2015).

One critique of this line of research is that it typically only asks participants to rate the degree to which they identify with prescribed self-representations (i.e. social group memberships) (McConnell, 2011). In contrast, other research in the self-structure literature allows participants to spontaneously generate their own self-representations (e.g. McConnell, 2011; Linville, 1985; Showers & Kling, 1996). Analyses of the self-representations generated by participants show that people typically report a mix of personal and socially oriented self-representations (McConnell, 2011). Additionally, studies using this methodology also demonstrate wellbeing benefits of self-structures containing a mix of personal and socially oriented self-representations (e.g. McConnell, 2011; Linville, 1985; Showers & Kling, 1996).

The relationship between the individual and the group is one of the most contested topics in social psychology (Baray, Postmes & Jetten, 2009) and as such, is beyond the scope of the current thesis. Given that previous work in the self-structure area has shown wellbeing benefits for both personal and social self-representations, the current thesis investigated two theories of self-structure in which participants could employ their own self-representations, including self-complexity (Linville, 1985, 1987) and self-concept clarity (Campbell, 1990; Campbell et al., 1996). An overview of each of these theories, their measurement and empirical evidence is provided below.

Self-complexity

Self-complexity theory, developed by Linville (1985) considers self-structure to be composed of two components; the number of selves (termed 'self-aspects') a person has and the degree to which they perceive their self-aspects to be similar or overlapping with each other. For example, an individual with low overlap might see themselves as caring and warm when they are a mother, but ambitious and cold when they are an employee. In contrast, an individual with highly overlapping self-aspects might use similar attributes to describe themselves as a mother and an employee. High self-complexity reflects a specific combination of these two components, whereby an individual has a high number of distinct self-aspects. Alternatively an individual with low self-complexity has similar self-aspects and fewer of them. Differences in self-complexity are theorised to have implications for wellbeing, with high self-complexity individuals coping better with stressful life events than those who are low in self-complexity (Linville, 1985, 1987).

Linville (1985; 1987) proposed that the effects of self-complexity work via a system of spreading activation. Specifically, self-aspects are theorised to contain connections or associations with stored emotional information. For example, a person may feel strongly positive about herself as a mother, moderately positive about themselves as an employee and mildly negative about themselves as a partner. A major event in one area of life is likely to have an impact on the related self-aspect (i.e. a child getting sick may impact one's feelings about oneself as a mother), however, if there is a high degree of overlap between self-aspects (i.e. the attributes important to one aspect are also important with other aspects), then the emotions or affect related to the mother self-aspect will 'spill over' to the related aspects. This prediction is summarised by the affective spill over hypothesis (Linville, 1985), in which individuals with high self-complexity are predicted to have less extreme affective reactions than those with low self-complexity as a smaller proportion of their self-concept is implicated

in a particular event. In this way, individuals with lower self-complexity are expected to have more difficulty adapting to stressful life events as the impact on their self is significantly larger than for those with high self-complexity. Linville (1985; 1987) also developed the buffering hypothesis, whereby high self-complexity is predicted to buffer the effects of general life stress on wellbeing, by allowing parts of a person's self-concept to remain largely unaffected by stressful life events (Linville, 1987). In this way, self-complexity is considered a pluralism theory because it describes the benefits of a divided self-concept. Specifically, pluralism proponents argue that having distinct self-representations allows for the impact of stressful life events to be contained to the relevant self-representation. (Campbell et al., 2003).

Measurement of self-complexity

The assessment of self-complexity developed by Linville (1985) employed a trait-sorting task, in which participants are asked to sort a set of cards with traits into meaningful groups which describe different selves. Card traits are both positive and negative and participants are instructed that they can be used as many times as required across selves, while those that are not self-relevant can be left out. A self-complexity score is then calculated for each participant using the *H*-statistic. Developed in information theory (Attneave, 1959), the *H*-statistic was first used in psychology by Scott (1969) to describe dimensionality within multidimensional models of knowledge structure. It was adapted for the purposes of self-complexity by Linville (1987) to combine the number of self-aspects a person reports and the degree to which the attributes used are repeated across self-aspects. A high self-complexity score captures a large number of self-aspects in which there are few shared attributed, while a low self-complexity score consists of a smaller number of self-aspects which share multiple attributes.

Empirical evidence for self-complexity

Using the H statistic, Linville (1985) demonstrated support for her affective extremity hypothesis, in her initial study whereby individuals with lower self-complexity reported more negative affect following a manipulated failure experience, relative to high self-complexity participants. In a second study, Linville also showed that low self-complexity participants demonstrated greater variability in their emotions than their high complexity counterparts (Linville, 1985). In a separate study, Linville also found support for her buffering hypothesis, whereby individuals with high self-complexity reported fewer depression symptoms and higher self-esteem in response to stressful life events over a two week period than individuals with low complexity (Linville, 1987).

While a large number of studies have been conducted on self-complexity following Linville's original studies, support for the original findings has been mixed. This conclusion is reflected in a review by Rafaeli-Mor and Steinberg (2002) in which twelve studies demonstrated support for the stress buffering hypothesis, while seven found that high self-complexity was associated with more negative wellbeing outcomes. The stress-exacerbating effect of self-complexity also has informed the development of an alternative hypothesis in which self-complexity is predicted to promote poorer wellbeing because the process of maintaining a high number of unique self-aspects is inherently stressful (McConnell & Strain, 2007). This is consistent with evidence that those individuals greater in self-complexity also report less perceived control over their self-aspects (McConnell et al., 2005). However, a review of the self-complexity literature by Koch and Shepperd (2004) indicates substantial variation in both the research design employed and the measurement of self-complexity which may go some way towards explaining the contradictory findings. In particular, the buffering effect is frequently measured in a cross-sectional design, which is inconsistent with the original study in which a prospective design was employed (Linville, 1987). Importantly, a

prospective design fits with the theoretical underpinning of self-complexity in which the benefits of self-complexity are theorised to occur in response to a significant life stressor.

It has also been suggested that the *H* statistic does not accurately measure self-complexity (Luo & Watkins, 2008). Support for this was demonstrated by Rafaeli-Mor and Steinberg (2002) who showed that in some cases the number of aspects a participant reported correlated negatively with self-complexity, when in fact it should be positively related to self-complexity. Other authors (e.g. Constantino et al., 2006) have dealt with this issue by examining the two components of self-complexity (i.e. number of self-aspects and the degree to which they overlap) and their relationships to wellbeing separately, however this signals a move away from Linville's original conception of self-complexity. Despite these issues, several authors continue to utilise the *H*-statistic in self-complexity research (e.g. McConnell et al., 2009) and have found it to be a valid measure of self-complexity. In line with this, the current thesis employs the *H* statistic as a measure of self-complexity.

Self-clarity

This construct describes the extent to which self-content is represented consistently across self-aspects, is clearly and confidently defined and is stable across time (Campbell et al., 1996). Self-clarity is measured using a twelve item self-report scale, known as the Self-Concept Clarity Scale. Previous studies show that scores from this scale are internally consistent, test-retest reliability measures suggest it is reliable over time and there is evidence of its convergent and divergent validity (Wu, Watkins, & Hattie, 2010).

Self-clarity was originally developed from research on self-esteem in which it was demonstrated that individuals with high self-esteem also reported more clearly articulated and coherent self-beliefs than individuals with low self-esteem (Campbell, 1990). Theoretically, people with high self-esteem are thought held to have higher self-clarity because they are motivated to obtain positive information about themselves which is consistent with their self-

beliefs (Sedikides, 1993). In contrast, individuals with low self-esteem are more likely to seek both positive self-knowledge (i.e. reflecting an enhancement bias) and negative self-knowledge (i.e. reflecting a bias to be consistent), thereby resulting in unclear, unstable and incoherent self-beliefs (DeMarree & Rios, 2014). However, beyond its relationship to self-esteem, self-clarity has emerged as a predictor of positive psychological wellbeing outcomes in its own right (Guadagno & Burger, 2007), including less negative affect, fewer depressive symptoms, anxiety symptoms, less perceived stress and higher life satisfaction (Bigler et al., 2001; Campbell et al., 1996; Constantino et al., 2006; Lee-Flynn et al., 2011; Ritchie et al., 2011). Prospective and longitudinal designs also provide evidence that self-clarity has a direct effect on depression (Constantino et al., 2006; Lee-Flynn et al., 2011). Furthermore, in one study, self-clarity was shown to mediate the relationship between general life stress and life satisfaction, with stress reducing self-clarity and self-clarity directly enhancing life satisfaction (Ritchie et al., 2011). While additional studies are needed to replicate this finding, it suggests that stress may have a negative impact on the self-system, while self-clarity may have the potential to directly increase psychological wellbeing.

In contrast to self-complexity, the mechanisms through which self-clarity impacts wellbeing are less clearly articulated and this likely reflects its development from the self-esteem literature as opposed to a unique construct. However, as a unity approach to self-structure, the importance of a coherent self-system is assumed to be essential to psychological functioning (Campbell et al., 2003). Theoretically, having a coherent sense of self is proposed to contribute to psychological functioning in several ways. For example, individuals with high self-clarity are held to cope better with stress because they are more resistant to modifying their self-beliefs (Swan & Ely, 1984), because they are more likely to refer to the self to make decisions (Setterlund & Niedenthal, 1993) and because they have access to clear and consistent input on how to behave (Kernis, Paradise, Whitaker, Wheatman & Goldman, 2000).

The importance of the coherent self is also reflected in clinical conceptualisations of psychopathology which describe an incoherent or unstable self as pathological. For example, in Erikson's highly influential stages of psychosocial development, he makes a case for knowing oneself and experiencing continuity of self as critical for psychological wellbeing (Erikson, 1968). This concept is also reflected in more recent conceptualisations of psychopathology in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., DSM-5; American Psychiatric Association, 2013). For example, in borderline personality disorder, a key symptom is identity disturbance which describes an unstable self-image or sense of self. Additionally, under the umbrella term of dissociative disorders, the *DSM-5* describes a condition by which having multiple distinctly different identities causes clinical distress and impairment to functioning.

Current thesis and hypotheses regarding self-complexity and self-clarity

Firstly, given the evidence relating to self-complexity as a buffer against general life stress, the current project sought to test whether self-complexity would moderate the effects of discrimination as a stressor on wellbeing. Consistent with Linville's original theory, we predicted that self-complexity would weaken the relationship between discrimination and wellbeing. Additionally, we sought to test whether self-complexity would mediate the relationship between discrimination and wellbeing. While the existing literature does not test this proposal, we draw on evidence from the broader self-structure literature which suggests that stress can have a direct impact on self-structure, leading to poorer wellbeing (e.g. Lee-Flynn, Pomaki, DeLongis, Biesanz, & Puterman, 2011; Ritchie, Sedikides, Wildschut, Arndt, & Gidron, 2011).

Secondly, we also seek to test self-clarity as a mediator and a moderator of the relationship between discrimination and psychological wellbeing. With regard to the mediation relationship, we draw on a previous study by Ritchie et al. (2011) which suggests

that self-clarity may be a mechanism through which the effects of stress on psychological wellbeing are reduced. We seek to test whether this mediation relationship still holds for discrimination-related stress. Additionally, we seek to test self-clarity as a moderator. While two previous studies have tested self-clarity as a moderator of the relationship between stress and wellbeing and have shown no support for moderation (Constantino et al., 2006; Lee-Flynn et al., 2011), we argue that it is important to examine self-clarity as a moderator because perceived discrimination may have a different impact than other general negative life stressors examined by previous authors. In line with this argument, Wei, Ku, Russell, Mallinckrodt, and Liao (2008) propose that discrimination is distinct from general stressors because it denies access to resources needed for adapting to other stressors, because it can be initiated by both individuals and institutional policy and finally because the combination of individual and institutional discrimination may reflect a more potent form of stress than isolated incidences of general life stress. Existing evidence also demonstrates support for the hypothesis that perceived discrimination uniquely predicts negative outcomes which are distinct from perceived general stress (Dion, Dion, & Pak, 1992; Pieterse & Carter, 2007).

Theoretical framework for self-structure

While self-complexity and to a lesser degree, self-clarity provide their own theoretical frameworks, these tend to be specific to their theoretical orientation regarding which features of self-structure are beneficial to wellbeing. Consequently it is important to have a theoretical framework which allows us to consider the contributions of both theories given they are generally considered to be theoretically distinct (Campbell et al., 2003). On this basis, we used a retrieval competition approach which is a clinical cognitive framework outlined by Brewin (2006). This describes the self-concept as a series of memory records of semantic and episodic memories, in addition to imagined, wished for, and feared self-representations which are organised hierarchically as a series of memory records (Conway & Pleydell-Pearce,

2000). Similar to Beck's cognitive theory of depression (Beck, 1967), Brewin (2006) theorises that vulnerability to psychological disorders is influenced by negative self-representations which are activated by stressful events and serve to maintain negative mood. However, Brewin's theory extends Beck's by articulating the ways in which these representations are retrieved in memory. He proposes that similarly to other items in memory only a small subset of self-representations is active in working memory at any one time (Andersen & Chen, 2002; Markus & Wurf, 1987). In this way self-representations are held to compete for memory retrieval via the same mechanisms that other items compete, including the degree to which the item is rehearsed, the external or internal cues present at recall and the distinctiveness and valance of the item. Additionally, Brewin suggests that the self-structure has important implications for understanding how cognitive behavioural therapy (CBT) works, as the frontline psychological treatment for multiple forms of psychopathology (Butler, Chapman, Forman, & Beck, 2006). Specifically, he theorises that effective CBT is based on developing positive self-representations and increasing their activation while also decreasing the activation of negative self-representations. In this way, Brewin's account is particularly attractive in that it has clinical implications which may be applied to working with stigmatised populations.

Of particular relevance to the current thesis is the degree to which a self-representation is rehearsed. Specifically, self-representations which are accessed more frequently (i.e. 'rehearsed') are more accessible because they undergo deep semantic processing (Baddeley, 1997). The antithesis of this concerns self-representations which are not sufficiently well-developed or stable. While Brewin (2006) does not specify the consequences of having poorly articulated self-representations, this difficulty is addressed by self-concept clarity theory (Campbell et al., 1996). Low self-clarity is theorised to be problematic because individuals with low clarity tend to look to external sources to define themselves presumably because they lack clear self-representations (Feinstein et al., 2012). This tendency may be problematic

when external sources are likely to negatively impact wellbeing. For example, several studies have demonstrated that self-clarity is negatively related to the internalisation of societal standards of attractiveness (Cahill & Mussap, 2007; Humphreys & Paxton, 2004; Vartanian & Dey, 2013), which may in turn predict body image and eating disturbances (Shroff & Thompson, 2006). Similarly, low self-clarity is associated with self-stigma, whereby an individual endorse negative societal views towards themselves and their group, which is also related to depression (Feinstein et al., 2012).

Furthermore, the degree to which external or internal cues present at recall influence retrieval is also of relevance to the current thesis. First, the external context or internal thoughts and feelings are theorised to influence the accessibility of self-representations, with self-representations relevant to the external context or internal cues being more accessible, while non-relevant self-representations become less accessible (Brewin, 2006; Turner et al., 1987). Second, the accessibility of items is also theorised to be influenced by the accessibility of other items which share related features. This describes the encoding specificity principle (Tulving, 1979), in which the activation of one item also increases the accessibility of items which share overlapping features.

Both these principles are embodied in self-complexity theory (Linville, 1985, 1987). In line with the retrieval competition approach (Brewin, 2006), Linville (1987) proposed a system of spreading activation whereby a self-aspect is activated by an external context or associated thoughts and this activation flows to other related self-aspects which share similar attributes, retrieving these self-aspects into working memory. Consequently, under conditions of stress, individuals with high self-complexity have fewer self-aspects activated because their self-aspects have few overlapping features, resulting in the effects of stress being contained to one self-aspect. In contrast individuals with low self-complexity have a larger proportion of their overall self-concept impacted by stress.

A visual depiction of the current framework is provided in Figure 1, which shows a hypothetical self-concept for a person named Jane. Jane has seven self-representations as indicated by the boxes on the second line which mainly depict social identities (e.g. mother, wife). The bottom line describes the attributes that Jane sees herself as embodying in each of the self-representations (i.e. as a mother she is kind and passive). The boxes in grey depict self-representations and attributes which share self-content, while the boxes in white represent distinct self-representations and attributes which do not share content. The dotted line between the boxes 'lesbian' and 'unsure' depict a self-representation which is less clearly articulated than the other self-representations which have clear black lines.

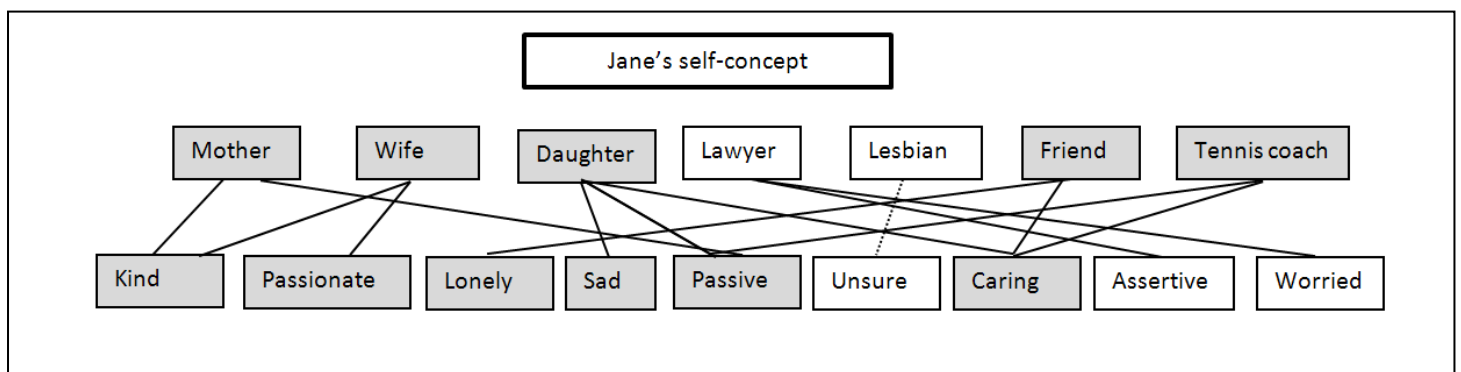


Fig. 2 Hypothetical self-concept for a person named Jane

Clinical implications for self-structure

After determining the elements of self-structure which are beneficial to wellbeing and coping, an additional goal of the current thesis is to determine whether these forms of self-structure may be increased and the mechanisms through which this could be achieved. If this is the case, it is possible these mechanisms could be developed as part of a broader intervention for stigmatised populations. To our knowledge, self-complexity has not been examined in this context, but existing research suggests that self-clarity may be amenable to change using a brief value affirmation exercise (Wakslak & Trope, 2009). In this study,

individuals who participated in a values affirmation exercise reported higher self-clarity scores after the exercise, relative to the control group who wrote about an unimportant value. Value affirmation exercises involve identifying relevant values and writing about a top value and in this way they may also function to enhance self-clarity. Value affirmations are theorised to facilitate a more global sense of self-integrity, whereby one's perceived self-worth is no longer anchored to the self-representation which is related to the source of stress (Steele, 1988). Within the broader value affirmation literature, this process has been shown to buffer the effects of multiple forms of stress on wellbeing, however this has not been examined in relation to discrimination based stress (Creswell et al., 2007; Creswell et al., 2005; Koole, Smeets, Van Knippenberg, & Dijksterhuis, 1999; Sherman et al., 2009). On this basis, we seek to examine the utility of value affirmation as a means to increase self-clarity and reduce the impact of discrimination related stress on wellbeing.

Additionally, by identifying protective elements of self-structure, we seek to identify how self-structure may be enhanced via one-on-one therapeutic interventions with clients who develop psychopathology symptoms. For example, Acceptance and Commitment Therapy is a psychological intervention which uses acceptance and mindfulness strategies, in addition to values and behaviour change strategies to reduce psychopathology (ACT; Hayes, Strosahl & Wilson, 1999). Importantly, ACT has theoretical links to self-clarity as it involves helping a client to identify key values and connect with value driven behaviours and in this way may be used to enhance self-clarity. Furthermore, if having a unified or a more complex sense of self is useful for managing discrimination related stress then clients may be encouraged to engage in cognitive strategies which facilitate these processes. For example, identifying overlap between related self-aspects may foster unity or thinking about a stress as contained to one self-representation may build self-complexity. In this way, the current project aims to inform clinical knowledge in working with individuals who experience discrimination.

Conclusions

The current project seeks to contribute to the empirical research regarding the relationship between discrimination and psychological wellbeing in several ways. First, we seek to address whether more adaptive forms of self-structure identified in the general stress literature (i.e. high self-clarity and self-complexity) also are related to better psychological wellbeing under conditions of discrimination related stress. Second, we aim to contribute to the broader literature on the moderating and mediating factors of the relationship between discrimination and psychological wellbeing by examining the impact of self-structure on this relationship. Third, we seek to contribute to knowledge regarding clinical interventions to increase resiliency and reduce psychological problems in stigmatised populations by determining whether self-clarity can be increased using a values affirmation task and whether participating in a values affirmation task reduces the impact of reading discriminatory views.

**CHAPTER 4: The protective properties of self-concept structure in response to
discrimination-related stress**

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Context statement

In chapter 3, it was suggested that self-structure may moderate or mediate the relationship between discrimination and psychological wellbeing. The following chapter investigates two key elements of self-structure, namely self-clarity and self-complexity. The effects of self-structure are investigated using a multiple mediation model and a moderated mediation model. We measure general perceptions of discrimination as this is the first study of its kind and it was unclear up until this point in the literature if self-structure would be implicated in the relationship between discrimination and wellbeing. The aim of this chapter is to explore the relationships between discrimination, stress, depression and self-structure and to ascertain whether self-structure might contribute to our understanding of individual resiliency in stigmatised populations.

Candidate's contribution

The following study was conducted by the candidate under the supervision of Reynolds and Mavor. The candidate was involved in all elements of the paper and is primarily responsible for the final version of the paper. The candidate worked with Reynolds and Mavor to develop the questionnaire, but the candidate was solely responsible for developing the online version, recruiting participants and writing the introduction, method and discussion section. The candidate received assistance from Smyth and Mavor in the statistical analyses

for the results section and Mavor, Reynolds, Skorich and Smyth contributed feedback to improve the final draft.

Abstract

As research continues to show the impact of discrimination on health, it is important to understand the factors which might mediate or moderate this relationship, in order to inform clinical interventions for stigmatised populations. As discrimination can be understood as a form of stress, resiliency research from the general stress literature may inform our understanding of these factors. Both the moderating and mediating effects of self-concept structure have been observed in the relationship between general life stress and wellbeing; however their utility for discrimination-related stress is relatively unexplored. We sought to test whether self-concept structure would either moderate or mediate the relationships between discrimination, stress and depression. An internet sample ($n = 221$) was used to assess the relationships between discrimination, general stress, depression and self-structure variables (self-complexity, self-clarity). Regression analyses showed that self-clarity moderated the relationship between stress and depression, with higher self-clarity being associated with fewer depression symptoms. Self-clarity also mediated the relationship between stress and depression and the relationship between discrimination and depression. No mediating or moderating effects for self-complexity were observed. Implications for therapeutic interventions will be discussed, including possible links to Acceptance and Commitment Therapy.

Keywords: discrimination, stress, self-organisation, self-concept, depression

Introduction

Early prejudice theorists proposed that perceived discrimination should exert a negative impact on psychological wellbeing (Allport, 1954; Goffman, 1963). Perceived discrimination refers to the perception of negative treatment (e.g. name calling, being

physically threatened or receiving poorer service) on the basis of one's group membership (Williams & Mohammed, 2009). However, although some studies demonstrate the negative effects of discrimination on wellbeing (e.g. Paradies, 2006; Schmitt, Branscombe, et al., 2003; Williams et al., 2003), others show that perceiving oneself as a target of discrimination does not uniformly reduce psychological wellbeing (e.g. Major et al., 2002; Schmitt & Branscombe, 2002).

Recent reviews attempt to reconcile these contradictory findings through the identification of individual and contextual factors which moderate the relationship between discrimination and psychological wellbeing (e.g. Ellemers & Barreto, 2015; Pascoe & Smart Richman, 2009; Schmitt, Branscombe, Postmes, & Garcia, 2014). We seek to advance this line of research by examining self-concept structure as an individual factor that may either moderate or mediate the relationships between perceived discrimination and psychological wellbeing. To our knowledge, self-concept structure has not been investigated in this context.

More generally, in the stress and coping literature, self-concept structure has been shown to both moderate and mediate the relationship between general life stress and psychological wellbeing (e.g. Brown & McConnell, 2009; Lee-Flynn et al., 2011; Ritchie et al., 2011). Empirical evidence supports stress as a mechanism through which perceived discrimination may compromise psychological wellbeing, with discrimination triggering perceptions of stress, leading to poor psychological wellbeing, such as increased depressive and anxiety symptomology (e.g. Mewes et al., 2015; Pascoe & Smart Richman, 2009). In addition to having a direct negative effect on psychological wellbeing, perceived stress may also affect psychological wellbeing by reducing an individual's self-control resources, leading to participation in unhealthy behaviours such as alcohol and substance abuse (Bennett, Wolin, Robinson, Fowler, & Edwards, 2005; Martin, Tuch, & Roman, 2003).

On this basis, we aim to elucidate the role of self-concept structure as either a moderator or a mediator of the relationships between perceived discrimination, stress and

psychological wellbeing. To do this we will draw on theories of self-concept structure, stress and wellbeing.

Self-concept structure

Self-concept structure refers to how information about the self is represented within a cognitive framework in memory (McConnell, 2011). This is distinct from self-concept content which refers to one's self-beliefs and self-evaluations (Campbell et al., 2003). While the self-concept was historically conceptualised as a singular entity, it is now widely viewed as a collection of multiple selves which are also known as "self-aspects" (e.g. Linville, 1985; Linville, 1987; McConnell, 2011; McConnell, Brown, & Shoda, 2013). Self-structure theories consider individual differences in self-concept structure, including the number of self-aspects people report and the degree to which they share content (Linville, 1985, 1987; McConnell, 2011), the integration or compartmentalisation of positive and negative self-content across self-aspects (Showers, 1992; Showers & Kling, 1996) and the degree to which self-aspects are clearly articulated, internally consistent and stable across time (Campbell, 1990).

Similarly to self-concept content, the structure of the self-concept is also theorised to have implications for psychological adaptation to stress. However, self-structure theories are divided on which structural features are most important for psychological wellbeing. Contemporary theories and research on self-concept structure can be broadly categorised into either theories of pluralism or theories of unity (Campbell et al., 2003). Pluralism proponents maintain that individuals with a high degree of self-concept pluralism exhibit multiple specialised self-aspects which enable them to respond quickly and flexibly to stressful circumstances. In contrast, unity proponents argue that individuals with a high degree of self-concept unity fare better across stressful circumstances because of their coherent and integrated self-aspects which provide them with a sense of continuity and self-integrity. Examinations of the relationships between unity and pluralism theories suggest that they are conceptually distinct (i.e. high unity does not correlate with low pluralism) and that both may

offer benefits for wellbeing (Bigler et al., 2001; Campbell et al., 2003; Constantino et al., 2006). Given there is empirical evidence for both theories, we will examine the utility of theories from both sides and their potential to inform our understanding of the relationships between discrimination, stress and wellbeing.

Self-clarity

Self-clarity is a unity driven theory which describes the extent to which self-content is consistent across self-aspects, clearly and confidently defined and temporally stable (Campbell, 1990). The unity approach to self-concept structure assumes the importance of a coherent self-system in maintaining wellbeing and this is also emphasised within clinical psychology. For example, Erikson's stages of psychosocial development argue that knowing oneself and experiencing continuity of self is essential to psychological wellbeing (Erikson, 1968). The unity approach also represents the antithesis of identity disturbance which characterises borderline personality disorder (Diagnostic and Statistical Manual 5th edition; American Psychiatric Association [APA], 2013).

Several studies have documented a relationship between high self-clarity and positive psychological wellbeing outcomes, including low negative affect, low depression and low anxiety, less perceived stress and higher life satisfaction (Bigler et al., 2001; Campbell et al., 1996; Constantino et al., 2006; Lee-Flynn et al., 2011; Ritchie et al., 2011). There is also evidence that self-clarity has a direct impact on depression which has been established using prospective and longitudinal designs (Constantino et al., 2006; Lee-Flynn et al., 2011). Finally, self-clarity has been demonstrated to mediate the relationship between general life stress and life satisfaction, with stress reducing self-clarity and leading to lower perceived life satisfaction (Ritchie et al., 2011). In line with previous findings, we hypothesise that self-clarity will be directly related to psychological wellbeing and that self-clarity will mediate the relationship between stress and wellbeing. Additionally on the basis that discrimination also

represents a form of stress, we predict that self-clarity will mediate the relationship between discrimination and wellbeing.

Self-clarity has also been proposed as a moderator of the relationship between stress and wellbeing, with high self-clarity buffering the effects of stress on wellbeing. Lee-Flynn et al. (2011) suggest that individuals with high self-clarity may respond more effectively to stressors perceived as threatening and uncontrollable because they have stable and clear aspects of the self to refer to. In contrast, individuals with low self-clarity lack effective and consistent information on how to behave which may be associated with more extreme reactions to stress (Kernis et al., 2000). It has also been suggested that self-clarity may influence wellbeing through the internalisation of negative self-views. For example, individuals with lower self-clarity demonstrate greater sensitivity to the opinions of others and the impressions others hold of them (Campbell et al., 1996). Several studies have also shown a negative relationship between self-clarity and the internalisation of societal standards of attractiveness (Cahill & Mussap, 2007; Humphreys & Paxton, 2004; Vartanian & Dey, 2013) which may also predict body image and eating disturbances (Shroff & Thompson, 2006). Low self-clarity has also been linked to self-stigma, whereby an individual internalises negative societal views towards themselves and their group, which is in turn related to depression (Feinstein, Davilla & Yoneda, 2012). While the proposed moderating effect of self-clarity was not observed by two previous studies that have tested it (Constantino et al., 2006; Lee-Flynn et al., 2011), the current study is different in that we examine how psychological wellbeing is impacted by the effects of increased general life stress arising from perceived discrimination. We argue that it is important to examine self-clarity as a moderator in this context because perceived discrimination may have a different impact relative to the other negative life events or daily stressors investigated by previous authors. For example, Wei et al. (2008) argue that discrimination differs from general stressors because it denies access to resources which are essential for adapting to other stressors, because it may be initiated by both individual

interactions and institutional policy and because the combination of both individual animosity and institutional discrimination may represent a more potent form of stress than general life stress in isolation. Notably, there is some support for the hypothesis that perceived discrimination uniquely predicts negative outcomes as distinct from perceived general life stress (Dion et al., 1992; Pieterse & Carter, 2007). On this basis, we sought to test the hypothesis that self-clarity would act as a moderator, with high self-clarity reducing the strength of the association between general life stress and wellbeing. Additionally, we tested the hypothesis that self-clarity would moderate the association between discrimination and general life stress, with high clarity participants reporting less stress in response to discrimination.

Self-complexity

Self-complexity is a pluralism theory which consists of two components; the number of self-aspects a person has and the degree to which they perceive their self-aspects to be non-overlapping (i.e. the aspects capture largely distinct attributes; Linville, 1985; 1987). High self-complexity represents a specific combination of these components, whereby an individual is said to have a high number of differentiated self-aspects (low overlap). In contrast, low complexity reflects a low number of similar self-aspects. Individuals who are high in self-complexity are predicted to respond better to stressful life events than their low complexity counterparts (Linville, 1985, 1987).

Using a prospective design, Linville demonstrated support for this proposal which she termed the buffering hypothesis. Specifically, she assessed self-complexity, life stressors and psychological and physical outcomes associated with stress (e.g. depression, stress-related physical symptoms and illnesses) on two occasions which were two weeks apart. Analyses showed that self-complexity moderated the effects of stress on depression and physical symptoms and illnesses, with those who had greater self-complexity reporting fewer effects of stress relative to their low complexity counterparts (Linville, 1987). Linville's theory assumes

that self-aspects are cognitive structures which are represented within a network in memory and are related to each other semantically. At any one time, specific self-aspects within the network will be activated by the context (e.g. feeding a child is likely to activate one's mother self-aspect) or by other self-aspects which are related semantically. For example, if a mother sees herself as a caring, warm and friendly, this may activate other self-aspects which also share these attributes. On this basis, Linville predicted for complex individuals, stress related to one self-aspect will be less likely to 'spill-over' to other self-aspects, therefore stress will affect a smaller proportion of their self-concept. The overlap component of self-complexity shares some resemblance with the internal consistency component of self-clarity, in that they both represent an integrated self-concept (Rafaeli-Mor & Steinberg, 2002). However, the theories propose divergent effects on wellbeing for self-concept integration, with self-complexity proposing that it promotes poor psychological wellbeing via the spill-over effect, while self-clarity suggests that it has a positive, stabilising effect.

Following Linville's original studies, a great deal of research has been conducted on self-complexity with mixed support demonstrated for the buffering hypothesis. A review by Rafaeli-Mor and Steinberg (2002) found twelve studies that supported the buffering hypothesis, while seven studies found that self-complexity exacerbated the effects of stress on wellbeing. The stress-exacerbating effect of self-complexity on stress has led to the development of an alternative hypothesis which suggests that self-complexity promotes poorer wellbeing because it is stressful maintaining a higher number of unique self-aspects (McConnell & Strain, 2007). Support for this hypothesis includes that those greater in self-complexity also report less perceived control over their self-aspects (McConnell et al., 2005). However, studies investigating the buffering effects of self-complexity show variation in both the research design employed and the measurement of self-complexity which may go some way to explaining the seemingly contradictory findings (Koch & Shepperd, 2004). The moderating effects of self-complexity on affective reactions to feedback about success or

failure have also been examined (Niedenthal, Setterlund, & Wherry, 1992). In this study, the authors expanded on Linville's original theory to show that pre-medical students with greater self-complexity were less affected by success or failure feedback on a science exam compared to students with low self-complexity.

We sought to examine whether self-complexity would moderate the effects of discrimination on general life stress and the effects of stress on wellbeing. In line with Linville's original theory, we predicted that compared to their low complexity counterparts, those higher in self-complexity would report better psychological wellbeing in response to high general life stress. We also predicted that high self-complexity participants would perceive less stress in response to discrimination because their experience of stress is more likely to be contained to a smaller area of their self-concept. Finally, we sought to test the hypothesis that self-complexity would mediate the relationship between discrimination and wellbeing and the relationship between stress and wellbeing. While there is no existing evidence for this proposal in the self-complexity literature, we draw on evidence from the self-clarity literature which indicates that stress directly affects self-structure, leading to poorer psychological wellbeing (e.g. Lee-Flynn et al., 2011; Ritchie et al., 2011).

The current study

We seek to examine self-clarity and self-complexity as both moderators and mediators of the relationships between perceived discrimination, stress and depression, using a general sample of university students. In line with existing research demonstrating a strong relationship between discrimination and depression as a negative psychological wellbeing indicator (Paradies, 2006a; Schmitt, Branscombe, Postmes, & Garcia, 2014), we employ depression symptomology as an outcome variable. Additionally, we are interested in experiences of discrimination across multiple different categories and so participation is not restricted to any particular social group (e.g. racial discrimination or gender discrimination).

A university sample is ideal for achieving this goal, as various forms of prejudice and discrimination are experienced by university students, who can be profoundly affected by them (Bowman & Denson, 2014; Denson & Bowman, 2013).

We summarise our hypotheses as follows:

H1: Discrimination will directly increase depressive symptomology. This effect will be mediated through stress, in that increased discrimination leads to increased stress, which in turn leads to increased depression symptomology.

H2: Self-structure variables (self-clarity and self-complexity: these variables will be modelled separately as the literature suggests they are separate constructs) will impact on these relationships. In line with the literature, we have two complementary models regarding how this might work:

H2a: Self-structure may act as a second mediator in the model, mediating both the discrimination-depression relationship and the stress-depression relationship, as suggested, for example, by Ritchie et al. (2011).

H2b: Self-structure may act as a moderator, either exacerbating or attenuating the relationships between discrimination, stress and depression, as suggested, for example, by Linville (1985; 1987).

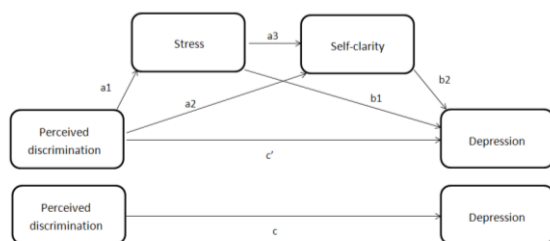


Fig 1. Model 1: Self-clarity mediates the relationships between discrimination-wellbeing and stress-wellbeing (H2a)

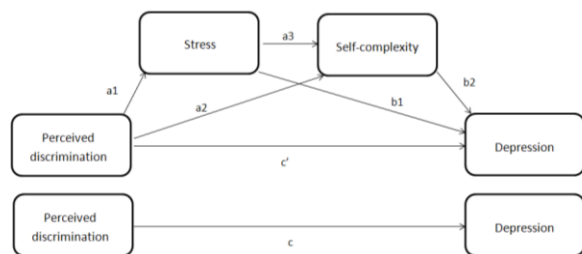


Fig 2. Model 2: Self-complexity mediates the relationships between discrimination-wellbeing and stress-wellbeing (H2a)

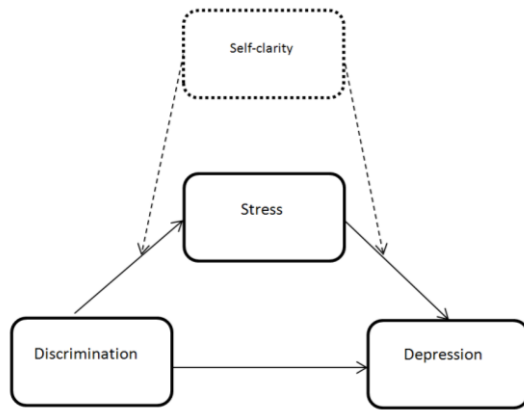


Fig. 3. Model 3: Self-clarity moderates the relationships between discrimination, stress and wellbeing (H2b)

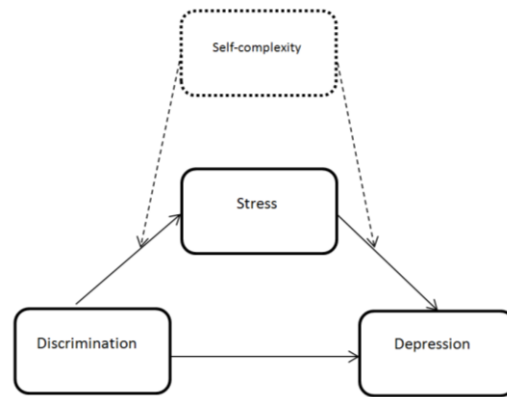


Fig. 4 Model 4: Self-complexity moderates the relationships between discrimination, stress and wellbeing (H2b)

Method

Two hundred and twenty-one participants were recruited for an online survey via flyers displayed at the Australian National University (ANU) and online social media sites related to the ANU. Participants identified as female (67.9%), male (30.3%) or other (1.8%). The majority of participants identified as Australian (62.9%), with other ethnicities including Asia (17.6%), Europe (10.9%), New Zealand (5.4%) and Africa (1.4%). The remaining participants identified as South American, Canadian and Indian (1.5%). Participants were largely between 18 and 25 years of age (83.3%), followed by 26-34 years (10%), 35-54 years (5.4%) and 55-64 (1.4%). The highest level of education completed by most participants was secondary school (63.3%), followed by an undergraduate degree (18.1%), a postgraduate degree (12.7%), TAFE courses/apprenticeships (5.4%) and some secondary school (0.5%).

Participants were provided with a web link to an anonymous online survey containing questions about demographics, self-concept structure, perceived discrimination, general life stress and wellbeing. Internet-based surveys have been demonstrated to be of similar reliability, validity and quality to data from more traditional survey methodologies (Lewis, Watson, & White, 2009).

Measures

Perceived discrimination

The Everyday Discrimination Scale (EDS; Williams et al., 1997) was used to assess global perceptions of everyday unfair treatment. Participants are presented with nine items which reflect encounters with unfair treatment, for example “You are threatened or harassed.” A six point rating scale is used to rate the frequency of perceived discriminatory experiences: [1] never, [2] less than once a year, [3] A few times a year, [4] A few times a month, [5] At least once a week, [6] Every day. ($\alpha = .88$) Participants who report at least one discriminatory experience a minimum of a few times a year are asked to specify the perceived basis for the unfair treatment from a list of adapted options (e.g. ethnicity, gender, age, religion, height, weight, sexual orientation, education/income level, physical disability, appearance, other).

Short Form Perceived Stress Scale (PSS-4)

The PSS-4 (Cohen, Kamarck, & Mermelstein, 1983) is a short version of the Perceived Stress Scale self-report questionnaire which contains four items from the original scale ($\alpha = .62$). It provides a measure of a person’s evaluation of stressful situations in the previous month. While the PSS-4 has demonstrated less internal reliability in comparison to the 14-item scale ($r = 0.60$ vs $r = 0.85$; Cohen & Williamson, 1988), it is well suited to settings in which assessment time is limited. This made it a suitable choice for the current study as the self-structure questionnaires can take up to 30 minutes, and the primary focus of the study was on discrimination related stress rather than general life stress.

Self-complexity

Self-complexity was measured using an adapted version of Showers’ (Showers, 1992; Showers & Kling, 1996) self-descriptive card sorting task (which is in turn a variation on the Linville’s original complexity task) (Linville, 1985). In Showers’ version of the task, participants are assigned a deck of cards each containing an attribute (20 positive, 20

negative), with instructions to sort the cards into groups that represent different aspects of themselves. The current study adapted Shower's task for online use by employing a computer program in which participants labelled up to eight subtypes (e.g. 'me as a student,' me at work'), then selected and dragged relevant attributes which best described their subtypes. Participants were instructed that the same attribute could be used as many times as necessary.

Self-complexity was calculated using the H statistic; the most commonly employed measure for this purpose (Rafaeli-Mor & Steinberg, 2002). The H statistic was developed in information theory (Attneave, 1959) and was first employed in psychology by Scott (1969) to describe dimensionality within multidimensional models of knowledge structure, and was adopted in the self-complexity work by Linville (1987). The H -statistic takes into account the number of aspects a person reports and the degree to which attributes are repeated across multiple self-aspects. A high self-complexity score reflects a large number of self-aspects with few shared attributes and a low self-complexity score is comprised of a smaller number of self-aspects which share many attributes.

Self-concept clarity

The Self-Concept Clarity Scale (Campbell et al., 1996) provides a measure of the extent to which an individual perceives their self-beliefs as clearly defined, coherent and stable across time. It comprises of 12-items in a self-report format, for example "In general I have a clear sense of who I am and what I am." ($\alpha = .82$). It contains a five point scale for participants to rate their agreement with the items, with scale points ranging from 'strongly agree' to 'strongly disagree.'

Depression

The Centre for Epidemiological Studies Depression Scale (CES-D Radloff, 1977) is a self-report measure of depressive symptomology. It was originally developed for epidemiology studies of depression in the general population and contains 20 items ($\alpha = .78$).

The CES-D requires participants to refer to the past week to rate the frequency of depressive symptoms, for example 'I felt that I was not as good as other people'. The rating scale reads as follows: [1] rarely or none of the time (less than 1 day), [2] some or a little of the time (1–2 days), [3] occasionally or a moderate amount of the time (3–4 days), or [4] most or all of the time (5–7 days).

Results

Preliminary analyses

Frequency analyses were conducted to determine the rate of perceived discriminatory experiences reported in the sample. In total, 23.1% of the sample reported perceiving discriminatory experiences at least once a month. Participants could select as many categories as they needed to describe the reason or reasons for their perceived discrimination. Within this sample, the majority of participants attributed their discriminatory experiences to age (65%), followed by gender (62.4%), appearance (60.7%), ethnicity (23.9%), education or income level (25.6%), weight (22.2%), sexual orientation (16.2%), height (14.5%), religion (12.8%), mental health condition (10.3%) and physical disability (5.1%). Participants could select as many categories as they needed to, with an average of 2.6 categories selected. The mean stress score was 11.28 ($SD = 3.09$), which is much larger than the norm score of 6.11 (Warttig, Forshaw, South, & White, 2013). One reason for this difference may be the inclusion of the words 'discrimination' and 'stress' on the recruitment advertisement which may have resulted in people with these experiences being more inclined to participate in the survey. Finally, the relationship between discrimination and depression was further investigated to determine whether the type of discrimination significantly impacted the relationship between discrimination and depression. No significant moderation effects were observed as a function of the type of discrimination, indicating that discrimination significantly predicted depression, regardless of the type of discrimination reported.

Correlations between discrimination and wellbeing

As predicted, significant positive correlations were observed between perceived discrimination and depressive symptomology ($r = 0.46, p < 0.01$), between stress and depression symptomology ($r = 0.79, p < 0.01$) and between perceived discrimination and stress ($r = 0.36, p < 0.01$) (see Table 1). This finding is consistent with previous research in this area (Pascoe & Smart Richman, 2009; Williams et al., 2003). This indicates that individuals who perceive greater discrimination and stress were more likely to report higher levels of depression symptomology.

Table 1. Correlations between the variables of interest

	M	SD	1	2	3	4	5
1. Perceived discrimination	22.26	6.73					
2. General stress	11.28	3.09	0.36**				
3. Depressive symptomology	18.55	12.10	0.46**	0.79**			
4. Self-complexity	2.94	.83	0.12	0.12	0.12		
5. Self-clarity	34.64	9.96	-0.42**	-0.58**	-0.62**	-0.14*	

* $p < .05$, ** $p < .01$

Correlations between self-structure and other variables

Consistent with the wider literature (e.g. Lee-Flynn et al., 2011; Ritchie et al., 2011) and our predictions, self-clarity was significantly associated with fewer depressive symptoms ($r = -0.62, p < 0.01$). As predicted, both discrimination and stress were associated with lower levels of self-clarity (r 's = $-0.42, p < 0.01$ and $-0.58, p < 0.01$, respectively). Self-clarity was found to be significantly associated with self-complexity ($r = -0.14, p < 0.05$), although the relationship is quite small as is consistent with previous literature that also finds them largely unrelated (e.g. Campbell et al., 2003; Constantino et al., 2006). Self-clarity did show a negative association with depressive symptoms ($r = -0.62, p < 0.01$), however, self-

complexity was not found to be significantly associated in this sample (Rafaeli-Mor & Steinberg, 2002; Constantino et al., 2006).

Testing the models¹

Hayes' PROCESS macro (Hayes, 2012) assesses mediation and moderation models using moderated multiple regression, and uses bootstrapping to estimate the size of the direct and indirect effects. We tested four models and the results from these analyses are summarised in Tables 2-3 and displayed in Figures 7-11. Figures are shown with standardised path weights for convenience of interpretation. All statistics are computed from the unstandardised analyses.

Model 1

As shown in Table 2 (see Fig. 7), our results supported the hypothesised model: perceived discrimination exerted an effect on stress ($b = 0.17, t = 5.77, p < 0.001$), stress influenced levels of self-clarity ($b = -1.6, t = -8.73, p < 0.001$), which in turn predicted depression ($b = -0.22, t = -3.78, p < 0.01$). Discrimination had a significant direct effect on depression independent of its effect on stress and self-clarity ($b = .27, t = 3.56, p < 0.01$)

¹Alternative versions of all the models were tested, in which depression was tested as the predictor variable and discrimination was the outcome variable, with stress mediating this relationship, as depression could bias perceptions of discrimination and promote changes in self-structure. Additionally, we tested stress as the predictor variable and discrimination as the outcome variable, with depression mediating this relationship, as stress may cause depression leading to an increase in perceptions of discrimination (Hammen, 2005). However, the R² values indicate that the current models provide a better fit for the data than the alternative versions.

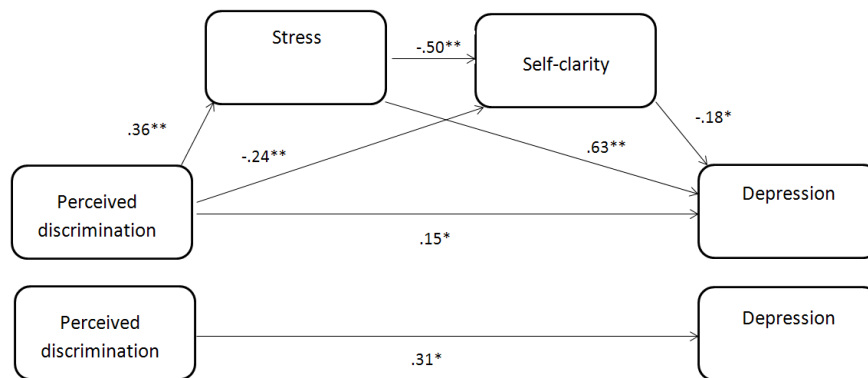


Fig 7. Model 1. Relationship between perceived discrimination and depression, mediated by stress and self-clarity

Significant indirect effects were observed with stress as a mediator of the relationship between discrimination and depression, with a standardised estimate of .41 (and a 95% bias-corrected bootstrap confidence interval (CI) of .27-.58). Self-clarity also had a significant indirect effect on the relationship between discrimination and depression, with a point estimate of .08, (CI= .04-.15). Finally, both stress and self-clarity combined exerted significant indirect effects on the relationship between discrimination and depression, with a point estimate of .06 (CI = .02-12).

Model 2

The hypothesised model was not supported. While perceived discrimination impacted on stress ($b = 0.17, t = 5.77, p < 0.001$), stress did not significantly influence self-complexity ($b = .02, t = 1.18, p = 0.24$), nor did self-complexity significantly impact on depression ($t = .008, b = .005, p = .99$). Discrimination had a significant direct effect on depression independent of its effect on stress ($b = .35, t = 4.61, p < 0.001$). Significant indirect effects were found again for stress as the mediator between discrimination and depression, with a point estimate of .47 (CI = .31-.64). No significant indirect effects were observed for self-

complexity on the relationship between discrimination and depression or for self-complexity and stress combined.

Table 2 Summary of output from Hayes' [6] Process macro

Variables	Adjusted R^2	B	β	SE
Dependent variable: Stress				
Step 1	.13**			
Constant		7.57**	.00	.67
Discrimination		.17**	.36**	.03
Dependent variable: Self-clarity				
Step 1	.63**			
Constant		60.55**	.00	2.3
Stress		-1.6**	-.50**	.18
Discrimination		-.35**	-.24**	.08
Outcome: Depression				
Step 1	.68**			
Constant		-7.65	.00	4.11
Stress		2.47**	.63**	1.87
Self-clarity		-.22*	-.18*	.06
Discrimination		.27*	.15*	.08
	Effect	LLCI	ULCI	
Total	.5515	.3760	.7100	
$M1$.4125	.2599	.5643	
$M2$.0790	.0396	.1450	
$M1$ & $M2$.0600	.0232	.1187	

Note: * $p < .05$, ** $p < .01$

Note: LLCI – low level confidence interval; ULCI – upper limit confidence interval

Model 3

In model three we build on the strong mediation effect between discrimination, stress and depression already found in Models 1 and 2, and look for any moderation effect of self-clarity (see Table 3, Fig. 8). In the mediation part of the model, perceived discrimination was found to exert an effect on stress ($b = .07, t = 2.44, p < 0.05$), while stress influenced depression ($b = 2.47, t = 14.05, p < 0.001$). Discrimination also had a significant direct effect on depression independent of its effect on stress ($b = 0.28, t = 3.83, p < 0.01$) (see Fig. 8).

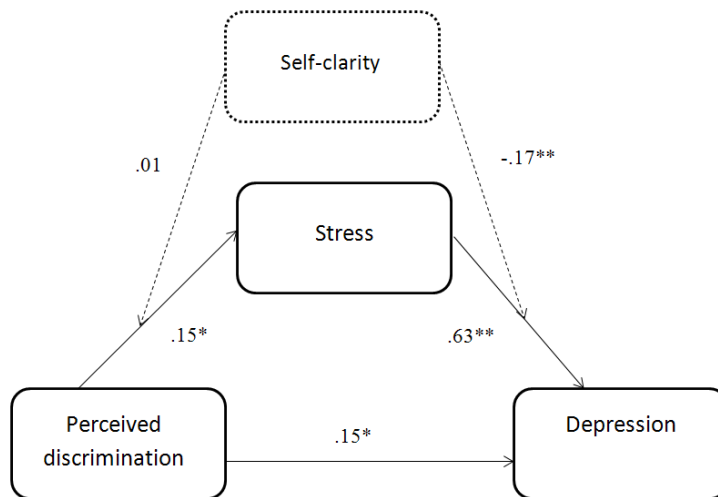


Fig 8. Model 3. Moderated mediation model with the relationship between discrimination and depression mediated by stress and self-clarity moderating the relationship between discrimination and stress and between stress and depression

We also predicted that self-clarity would moderate the relationships between discrimination and stress and stress and depression. As Table 3 shows, self-clarity does not moderate the link between discrimination and stress ($b = .00, t = 0.25, p = 0.80$). However, self-clarity does moderate the link between stress and depression ($b = -0.07, t = -5.22, p < 0.001$) (see Fig 8). Table 4 shows the conditional indirect effects of stress on depression at three different levels of self-clarity. The three levels of self-clarity are the mean and

plus/minus one standard deviation (SD) from the mean. Table 4 shows that the direct effect of stress on depression reduces at higher levels of self-clarity (see Fig. 9). Due to varying standard error estimates, the effect of stress on depression is only significant at the mean level of clarity. However, we know from the previous mediation models that the effect of stress on depression is significant. The key issue is therefore that the significant moderation shows a reduced effect of stress on depression as self-clarity increases.

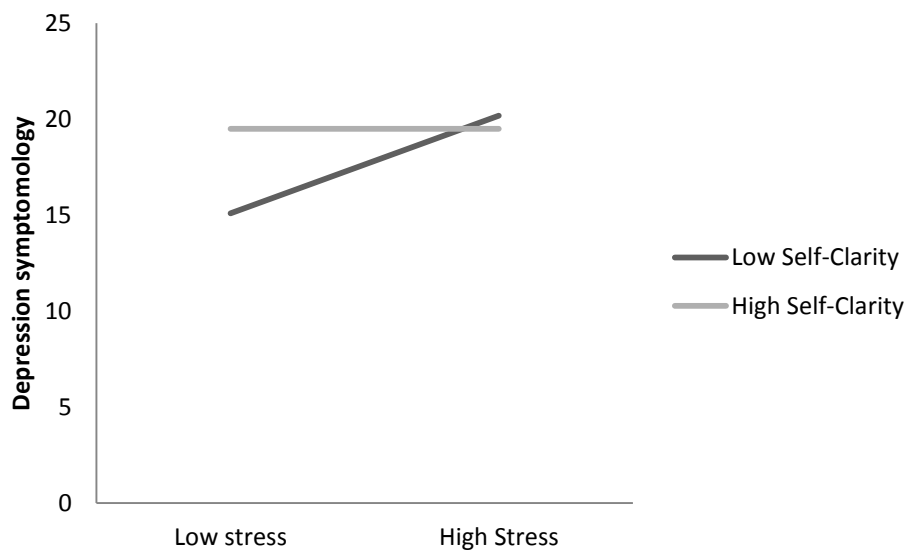


Fig. 9. Slopes reflecting the interaction between stress and self-clarity on depression in Model 3. NB: low and high self-clarity are defined at -1SD and +1SD respectively.

Table 3 Summary of output from Hayes’ [58] Process macro

Variables	Adjusted R ²	B	β	SE
Dependent variable: stress				
Step 1	.60**			
Constant		.02	.01	.18
Discrimination		.07*	.15	.03
Self-clarity		-.16**	-.52	.02
Discrimination x Self-clarity		.00	.01	.00
Dependent variable: Depression				

Step 1	.72**			
Constant		17.36**	.00	.49
Stress		2.48**	.63	.18
Discrimination		.28*	.15	.07
Self-clarity		-.26**	-.21	.06
Stress x Self-Clarity		-.07**	-.17**	.01

Note: * $p < .05$, ** $p < .01$

Table 4: Conditional indirect effect of discrimination on depression at values of self-clarity

Z*	Effect	SE	LLCI	ULCI
-9.96	.193	.106	-.0021	.3895
.00 _{mean}	.167	.069	.0232	.2976
9.96	.133	.078	-.0258	.2662
Direct effect of discrimination on depression				
	Effect	SE	LLCI	ULCI
	.278	.072	.1348	.4202

Note: * $p < .05$, ** $p < .01$

Note: All variables were mean-centred prior to analysis

Z level denotes the mean and plus/minus one SD from mean

LLCI – low level confidence interval

ULCI – upper limit confidence interval

Model 4

In model 4 we replicate the simple mediation of stress in the discrimination-depression relationship, as shown in previous models. However, no moderation effects of self-complexity were found; on either the relationship between discrimination and stress ($b = .06$, $t = 1.67$, $p = .10$) or between stress and depression ($b = .16$, $t = .77$, $p = .44$).

Discussion

This study sought to extend current knowledge of factors which may moderate or mediate the relationships between discrimination, stress and depression by examining self-concept structure variables in this context. To do this, we developed and tested four models which proposed either moderating or mediating effects of self-complexity or self-clarity. All of the models predicted a significant relationship between discrimination and depression which was mediated by stress. This prediction was supported and is consistent with previous research which indicates that discrimination can lead to higher perceptions of psychological stress which in turn can trigger depression symptoms (Pascoe & Smart Richman, 2009).

We also found support for our prediction that self-clarity would moderate the relationship between stress and depression, with higher self-clarity being associated with fewer depression symptoms. While the moderating effects of self-clarity have not been observed in the two studies which have tested it (Constantino et al., 2006; Lee-Flynn et al., 2011), the previous studies looked at general life stress, as opposed to stress that arises from discrimination. We argue that discrimination is likely to be particularly salient to self-concept structure because discrimination communicates negative views towards the self. Therefore, high self-clarity may represent a more resilient form of self-structure that reduces the impact of discrimination on wellbeing.

Additionally, we found support for our prediction that self-clarity would act as a second mediator in the model, mediating the discrimination-depression relationship and the stress-depression relationship. Specifically both discrimination and stress were shown to lead to a reduction in self-clarity which in turn led to higher depressive symptoms. Taken together the mediation and moderation effects both support an important role for self-clarity in reducing the impact of stress on depression.

We argue that this effect could have important therapeutic implications. For example, members of stigmatised groups may be encouraged to develop their self-clarity as a means of

protecting their psychological wellbeing against discrimination. This may be achieved using values affirmation exercises which have been linked to increases in self-clarity (e.g. Wakslak & Trope, 2009). Values affirmation exercises require individuals to clarify and expand on what is important to them and this process may help individuals to adopt a more clearly defined view of the self which is central to self-clarity. Clarifying values is also a component of Acceptance and Commitment Therapy (ACT; Hayes et al., 1999) in which therapy clients are encouraged to identify values and engage in values driven behaviour.

Several of our predictions were not supported including our hypothesis that self-clarity would moderate the effects of discrimination on stress. This would suggest that having higher self-clarity does not make experiencing discrimination any less stressful; however it may provide individuals with a way to manage stress so that an individual's risk of developing depression symptoms is attenuated. Additionally, no support was found for our predictions that self-complexity would mediate the relationships between discrimination, stress and depression. Notably, only one previous study has found a mediating effect (Niedenthal et al., 1992) and theories of self-complexity (Linville, 1987; McConnell, 2011) support a moderating rather than a mediating effect. However, the moderating effects of self-complexity on stress-related depression were not observed in this study. It is possible that this is a consequence of using a cross-sectional design to test self-complexity. The buffering hypothesis proposes that the protective benefits of self-complexity occur following a stressful life event, indicating that a prospective rather than a cross-sectional design would be more appropriate to observe this effect (Koch & Shepperd, 2004). This may also explain why self-complexity was not found to moderate the relationship between discrimination and stress. Further research using a prospective design is needed before we can draw conclusions about self-complexity as a moderator of the relationships between discrimination, stress and depression. It was also unexpected that high self-clarity was associated with higher levels of depression symptomology at low levels of stress. While further study is required to see whether this result is replicated, this finding suggests that there are certain

circumstances in which high self-clarity may be less beneficial for psychological wellbeing. One possibility is that while high self-clarity helps people to navigate stressful situations, it may also be a source of distress for individuals when their self-relevant values are contradicted by others.

We argue that the findings presented here represent a novel and important progression in our understanding of the way in which discrimination creates stress and subsequent threats to wellbeing, though some caution is necessary. The cross-sectional design is not optimal for finding buffering effects, and also requires some caution in interpreting causal direction, for example it is possible that individuals who are more depressed report more stress. A substantial body of work demonstrates the onset of depressive symptoms following higher levels of significant stressors (for a review, see Brown & Harris, 1989; Hammen, 2005) and our testing of alternative models provided the most support for stress preceding depression. However, the literature has moved away from unidimensional models of the stress-depression relationship in favour of a more progressive and dynamic relationship and future research could consider how self-structure might operate within this framework (Hammen, 2005). A second limitation is that the study only employs one wellbeing indicator. While previous studies have observed a reliable association between depression and discrimination (Pascoe & Smart Richman, 2009; Schmitt et al., 2014; Williams et al., 2003), using additional wellbeing indicators would strengthen the case for considering self-structure as a factor which might influence individual risk or resilience in the context of stress. It is also noted that although the Everyday Discrimination Scale (Williams, 1997) continues to be widely used in the discrimination and wellbeing literature (Gonzales et al., 2015), there is potential for unpleasant social experiences to be attributed to discrimination. To our knowledge, this possibility has not been explored empirically, but remains an important question for future research. Furthermore, although relationships between discrimination, stress, self-structure and depression were demonstrated to hold across a range of different forms of discrimination (e.g. gender discrimination, racial discrimination), previous research suggests that the consequences of discrimination may vary as a consequence of certain characteristics of the stigmatised groups (e.g. concealable stigma versus visible stigmas) or individuals (e.g. individuals

who identify strongly with a stigmatised group membership versus those who do not;) (Branscombe, Schmitt & Harvey, 1999; Schmitt et al., 2014). While this was beyond the scope of the current investigation, it suggests an important pathway for future research.

In conclusion, we found evidence that self-clarity may contribute usefully to our understanding of the relationship between discrimination and depression. Specifically, self-clarity was found to moderate the effects of stress arising from discrimination on depression symptomology. While the mechanisms through which this effect occurs have not been clearly articulated in the previous literature, there appears to be something about the stress process, which erodes the consistency, coherency and stability of self-views and promotes depression symptomology. This highlights the multiple ways in which a unified self-concept structure may support psychological wellbeing in the context of discrimination.

CHAPTER 5: Self-structure and resiliency in international students new to Australia**Context statement**

In chapter 4, we found evidence of self-clarity as both a moderator and a mediator of the relationships between discrimination, general life stress and depression. The following chapter seeks to investigate whether these findings can be replicated using a stigmatised population as opposed to a general population who may or may not have experienced discrimination. We also seek to extend the previous findings by examining anxiety as an additional wellbeing outcome to depression and examining acculturative stress in place of general life stress. In this way we seek to build on the evidence discussed in chapter 4 by demonstrating whether these relationships function across additional wellbeing outcomes and stressors. Finally, although our previous hypothesis regarding self-complexity as a moderator or a mediator was unsupported in Chapter 4, we retain self-complexity as a measure in Chapter 5 to exclude the possibility that the null result was related to a particular aspect of Study 4.

Abstract

Research indicates that international students are at risk of developing psychological problems as a result of discrimination and acculturative stress (i.e. stress related to transitioning to a new culture). As a key provider of tertiary education for international students, it is important to understand the coping mechanisms of international students in Australia. Given that discrimination and acculturative stressors both represent forms of stress, research from the general stress literature may inform our understanding of coping mechanisms. Self-structure represents a resiliency factor which has been demonstrated to moderate and mediate the relationships between general stress and wellbeing. We sought to investigate whether self-concept structure would moderate or mediate the relationships between discrimination, acculturative stress and wellbeing using an internet sample (n = 154) of international students. Regression analyses using Hayes (2012) PROCESS models showed

that acculturative stress mediated the relationships between discrimination and psychological wellbeing, as did self-clarity. However, acculturative stress appeared to make a particularly important contribution to psychological wellbeing. Additional findings and implications for therapeutic interventions with international students are discussed.

Introduction

With 20% of university students coming from overseas, Australia is ranked as having the highest concentration of international students in the world (Hall, 2014). Recent growth in international student enrolments has seen an increase in the awareness of international student academic needs, however significantly less attention has been given to their psychological needs (Rosenthal, Russell, & Thomson, 2006). A major threat to the psychological wellbeing of international students relates to perceptions of discriminatory treatment from the host culture, including verbal abuse, physical abuse and social exclusion (Lee, 2010; Lee & Rice, 2007). Although the majority of research on discrimination and international students has been conducted in the United States, several studies in Australia indicate that between 20% and 50% of international students perceive themselves as the target of discriminatory behaviour (Deumert, Marginson, Nyland, Ramia, & Sawir, 2005; Rosenthal et al., 2006).

Perceived discrimination is related to poorer psychological wellbeing in international students, in particular, depression and anxiety symptomology (Poyrazli & Lopez, 2007; Rosenthal et al., 2006; Smith & Khawaja, 2011). Racial discrimination has also been established as a causal risk factor for poor psychological wellbeing (e.g. Schmitt, Branscombe, Postmes, & Garcia, 2014). However, the impact of discrimination on the psychological wellbeing of international students is not uniformly negative (Gao & Liu, 1998; Pan, Wong, Chan, & Joubert, 2008; Rosenthal et al., 2006), indicating the presence of contextual and individual factors which may serve to mediate or to moderate the relationship between discrimination and wellbeing (Pan et al., 2008). We seek to contribute to this line of

research by examining self-concept structure as an individual factor which may moderate or mediate the relationship between discrimination and psychological wellbeing in international students in their first six months in Australia.

Self-concept structure refers to the organisation of self-knowledge, including the degree to which self-knowledge is clearly articulated and the number of distinct identities an individual identifies with (Campbell et al., 1996; Linville, 1985, 1987; McConnell, 2011). Importantly self-structure is theorised to influence the accessibility of self-beliefs and as such may serve to attenuate or amplify the impact of stressful life events on psychological wellbeing (Showers, Zeigler–Hill, & Limke, 2006). For example, individuals with an unclear sense of self may be more influenced by external views and as such may be more likely to internalise prejudiced views towards themselves (Feinstein, Davila, & Yoneda, 2012). Furthermore, individuals who have a large number of distinct identities may be able to contain the impact of a negative stressor to a smaller area of their self-concept and therefore may be less affected by stressful life events (Linville, 1985, 1987; McConnell, 2011). We argue that the benefits of self-structure may also extend to the relationship between discrimination and psychological wellbeing in the following ways. First, discrimination is theoretically and empirically supported in the literature as a form of stress which can have a negative impact on psychological wellbeing (Pascoe & Smart Richman, 2009). Second, discrimination is also proposed to have a negative impact on psychological wellbeing by increasing perceptions of acculturative stress (i.e. stress related to the process of transitioning to a new culture) and this model is also supported by empirical evidence (e.g. Dawson & Panchanadeswaran, 2010; Torres, Driscoll, & Voell, 2012).

Our investigation of self-structure is also consistent with current knowledge of moderating and mediating factors in this area which acknowledge the importance of self and identity variables in recognition of how moving culture challenges existing self-knowledge

and facilitates new ways of viewing the self (Jung, Hecht, & Wadsworth, 2007). For example, Berry's model of acculturation has been hugely influential in explaining how individuals who identify with both the host and the home cultures tend to fare better than those who identify strongly with only one of these identities (Berry, 2003). However, examining self-structure also extends current knowledge by providing a cognitive-affective framework for how individuals manage negative affect related to the experience of moving to a new culture. In this way, certain self-structures may enhance the accessibility of negative self-representations which in turn may contribute to the development of psychopathology and impact on an individual's capacity to successfully navigate the new culture (Brewin, 2006). We seek to extend the self-structure literature by examining whether the protective benefits of self-structure also apply to discrimination, as previous research has focused on general life stress (Constantino, Wilson, Horowitz, & Pinel, 2006b; Lee-Flynn, Pomaki, DeLongis, Biesanz, & Puterman, 2011; McConnell, 2011; Ritchie, Sedikides, Wildschut, Arndt, & Gidron, 2011).

While several theories have been developed in the self-structure literature we focus on two of the most studied theories, namely self-complexity (Linville, 1985, 1987) and self-clarity (Campbell et al., 1996) which make predictions relating to the relationship between perceived stress and psychological wellbeing. Furthermore, they offer alternative views with regard to which features of self-structure are most beneficial for wellbeing. For example, self-complexity describes the importance of a divided self-concept in which having more unique identities prevents a stress related to one identity from infiltrating unrelated identities (Linville, 1987). In contrast, self-clarity proposes the importance of a unified self-concept in facilitating access to clear and reliable self-representations in times of stress (Campbell et al., 1996). Examinations of the relationships between these theories suggest that they are distinct conceptually (i.e. high clarity does not correlate with low complexity) and that both may offer benefits for wellbeing (Bigler, Neimeyer, & Brown, 2001; Campbell, Assanand, & Paula,

2003; Constantino, Wilson, Horowitz, & Pinel, 2006a). Therefore, we explore both theories and offer predictions regarding how they might inform the relationship between discrimination and psychological wellbeing in international students below.

Self-clarity

Self-clarity describes the degree to which self-content is consistent across self-aspects, is clearly and confidently defined and is stable over time (Campbell et al., 1996). The unity approach maintains the importance of a coherent self-system in facilitating psychological wellbeing, as supported by early developmental psychologists such as Erikson (1968). Self-clarity is consistently associated with positive psychological wellbeing outcomes in the literature, including low negative affect, low depression, low anxiety, less perceived stress and higher life satisfaction (Bigler et al., 2001; Campbell et al., 1996; Constantino et al., 2006b; Lee-Flynn et al., 2011; Ritchie et al., 2011).

Self-clarity has been proposed as both a mediator and a moderator of the relationship between stress and wellbeing (Constantino et al., 2006b; Lee-Flynn et al., 2011; Ritchie et al., 2011). Firstly, proponents of the mediator approach have theorised that stressful life events may reduce self-clarity by challenging one's existing self-beliefs (Ritchie et al., 2011). For example, a high achieving international student who receives lower grades in the Australian university system may begin to question their belief that they are a good student. This process may in turn weaken their sense of positive identity (Alicke & Sedikides, 2009) and identity coherence (Sedikides, De Cremer, Hart, & Brebels, 2010). Given that negative self-evaluation and identity confusion are key components several forms of psychopathology, reduced self-clarity may also lead to poorer psychological health (Beck, 1967; Hasson-Ohayon et al., 2014). Support for self-clarity as a mediator of the relationship between stress and psychological wellbeing comes from two existing studies which have tested it (Ritchie et al., 2011; Sharpe-Davidson, Mavor, Smyth, Skorich, & Reynolds, 2015).

Self-clarity has been proposed as a moderator of the relationship between stress and wellbeing, with high self-clarity being associated with better wellbeing outcomes. Several mechanisms through which this relationship might operate have been suggested. For example, individuals with high self-clarity have stable and clear aspects of the self to refer to which may render them better able to respond in effective ways to stressors (Lee-Flynn et al., 2011). In contrast, because those with low self-clarity lack clear and stable self-aspects, they tend to be more sensitive to the opinions and impressions of others, which may also have negative wellbeing consequences for them (Campbell et al., 1996). In particular, low self-clarity has been associated with self-stigma, whereby negative societal views towards a stigmatised group in society are directed towards the self, which in turn is related to depression (Feinstein et al., 2012). Self-clarity is also negatively associated with the internalisation of societal standards of attractiveness (Vartanian & Dey, 2013) which may in turn predict later body image and eating difficulties (Shroff & Thompson, 2006). Despite this, few studies have tested the moderating effects of self-clarity on stress. To our knowledge, only two previous studies have examined this in the context of general life stressors and neither found support for the buffering hypothesis (Constantino et al., 2006b; Lee-Flynn et al., 2011). However, the moderating effects of self-clarity were observed in a recent study in which individuals with high clarity reported fewer depression symptoms in response to discrimination related stress (Sharpe-Davidson et al., 2015). It may be the case that the effects of self-clarity are responsive to certain types of life stressors. For example, the previous studies examined general life stressors as opposed to a specific stressor such as discrimination. It is plausible that discrimination is particularly threatening to the self-system because it implies a rejection of the self. In a similar way, acculturative stress (which may incorporate discrimination), could also be threatening to the self because the individual is required to navigate new ways of being.

On this basis, we seek to examine self-clarity as both a moderator and a mediator of the relationship between acculturative stress and psychological wellbeing. In line with previous findings (e.g. Lee-Flynn et al., 2011; Ritchie et al., 2011) we predict that it is more likely to have a mediating effect than a moderating effect. Additionally, we aim to test the mediating and moderating effects of self-clarity on the relationship between discrimination and acculturative stress. While this has not been tested by previous studies, theoretical research suggests that having clear self-representations may reduce the impact of stress on the self-concept or it may lead to lower perceived stress in response to negative life events (Lee-Flynn et al., 2011), therefore it is plausible that individuals with high self-clarity may report less acculturative stress in response to discrimination. On this basis, we predict that self-clarity will mediate the relationship between discrimination and acculturative stress.

Self-complexity

Self-complexity consists of two components; the number of self-representations a person has and the degree to which they perceive them as non-overlapping (i.e. self-representations largely reflect distinct attributes; (Linville, 1985, 1987). High self-complexity represents a high number of unique self-representations (low overlap), while low complexity reflects a low number of similar self-representations. Self-complexity theory predicts that individuals with high self-complexity will demonstrate better coping in response to stressful life events than those with low complexity (Linville, 1985, 1987). This prediction is termed the 'buffering hypothesis' which asserts that high complexity should moderate the effects of stress on psychological wellbeing, with high complexity individuals showing fewer psychological problems in response to negative life events. Support for self-complexity theory was originally demonstrated using a prospective design, in which self-complexity, life stressors and psychological and physical outcomes associated with stress (e.g. depression, stress-related physical symptoms and illness) were tested twice over a fortnight (Linville,

1985, 1987). Analyses indicated that individuals with high complexity reported fewer depression symptoms and physical symptoms in response to stressful life events.

The theory assumes that self-aspects are cognitive structures which are related to each other semantically and are represented within a framework in memory (Linville, 1987; A McConnell, 2011). Self-aspects are activated by contextual cues (e.g. being at university is likely to activate one's student self-aspect) or by other aspects that are related semantically. For example, if a student sees themselves as conscientious and hardworking, this may activate other self-aspects which also share these attributes. Consequently, Linville predicted that high self-complexity is beneficial for wellbeing because stress related to one self-aspect is less likely to activate other self-aspects in a complex self-structure. While the overlap component of self-complexity appears similar to the concept of unity, theories of pluralism suggest that overlap has a negative effect on wellbeing because it engenders the spreading of stress through the activation of related self-aspects.

Linville's original research on self-complexity has been followed by a multitude of studies which have produced mixed support for the buffering hypothesis. In a review of the self-complexity literature, Rafaeli-Mor and Steinberg (2002) identified twelve studies which supported the buffering hypothesis and seven studies that found the opposite effect (i.e. greater complexity exacerbated the effects of stress on wellbeing). This second finding has led to the development of an alternative hypothesis which predicts that self-complexity is associated with poorer wellbeing because the process of maintaining a large number of distinct self-aspects is stressful (McConnell & Strain, 2007). However, a closer examination of the literature shows substantial variation in the research designs and the measurement of self-complexity across studies, which may account for some of the variation observed (Koch & Shepperd, 2004). In particular, the buffering effects of self-complexity are proposed to be responsive to life stressors, making them more suited to prospective or longitudinal designs than the limited snapshot provided by cross-sectional designs.

In the case of international students, we predict that high self-complexity will moderate the relationship between acculturative stress and psychological wellbeing. This is consistent with existing research which suggests that being higher in self-complexity minimises the impact of stress on wellbeing (for a review, see Rafaeli-Mor & Steinberg, 2002). We also predicted that high self-complexity participants would report lower perceptions of stress in response to discrimination because in line with Linville's theory, their perception of stress is likely to be contained to a smaller area of their self-concept.

Additionally, we sought to test whether self-complexity would mediate the relationship between discrimination and acculturative stress and the relationship between acculturative stress and psychological wellbeing. While this sits outside of the original theory, it is consistent with research from the self-clarity literature which demonstrates that stress directly impacts self-structure and promotes poorer psychological wellbeing (e.g. Lee-Flynn et al., 2011; Ritchie et al., 2011).

We summarise our hypotheses as follows:

H1: Discrimination will directly increase negative psychological wellbeing symptomology (depression and anxiety). This effect will be mediated through acculturative stress, in that increased discrimination leads to increased acculturative stress, which in turn leads to increased depression and anxiety symptomology.

H2: Self-structure variables (self-clarity and self-complexity: these variables will be separately modelled as the literature suggests they are separate constructs) will influence on these relationships. In line with the literature, we have two alternative models regarding this:

H2a: Self-structure may act as a second mediator in the model, mediating both the discrimination-psychological wellbeing relationship and the acculturative stress-psychological wellbeing relationship (see Fig. 10)

H2b: Self-structure may act as a moderator, either exacerbating or attenuating the relationships between discrimination, acculturative stress and psychological wellbeing (see Fig. 11)

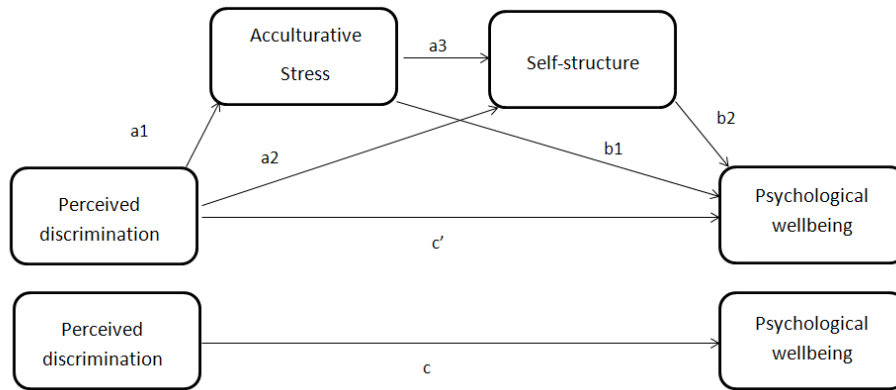


Fig. 10. Relationship between perceived discrimination and psychological wellbeing, mediated by acculturative stress and self-structure

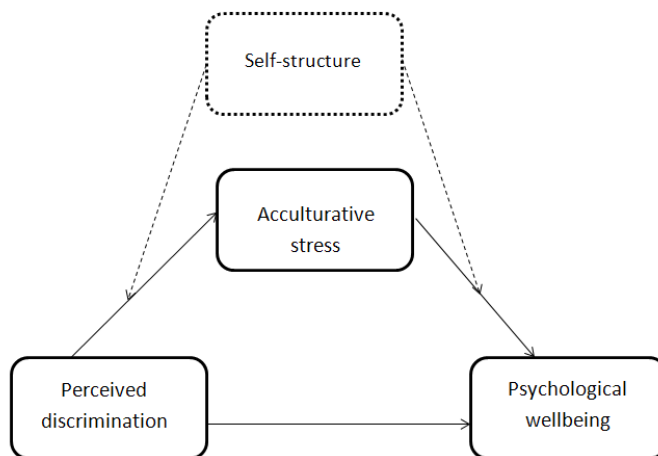


Fig 11. Moderated mediation model with the relationship between discrimination and depression mediated by acculturative stress and self-structure moderating the relationship between discrimination and acculturative stress and between acculturative stress and depression

Participants

One hundred and fifty-five international students within their first four months of arrival in Australia were recruited from tertiary education institutions across Australia. The study was advertised on social media sites for international students and via international student organisations at tertiary education institutions. Participation was restricted to participants in their first four months in Australia, as the study was interested in their early experiences of living in Australia. Participants were also informed that they would be asked questions about their wellbeing, their experiences of life in Australia and how they view themselves. Participants could opt to go into the draw to win one of five \$50 supermarket vouchers as a token of appreciation for their time.

Measures

Acculturative stress

Rosenthal et al.'s (2006) cultural stress scale was used to measure the perceived discomfort of students in a culturally unfamiliar setting. This 6-item scale includes key components of acculturative stress including loneliness, homesickness, unfair treatment and sense of belonging ($\alpha = .76$). Items include: "I miss the familiar way of life in my own country" and "It's hard being away from the people I love." Participants were asked to rate how much each statement reflected their experience in Australia from (1 = 'strongly disagree' to 7 = 'strongly agree'). Item wording was modified slightly to reflect the population which included students across Australia as opposed to the Melbourne sample which it was developed for.

Perceptions of group discrimination

Perceived discrimination on the basis of ethnicity was measured using the perceptions of group discrimination scale developed by Bourguignon, Seron, Yzerbyt, and Herman

(2006). The wording of Bourguignon's original scale was modified slightly to reflect the current population as the scale was originally developed for African participants living in Belgium. This scale consists of 4 self-report items, including 'I think my ethnic group is undervalued in Australian society' and 'In Australian society, people often despise people from my ethnic group' ($\alpha = .79$). Participants were asked to rate their agreement with each item, using a 1 to 7 scale (1 = 'strongly disagree' to 7 = 'strongly agree').

Self-complexity

Self-complexity was measured using Showers' (Showers, 1992; Showers & Kling, 1996) self-descriptive card sorting task, which is a variation of the original task developed by Linville (1987). This task was adapted for online use using a computer program in which participants were asked to label up to 8 self-aspects (e.g. 'me as a sister,' 'me as a student') and to select and drag attributes which best described their self-aspects. Participants were instructed that the same attribute could be used as many times as they required.

Self-complexity was calculated using the most commonly used measure for this purpose, which is known as the *H* statistic (Rafaeli-Mor & Steinberg, 2002). The *H* statistic comes from information theory (Attneave, 1959) and was originally used in psychology by (Scott, 1969) to calculate dimensionality within multidimensional models of knowledge structure. The *H*-statistic was adopted by Linville (1987) to calculate the number of self-aspects a person reports and the degree to which the attributes used to describe the self-aspects are repeated across self-aspects. A high self-complexity score describes a large number of self-aspects with few repeated attributes and a low self-complexity score reflects a smaller number of self-aspects with many repeated attributes.

Self-concept clarity

The Self-Concept Clarity Scale (Campbell et al., 1996) was used to measure the degree to which one's self beliefs are clearly defined, internally consistent and temporally stable. This self-report measure contains 12 items ($\alpha = .84$), for example "I seldom experience conflict between different aspects of my personality." Participants are asked to rate their agreement with the items using a five point scale ranging from 'strongly agree' to 'strongly disagree.'

Depression, Anxiety and Stress Scales-21 (DASS-21)

The short version of the Depression, Anxiety and Stress Scales (DASS-21; Lovibond & Lovibond, 1995) were used to assess depression and anxiety as negative indicators of psychological wellbeing. While the stress component of the scale was administered as part of the scale, it was decided against using it in the analyses as the analyses already contained a measure of acculturative stress. The DASS-21 contains 7 items for each of the three components and participants are asked to rate how much each of the items applied to them over the past week ($\alpha = .93$). Sample items include, 'I found it hard to wind down' and 'I couldn't seem to experience any positive feeling at all.' Participants are asked to respond using a 4-point scale (0 = 'did not apply to me at all' to '3 = applied to me very much, or most of the time'). Research indicates that the DASS-21 has good reliability and validity (Clara, Cox, & Enns, 2001; Henry & Crawford, 2005).

Results*Demographics*

Participant demographics are summarised in Table 5. One hundred and fifty-five participants were recruited at time one. The majority of participants were female (68.6%) and between 18 and 25 years (77.6%). The largest percentage of participants came from China

(26.92%), followed by Other South East Asia/Pacific (14.10%) and Europe (8.97%). The majority of participants were living in the Australian Capital Territory (71.2%) and had been in Australia four weeks or less at the time of survey completion (40.4%).

Table 5. Participant demographics (n = 155) at time 1

Variable		Percentage
Gender	Male	31.4
	Female	68.6
Age	18-25	77.6
	26-34	17.9
	35-54	4.5
Length of time in Australia	4 weeks or less	40.4
	5-8 weeks	18.6
	9-12 weeks	14.7
	13-16 weeks	26.3
Country of origin	China	26.92
	India	3.21
	Indonesia	8.97
	Malaysia	7.05
	Singapore	6.41
	UK/US/Canada	7.05
	Other East Asia	3.85
	Other South East Asia/Pacific	14.10
	Middle East/North Africa	1.92
	Other Africa	1.92
	Europe	8.97
	Latin America	8.33
	Other South Asia	1.28
State	Australian Capital Territory	71.2
	New South Wales	15.4
	Queensland	2.6
	Victoria	10.3
	Western Australia	0.6

Correlations between variables of interest

As predicted, significant positive correlations were observed between discrimination and acculturative stress ($r = .56, p < .001$), as is consistent with the wider literature (Dawson & Panchanadeswaran, 2010; Torres et al., 2012) (see Table 6). Acculturative stress was associated with negative indicators of psychological wellbeing, including depression ($r = .38, p < .001$) and anxiety ($r = .28, p < .001$), and discrimination was also positively related to

depression ($r = .27, p < .001$) and anxiety ($r = .24, p < .001$). These findings reflect the wider literature which suggests that individuals who perceive more acculturative stress and more discrimination are more likely to report poorer psychological wellbeing (e.g. Pascoe & Smart Richman, 2009; Rosenthal et al., 2006; Smith & Khawaja, 2011).

In line with previous findings (Lee-Flynn et al., 2011; Ritchie et al., 2011), self-clarity was significantly associated with less depression ($r = -.26, p < .001$) and anxiety ($r = -.32, p < .001$). As predicted, both acculturative stress ($r = -.22, p < .001$) and discrimination ($r = -.30, p < .001$) was also significantly associated with reduced self-clarity. Contrary to previous research, self-complexity was not found to be significantly associated with acculturative stress or psychological wellbeing in this sample (Constantino et al., 2006; Rafaeli-Mor & Steinberg, 2002), however it was negatively related to discrimination ($r = -.16, p < .05$).

Table 6. Correlations between variables of interest at time 1

	M	SD	1	2	3	4	5	6
1. Discrimination	14.11	5.15						
2. Acculturative stress	23.21	6.40	.56**					
3. Self-clarity	39.29	8.68	-.30**	-.22**				
4. Self-complexity	2.26	.83	-.16*	.09	-.07			
5. Depression	3.35	3.51	.27**	.38**	-.26**	-.01		
6. Anxiety	4.07	3.76	.24**	.28**	-.32**	.04	.73**	

* $p < .05$, ** $p < .01$

Testing acculturative stress and self-structure as mediators of the relationship between discrimination and psychological wellbeing

Hayes' (2012) PROCESS macro for SPSS, model 6 (multiple mediated model) was used to test our prediction that acculturative stress and self-structure (self-clarity OR self-complexity) would mediate the relationship between discrimination and the psychological

wellbeing indicators (depression and anxiety) (see Fig. 12). Since self-clarity and self-complexity are unrelated ($r = -.07$, ns) the models with each acting as the second mediator in the chain were tested independently.

To examine the two wellbeing variables (i.e. depression and anxiety) and the two self-structure variables (self-clarity and self-complexity) four models were run with discrimination as the predictor and acculturative stress and self-structure as the mediators. Results from these analyses are displayed in Tables 3 and 4 and Figures 3-6. Figures are shown with standardised path weights for convenience of interpretation. All statistics are computed from the unstandardised analyses.

Model 1

As shown in Table 7 (see fig. 12), acculturative stress and self-clarity did not act as multiple mediators of the relationship between discrimination and depression. While perceived discrimination predicted acculturative stress ($b = .63$, $t = 7.31$, $p < .001$) and self-clarity predicted depression ($b = -.09$, $t = -2.91$, $p < .05$), acculturative stress did not significantly impact on self-clarity ($b = -.08$, $t = -.64$, $p = .52$) and discrimination did not have a significant direct effect on depression ($b = .03$, $t = .45$, $p = .65$). However, acculturative stress significantly mediated the relationship between discrimination and depression with an indirect effect of .15 and a 95% bias-corrected bootstrap confidence interval (CI) of .08-.25. Significant indirect effects were also observed with self-clarity as a mediator of the relationship between discrimination and depression, with a point estimate of .04, (CI = .01-.11).

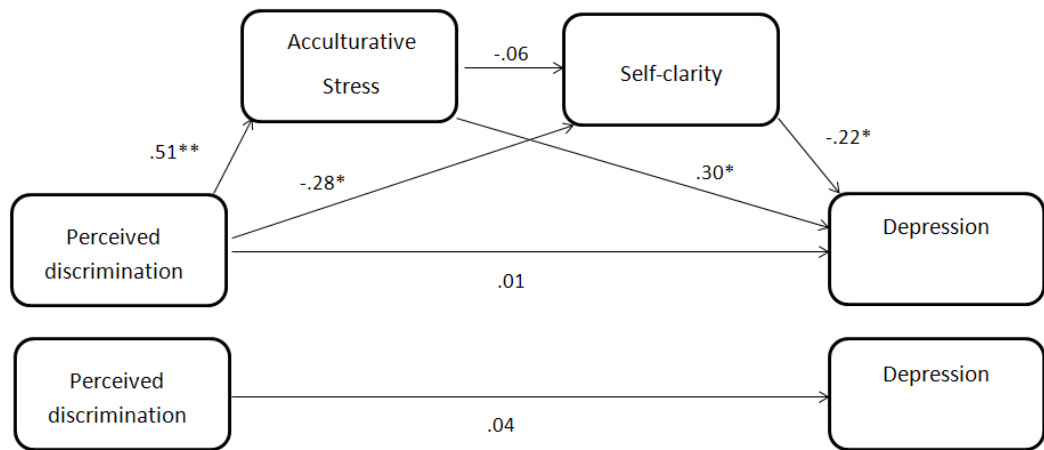


Fig. 12. Model 1. Relationship between discrimination and depression mediated by acculturative stress and self-clarity

Table 7. Multiple-step mediation analyses on discrimination, acculturative stress, self-clarity, self-complexity and depression

Model 1

Variables	Adjusted R^2	B	β	SE
Dependent variable: Acculturative stress				
Step 1	.26**			
Constant		14.31**	.00	1.3
Discrimination		.63**	.51**	.09
Dependent variable: Self-clarity				
Step 1	.10*			
Constant		47.84**	.00	2.60
Acculturative stress		-.08	-.06	.12
Discrimination		-.48*	-.28*	.15
Dependent variable: Depression				
Step 1	.18**			

	Effect	LLCI	ULCI
Constant	2.7	.00	1.8
Acculturative stress	.17*	.30*	.05
Self-clarity	-.09*	-.22*	.03
Discrimination	.03	.04	.06
Total	.15	.0807	.2216
<i>M1</i>	.11	.0516	.1910
<i>M2</i>	.03	.0021	.0801
<i>M1 & M2</i>	.00	-.0053	.0238

Note: * $p < .05$, ** $p < .01$

LLCI – low level confidence interval

ULCI – upper limit confidence interval

M1 = acculturative stress; *M2* = Self-clarity

Model 2

Similarly, we found no support for model 2 in which we predicted that acculturative stress and self-clarity would mediate the relationship between discrimination and anxiety (see Table 8, fig. 13). While perceived discrimination predicted acculturative stress ($b = .63$, $t = .31$, $p < .001$) and self-clarity predicted anxiety ($b = -.12$, $t = -3.82$, $p < .01$), acculturative stress did not impact on self-clarity ($b = -.08$, $t = -.64$, $p = .41$) and discrimination did not significantly predict anxiety ($b = .02$, $t = .28$, $p = .78$). However, acculturative stress significantly mediated the relationship between discrimination and anxiety, with a standardised point estimate of .09 (CI = .03-.16). Furthermore, self-clarity significantly mediated the relationship between discrimination and anxiety, with a point estimate of .06, (CI = .02-.14).

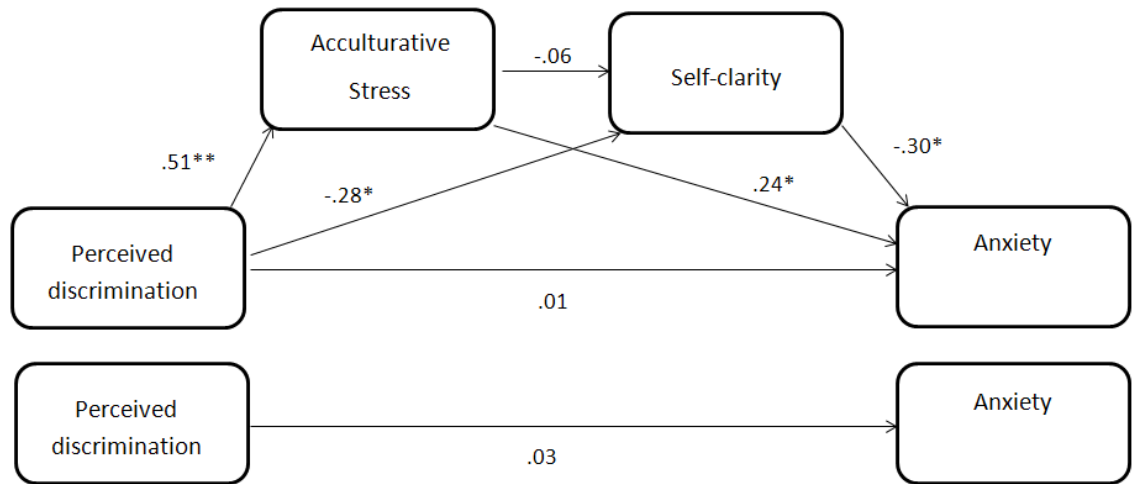


Fig. 13. Model 2. Relationship between discrimination and anxiety mediated by acculturative stress and self-clarity with standardised coefficients

Table 8. Multiple-step mediation analyses on discrimination, acculturative stress, self-clarity, self-complexity and anxiety for model 2

Variables	Adjusted R^2	B	β	SE
Dependent variable: Acculturative stress				
Step 1	.26**			
Constant		14.30**	.00	1.3
Discrimination		.63**	.51**	.09
Dependent variable: Self-clarity				
Step 1	.10*			
Constant		47.84**	.00	2.6
Acculturative stress		-.08	-.06	.12
Discrimination		-.48*	-.28*	.15
Dependent variable: Anxiety				

Step 1	.18**			
Constant		5.58*	.00	1.93
Acculturative stress		.14*	.24*	.05
Self-clarity		-.13*	-.30*	.03
Discrimination		.02	.03	.06
	Effect	LLCI	ULCI	
Total	.16	.0859	.2381	
<i>M1</i>	.09	.0307	.1631	
<i>M2</i>	.06	.0164	.1359	
<i>M1 & M2</i>	.01	-.0113	.0336	

Note: * $p < .05$, ** $p < .01$

LLCI – low level confidence interval

ULCI – upper limit confidence interval

Model 3

As shown in Table 9 (see Fig 14), components of the model were supported, including the significant relationships between discrimination and acculturative stress ($b = .63, t = 7.31, p < .001$), and acculturative stress and depression ($b = .17, t = 3.51, p < .01$). Additionally, discrimination predicted less self-complexity ($b = -.04, t = -2.98, p < .01$), while acculturative stress predicted greater self-complexity ($b = .03, t = 2.47, p < .01$). Finally, we demonstrate further evidence for the strong mediation effect of acculturative stress on the relationship between discrimination and depression, with the significant indirect effect of acculturative stress .11 (CI = .05-.19).

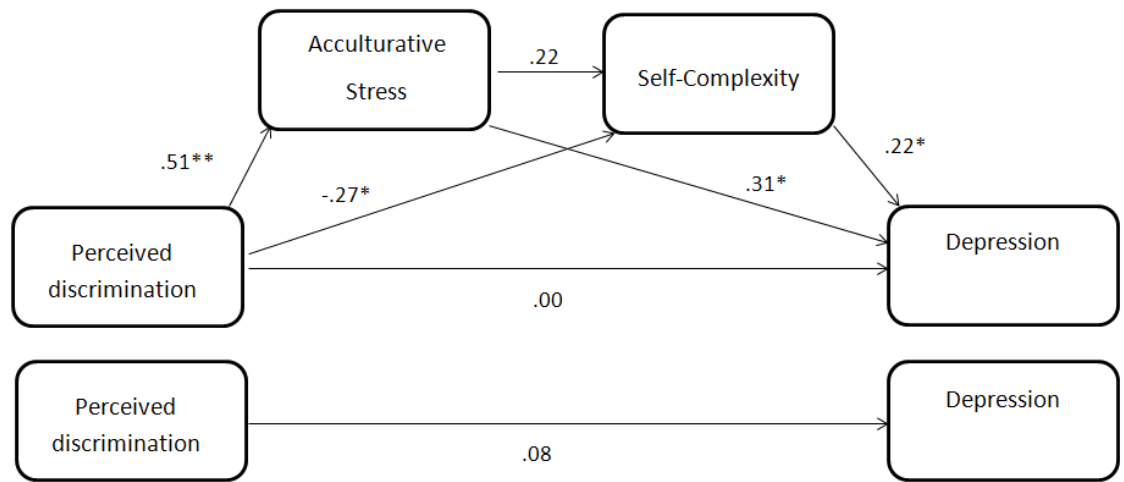


Fig. 14. Model 3. Relationship between discrimination and depression mediated by acculturative stress and self-complexity with standardised coefficients

Table 9. Multiple-step mediation analysis for model 3

Variables	Adjusted R^2	B	β	SE
Dependent variable: Acculturative stress				
Step 1	.26**			
Constant		14.30**	.00	1.3
Discrimination		.63**	.51**	.09
Dependent variable: Self-complexity				
Step 1	.06*			
Constant		2.2**	.00	.25
Acculturative stress		.03*	.22*	.01
Discrimination		-.05*	-.27*	.01
Dependent variable: Depression				
Step 1	.14**			
Constant		-1.71	.00	1.18
Acculturative stress		.17*	.31*	.05

Self-complexity		.03	.01	.33
Discrimination		.08	.11	.06
	Effect	LLCI	ULCI	
Total	.11	.0502	.1866	
<i>M1</i>	.11	.0533	.1849	
<i>M2</i>	.00	-.0142	.0211	
<i>M1 & M2</i>	-.00	-.0407	.0333	

Note: * $p < .05$, ** $p < .01$

LLCI – low level confidence interval

ULCI – upper limit confidence interval

M1 = acculturative stress; *M2* = Self-complexity

Model 4

Some components of the model 4 were supported including discrimination as a significant predictor of acculturative stress ($b = .63, t = 7.31, p < .001$) and acculturative stress as a significant predictor of anxiety ($b = .14, t = 2.67, p < .05$) (see Table 10, fig. 15). Additionally we found further support for discrimination significantly predicting less self-complexity ($b = -.04, t = -2.98, p < .01$) and acculturative stress significantly predicting greater self-complexity ($b = .02, t = 2.47, p < .01$). Similarly, to the previous analyses, a significant indirect effect was found for acculturative stress on the relationship between discrimination and anxiety, with a point estimate of .09 (CI = .03-.17).

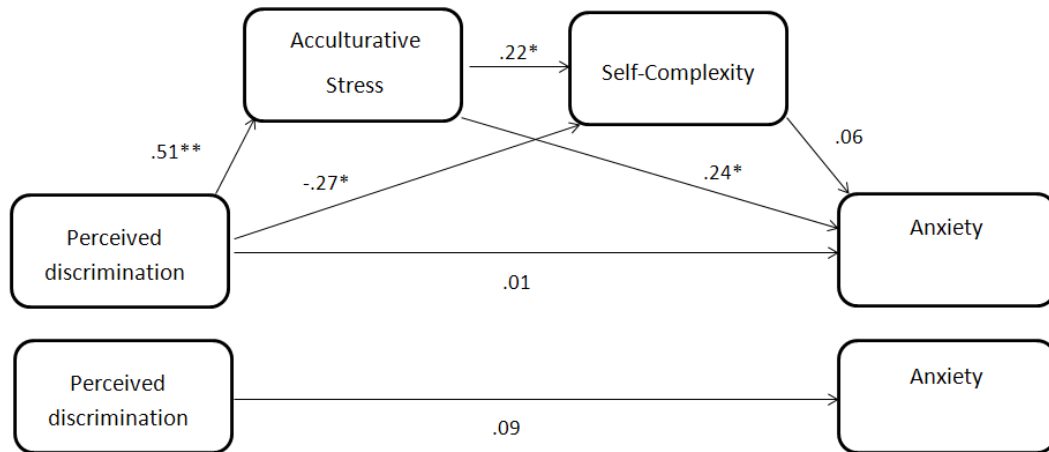


Fig. 15. Model 4. Relationship between discrimination and anxiety mediated by acculturative stress and self-complexity using standardised coefficients

Table 10. Multiple-step mediation analysis for model 4

Variables	Adjusted R^2	B	β	SE
Dependent variable: Acculturative stress				
Step 1	.26**			
Constant		14.30**	.00	1.3
Discrimination		.63**	.51**	.09
Dependent variable: Self-complexity				
Step 1	.06*			
Constant		2.10**	.00	.25
Acculturative stress		.03*	.22*	.01
Discrimination		-.04*	-.27*	.01
Dependent variable: Anxiety				
Step 1	.11*			
Constant		-1.14	.00	1.38
Acculturative stress		.14*	.24*	.05

Self-complexity		.27	.06	.36
Discrimination		.09	.13	.07
	Effect	LLCI	ULCI	
Total	.08	.0178	.1628	
<i>M1</i>	.09	.0328	.1677	
<i>M2</i>	-.01	-.0565	.0189	
<i>M1 & M2</i>	.01	-.0072	.0263	

Note: * $p < .05$, ** $p < .01$

LLCI – low level confidence interval

ULCI – upper limit confidence interval

M1 = acculturative stress; *M2* = self-complexity

Testing the self-structure as a moderator of the relationships between discrimination, acculturative stress and psychological wellbeing

Hayes' (2012) PROCESS macro for SPSS, model 58 (moderated mediation model) was used to test our prediction that self-structure (self-clarity and self-complexity) would moderate the relationship between discrimination and acculturative stress and the relationship between acculturative stress and psychological wellbeing (depression and anxiety) (see Fig. 13). As before, psychological wellbeing indicators (depression and anxiety) were modelled separately, as were self-structure variables (self-clarity and self-complexity), which resulted in four separate models (models 7-10). Results demonstrated that neither self-clarity nor self-complexity moderated the relationship between discrimination and acculturative stress, nor the relationship between acculturative stress and psychological wellbeing (see Tables 11-14).

Table 11. Moderated mediation analysis for model 5

Variables	Adjusted R^2	B	β	SE
Dependent variable: Acculturative stress				
Step 1	.32**			
Constant		.04	.00	.55
Discrimination		.84**	.54**	.11
Self-clarity		-.05	-.06	.07
Discrimination x self-clarity		.00	.02	.01
Dependent variable: Depression				
Step 1	.18**			
Constant		3.26**	.01	.24
Acculturative stress		.13*	.32*	.04
Discrimination		.02	.03	.06
Self-clarity		-.07*	-.17*	.03
Acculturative stress x self-clarity		.00	.04	.00

Note: * $p < .05$, ** $p < .01$

Table 12. Moderated mediation analysis for model 6

Variables	Adjusted R^2	B	β	SE
Dependent variable: Acculturative stress				
Step 1	.32**			
Constant		.04	.00	.55
Discrimination		.84**	.54**	.11
Self-clarity		-.05	-.06	.06

Discrimination x self- clarity		.00	.02	.01
Dependent variable: Anxiety				
Step 1	.16**.			
Constant		4.01**	.02	.27
Acculturative stress		.09*	.619*	.04
Discrimination		.03	.05	.06
Self-clarity		-.11*	-.26*	.03
Acculturative stress x self- clarity		.00	.07	.00

Note: * $p < .05$, ** $p < .01$

Table 13. Moderated mediation analysis for model 7

Variables	Adjusted R^2	B	β	SE
Dependent variable: Acculturative stress				
Step 1	.35**			
Constant		.09	.01	.52
Discrimination		.90**	.58**	.10
Self-complexity		1.71*	.18*	.64
Discrimination x self- complexity		.13	.07	.12
Dependent variable: Depression				
Step 1	.16**			
Constant		3.20**	-.01	.24
Acculturative stress		.12*	.29*	.04
Discrimination		.05	.08	.06

Self-complexity	-.25	-.06	.31
Acculturative stress x self-complexity	.05	.10	.04

Note: * $p < .05$, ** $p < .01$

Table 14. Moderated mediation analysis for model 8

Variables	Adjusted R^2	B	β	SE
Dependent variable:				
Acculturative stress				
Step 1	.35**			
Constant		.09	.01	.52
Discrimination		.90**	.58**	.10
Self-complexity		1.71*	.18*	.64
Discrimination x self- complexity		.13	.07	.12
Dependent variable: Anxiety				
Step 1	.10*			
Constant		3.93**	-.01	.27
Acculturative stress		.07	.15	.05
Discrimination		.10	.15	.07
Self-complexity		.07	.02	.36
Acculturative stress x self-complexity		.05	.09	.04

Note: * $p < .05$, ** $p < .01$

Discussion

This study sought to clarify the influence of self-structure on the relationships between discrimination, acculturative stress and psychological wellbeing in international students new to Australia. We also aimed to test previous findings showing discrimination as having a direct impact on psychological wellbeing and an indirect impact via acculturative stress. As predicted, discrimination had an indirect effect on depression and anxiety via acculturative stress. This finding is consistent with previous empirical research which demonstrates acculturative stress as a mediator of the discrimination-wellbeing relationship and with the broader literature whereby stress is conceptualised as a pathway through which discrimination negatively impacts on wellbeing (Dawson & Panchanadeswaran, 2010; Pascoe & Smart Richman, 2009; Torres et al., 2012). This also provides support for discrimination and acculturative stress as separate but related constructs, as opposed to treating discrimination as an acculturative stressor (e.g. Dawson & Panchanadeswaran, 2010; Torres et al., 2012).

Some noteworthy findings were also observed with regard to self-clarity and self-complexity. First, self-clarity was demonstrated to mediate the relationship between discrimination and psychological wellbeing. This finding is consistent with a previous study by Ritchie et al. (2011) in which self-clarity was shown to mediate the relationship between general life stress and life satisfaction. It also extends Ritchie et al.'s (2011) study by demonstrating the same mediation using negative psychological wellbeing indicators (depression and anxiety). This is important in that it suggests that self-clarity may contribute to the reduction of mental health symptoms, in addition to enhancing positive wellbeing factors such as life satisfaction. This finding also suggests that general life stress and discrimination are particularly potent to the self-system, with both forms of stress directly reducing self-clarity. Further research is required to see if direct impact of general life stress and discrimination on psychological functioning can be replicated.

Additionally, self-complexity was found to be positively related to discrimination and negatively related to acculturative stress. It is unclear why this is the case given that both discrimination and acculturative stress represent forms of stress. In contrast, the finding that lower self-complexity was related to more acculturative stress is consistent with self-complexity theory (Linville, 1985; 1987; McConnell, 2011) whereby stress infiltrates a larger area of the self-concept of low complexity individuals.

Neither self-clarity nor self-complexity moderated the relationships between discrimination, acculturative stress and psychological wellbeing. With regard to self-complexity, it is plausible that this could be a consequence of the cross-sectional nature of the study, as self-complexity is theorised to be responsive to stressful life events (Koch & Shepperd, 2004). In regard to self-clarity, while a previous study demonstrated that self-clarity moderated the relationship between discrimination-related stress and depression (e.g. Sharpe-Davidson et al., 2015), we did not find evidence for this moderating effect when general life stress was replaced with acculturative stress. One explanation for this is that in the current study, discrimination does not directly impact on psychological wellbeing as was found in Sharpe-Davidson et al. (2015), but rather acculturative stress emerges as the key mechanism through which discrimination indirectly influences wellbeing. Consequently the impact of acculturative stress on wellbeing may represent a more immediate issue for international students who are new to the Australian culture. In contrast, for other stigmatised populations who expect to be considered part of the culture (e.g. same-sex attracted individuals), discrimination may represent a more immediate issue for wellbeing and in this case self-structure may be more helpful in understanding variation in individual wellbeing outcomes. This finding has implications for interventions supporting the wellbeing of international students in Australia. In particular, key acculturative stressors including loneliness, homesickness and feeling displaced in Australian culture may represent key intervention targets in reducing acculturative stress in this sample.

We acknowledge the limitations of the current study, including the cross-sectional design which limits the conclusions we can regarding the directionality of these relationships. For example, it could be the case that individuals with poorer psychological wellbeing report less adaptive forms of self-structure, or, that individuals who experience more acculturative stress are more likely to perceive discrimination. Longitudinal research controlling for initial self-structure, psychological wellbeing, acculturative stress and discrimination is likely to be beneficial in addressing these issues. Additionally, international students in Australia represent a heterogeneous group (Rosenthal et al., 2006) and previous literature indicates cross-cultural differences in acculturative stress (Wei et al., 2007). While the current sample was too small to draw meaningful cross-cultural conclusions, we argue that consideration of these differences is important in informing interventions to support students from different cultural backgrounds.

In conclusion, we demonstrated evidence that acculturative stress and self-clarity are both pathways through which discrimination may impact on psychological wellbeing in international students. Interventions which seek to reduce acculturative stress are likely to be beneficial in improving psychological wellbeing in this population and reducing the impact of discrimination on psychological wellbeing.

Conclusion

This study was originally designed as part of a longitudinal design in which the aim was to provide insights into how the relationships between discrimination, stress, self-structure and psychological wellbeing might influence each other over time. Participants were recruited in their first four months in Australia and then were asked to complete the same measures six month later. Longitudinal studies offer many advantages over single time point studies, however one of our key goals was to address the issue of casualty between the variables of interest as an issue raised in the conclusion of this study. Unfortunately, our high

attrition rate meant that our sample size was too small to draw meaningful conclusions at a six month follow up.

In spite of this drawback, using a similar design to our first study allows us to draw comparisons between the first and second study. In particular, the direct effect of discrimination on psychological wellbeing in study 1, but not in study 2, highlights differences in the experiences of international students relative to other stigmatised populations and in particular how acculturative stress impacts on psychological wellbeing over and above discrimination. Given that international students represent a unique stigmatised group in the sense that they only gain their stigmatised group status when they enter Australia, it is important to consider how self-structure may impact on other stigmatised groups. In line with this, we consider the role of self-structure in the context of gender discrimination towards women in chapter 6.

CHAPTER 6: Dealing with discrimination: Gender and self-structure

Context statement: Given the difficulty we experienced with attrition rates over time in the previous chapter, we used an experimental design to examine the effects of self-structure on mood in the context of gender discrimination. The experimental design allows us to control for mood levels at the time of the study as a covariate which might influence how people respond to discrimination. This will allow us to assess whether more protective types of self-structure (i.e. high self-clarity and self-complexity) are associated with higher mood scores in response to perceived gender discrimination. This chapter diverts from the previous chapters which examined more long-term wellbeing outcomes (i.e. depression and anxiety) by looking at mood as a more immediate outcome measure. This allows us to assess whether self-structure has an impact on immediate wellbeing in addition to longer-term outcomes. Chapter 6 also investigates self-complexity as a potential moderator and mediator of the relationship between gender discrimination and mood. The advantage of including self-complexity is that the protective benefits of self-complexity are proposed to be activated by a stressful life event (Linville, 1985; 1987). In this way, the experimental design in which participants receive negative feedback on relating to their gender should simulate a stressful life event. Therefore, this allows us a better test of the effects of self-complexity than the earlier studies detailed in chapters 4 and 5.

Abstract

Despite advances in legislation and policies designed to reduce gender discrimination towards women, it continues to represent a significant social problem in Australia and throughout the world (Australian Human Rights Commission, 2014). Discrimination is generally conceptualised as a stressful life event which may overwhelm an individual's coping resources, leading to adverse wellbeing outcomes. We draw on research from the stress and coping literature to examine whether self-concept structure may moderate

emotional reactions to perceived gender discrimination. Such emotional responses give insight into how individuals cope with such negative treatment. An experimental design ($n = 100$) with two conditions (gender discrimination or no gender discrimination) is used to assess whether self-structure variables (self-complexity and self-clarity) would moderate the effects of perceived gender discrimination on affective responses (affect, self-esteem and collective esteem). These differences would indicate that we had successfully manipulated perceptions of gender discrimination

Results of the experiment indicated that female participants were affected emotionally by exposure to discrimination but that neither self-structure variable moderated or mediated the effect of perceived discrimination on affective responses. Implications for replication will be discussed in the conclusion.

Introduction

Gender discrimination incorporates any distinction, exclusion or restriction on the grounds of socially constructed gender norms and roles, for example paying a female less than a male for the same role (World Health Organisation, 2001). A sizable body of research demonstrates empirical support for a positive association between perceived gender discrimination towards women and psychological distress (e.g. Fischer & Holz, 2007; Szymanski, Gupta, Carr & Stewart 2009; Szymanski & Stewart, 2010). This association has been demonstrated across methodologies, including retrospective, prospective and experimental designs. Prospective and experimental designs controlling for initial wellbeing levels provide evidence that perceived gender discrimination may have a causal effect on psychological wellbeing (Swim et al., 2001; Schmitt, Branscombe, Postmes & Garcia, 2003). While gender discrimination can affect men and women, evidence suggests that women report significantly more sexist events (Swim et al., 2001). The impact of discrimination on wellbeing is generally understood through a stress and coping framework, whereby

discrimination represents a form of stress which leads to adverse wellbeing if an individual's coping resources become overwhelmed (Lazarus & Folkman, 1984).

The adverse effects of discrimination on wellbeing have been well established across multiple domains (Schmitt et al., 2014). Later research in this area is focused on understanding the factors which may contribute to individual resiliency in the face of discrimination. Existing evidence supports several factors which may attenuate the effects of discrimination on wellbeing, including identifying with other stigmatised group members, social support and engagement coping strategies which involve trying to change the situation or one's reaction to it (Pascoe & Smart Richman, 2009). However, reviews of these strategies demonstrate mixed evidence for their efficacy (Brondolo, Brady, Pencille, Beatty & Contrada, 2009; Schmitt et al., 2014), suggesting that our knowledge in this area is far from complete.

One factor which has not been considered in this context is self-concept structure (also known as self-structure). This construct refers to how content about the self is organised within the self-concept (McConnell, 2011). Self-structure is distinct from self-concept content, which is concerned with one's self-beliefs and self-evaluations (Campbell, Assanand & Di Paula, 2003). Contemporary theory and research considers the self-concept as a collection of multiple selves, which are also known as 'self-aspects' and typically include roles and relationships (McConnell, Brown & Shoda, 2013). Self-structure theories provide evidence of individual differences in self-structure, including the number of self-aspects people identify with and the degree to which they are perceived as similar (Linville, 1985; 1987; McConnell, 2011), the degree to which positive and negative self-content is integrated across the self-concept (Showers, 1992; Showers & Kling, 1996) and the degree to which self-aspects are internally consistent, clearly articulated and stable across time (Campbell, 1990). Importantly, certain structural features may facilitate better coping to stressful life events relative to others which are considered less adaptive (Moss & Carr, 2004; McConnell & Strain, 2007).

We argue that there is a strong rationale for considering how self-structure may influence discrimination related health effects. Firstly, self-structure has been shown to reduce affective reactions to stressful life events in previous studies (e.g. Linville, 1985; Renaud & McConnell, 2002; McConnell, Strain, Brown & Rydell, 2009). Given that gender discrimination also represents a negative life stressor, it makes sense to consider whether the protective effects of self-structure extend to discrimination-related stress. Secondly, we propose that discrimination-related stress is likely to be particularly salient to the self-concept due to its personal nature and because gender represents an essential element of the self. While several theories of self-structure exist, we have chosen to examine two which make specific predictions regarding how individuals respond to stress, including self-complexity (Linville, 1985) and self-clarity (Campbell, 1990). We will consider both theories separately as they are treated in the literature as unrelated constructs (Campbell et al., 1996).

Self-clarity

Self-clarity refers to the extent to which information about the self is clearly and confidently defined, internally consistent and temporally stable (Campbell, 1990). It represents a unity approach to self-structure in that it is based on the premise that coherent and integrated self-aspects are crucial to maintaining psychological wellbeing because they provide individuals with a sense of continuity and self-integrity (Campbell et al., 2003). Research using both cross-sectional and prospective designs has established self-clarity as a predictor of depressive symptoms (Smith, Wethington & Zhan, 1996; Campbell et al., 1996). Self-clarity has also been found to mediate the relationship between general life stress and psychological wellbeing, whereby stress reduces self-clarity, leading to a reduction in wellbeing (Ritchie et al., 2011; Sharpe-Davidson et al., 2015). Consequently we seek to test whether self-clarity will mediate the relationship between pre- and post-wellbeing measures following exposure to discriminatory readings.

To the best of our knowledge, self-clarity has not been examined as a potential moderator of the effects of perceived discrimination on affective responses. However, we argue that it may influence the impact of self-relevant feedback on affective responses, with individuals low in self-clarity being more affected by self-relevant feedback relative to those with high self-clarity. Theoretically, individuals with low self-clarity are predicted to be more likely to internalise the opinions of others because they lack clarity about their own beliefs (Campbell et al., 1996). Several studies provide evidence for this prediction, including a negative relationship between self-clarity and the internalisation of societal standards of attractiveness (Vartanian, 2009; Cahill & Mussap, 2007; Humphreys & Paxton, 2004), which may in turn predict body image and eating disturbances (Shroff & Thompson, 2006). Additionally, one study found that gay and lesbian individuals with low self-clarity were more likely to internalise negative societal attitudes towards homosexuality, which is in turn associated with elevated depression symptomology (Feinstein, Davila & Yoneda, 2011). On this basis we predict that individuals with low self-clarity will show greater negative affective responses following exposure to a discriminatory reading relative to those with high self-clarity.

Self-complexity

Self-complexity represents a pluralism approach to self-structure in which having multiple differentiated self-aspects is considered important for wellbeing because it allows individuals to respond promptly and flexibly to stressful situations (Campbell et al., 2003). It is considered distinct from self-clarity and as such, both theories may offer benefits for wellbeing (Constantino et al., 2006; Campbell et al., 2003; Bigler et al., 2001). Self-complexity consists of two components; the number of self-aspects a person subscribes to and the degree to which the aspects share content (Linville, 1985; 1987; McConnell, 2011). Self-aspects refer to the different ways in which people perceive themselves and typically take the form of roles, relationships and affective states for example 'me as a mother' or 'me when I'm

happy' (McConnell & Strain, 2007) An individual with a large number of unique self-aspects is said to be more complex, compared to an individual with a small number of related self-aspects.

Self-complexity is theorised to offer benefits for individual's affective responses to life events with more complex individuals faring better than their less complex counterparts in response to negative life events (McConnell, 2011). In a series of studies, Linville (1985) found support for the 'affective-extremity hypothesis,' which predicts that self-complexity will moderate the relationship between stress and affect. Specifically Linville found that in response to positive or negative feedback about an important area of one's life (i.e. feedback on a bogus intelligence test), individuals with greater self-complexity reported more moderate affect, while those lower in self-complexity reported more positive or negative affect depending on the feedback valance. Linville proposed that this effect worked via a system of spreading activation, whereby self-aspects are represented as nodes within a network and are related semantically to each other. This assumes a social-cognitive framework, whereby activation of one self-aspect primes semantically related aspects. In this way, individuals with greater self-complexity experience less extreme affective reactions to stress because they have a larger number of semantically distinct self-aspects and so a smaller proportion of their self-concept is activated.

Linville's original findings regarding the affective-extremity hypothesis have been documented by later studies and appear to be fairly robust (See McConnell & Strain, 2007, for a review). Later research has also demonstrated that individuals with low self-complexity are more reactive to positive events, as well as negative events (McConnell, Rydell & Brown, 2009; McConnell, Strain, Brown & Rydell, 2009). Consequently, less complex individuals may feel better than their high complexity counterparts when their lives are going well, however they cope significantly less well when they encounter stressful life events. In line with this, we predict that individuals with low self-complexity will show more negative

affective responses to perceived gender discrimination relative to their high self-complexity counterparts. Additionally, we seek to test whether self-complexity might mediate the relationship between wellbeing measures before and after exposure to discriminatory readings. To our knowledge, this hypothesis has not been tested in the existing literature. We argue it is important to test for this given evidence from the self-clarity literature which demonstrates that self-structure may have a direct impact on psychological wellbeing (e.g. Lee-Flynn et al., 2011; Ritchie et al., 2011).

Self-esteem and collective esteem

In addition to testing whether self-structure buffers the effects of perceived gender discrimination on affective responses, we will also examine self-esteem and collective esteem as additional outcome measures of women's emotional responses to discrimination. While Linville (1985) found that individuals with low self-complexity demonstrated greater swings in self-evaluation following positive or negative feedback respectively, this effect has not been consistently demonstrated in the literature (e.g. Renaud & McConnell, 2002). However, given that perceived discrimination communicates a negative evaluation of the self, it is possible that self-esteem may show a greater reduction for those with low self-complexity and self-clarity. Given that gender discrimination also represents a threat to one's group as well as one's personal self, we will also include a measure of collective esteem (i.e. how one feels about their group membership as a woman). Similarly to self-esteem, we predict that those with lower self-complexity and self-clarity will show lower collective esteem in response to perceived discrimination.

Procedure

An experimental design was developed to test whether self-clarity and self-complexity would moderate the impact of reading discriminatory articles on mood. Firstly, participants were asked to complete pre-measures of self-complexity and self-clarity prior to the experiment. This is consistent with other experimental designs which have tested the effects

of self-structure on mood (e.g. Renaud & McConnell, 2002), as it controls for the impact that the self-structure tasks may have on the manipulation. Specifically, the self-complexity task requires individuals to reflect on aspects of their life which may reduce the impact of gender discrimination manipulation.

Secondly, participants were asked to come into the Research School of Psychology to participate in an experiment about self-perception and wellbeing which would also involve some reading materials. Participants were individually tested by the experimenter and the measures were displayed on a computer. They were first asked to complete measures about their current mood, their self-esteem and their collective esteem (as a female). Following this, a pre-set bogus error message appeared on the screen. When the participant called for the experimenter, the experimenter acted surprised and asked the participant to continue the experimental task on another computer while they checked whether their data had been saved. At the second computer, the participant was randomly allocated to either the experimental condition or the control condition. In the experimental condition, participants were given a reading which stipulated that discrimination towards women was increasing, while in the control reading they read a neutral reading about the habitat of ant-eaters. After the participant had completed the reading, the experimenter told them that their earlier responses had been lost due because the computer had crashed. The participant was asked to complete the earlier measures (affect, self-esteem and collective esteem) a second time. They were advised to answer them as they felt in the moment (which may or may not be the same as how they answered the first time).

Following this, the experimenter explained that the true purpose of the study was to observe any changes in mood or esteem following the discrimination reading. They were also told that the experimental reading was biased, in that it only reported results from studies which suggested that gender discrimination is really common, and that the issue of gender discrimination is more complex than had been presented in the information provided. Some

further material from the Australian Human Rights Commission was given to participants, which indicated that while gender discrimination is an issue, government and private initiatives have been taken to combat it, particularly within the workplace.

The specific hypotheses to be tested are as follows:

H1. The post-affect, self-esteem and collective esteem scores will be significantly lower for participants in the experimental condition, compared to those in the control condition

H2. Self-structure variables (self-complexity and self-clarity) will separately moderate and/or mediate the effects of perceived gender discrimination on affective reactions, with lower self-complexity and self-clarity participants reporting more negative affective responses, lower self-esteem and lower collective esteem to perceived discrimination than those with high self-complexity and self-clarity

Method

One hundred female participants (M age = 18, SD = .91) were recruited via flyers displayed at the Australian National University (ANU) and through the ANU Research School of Psychology's online database of psychology studies for undergraduate students. The data of eighteen participants was removed because it contained either too few self-aspects or limited attributes to calculate the H -statistic required for the self-complexity analyses. This resulted in a total of 82 participants who were randomly assigned to either the control group ($n = 38$) or the experimental group ($n = 44$).

The study was described as an investigation into the different ways people have of representing themselves and their links to wellbeing. Participants were advised that the study would involve completing measures online and coming into the Psychology School to complete a short reading and further measures. Participants were offered 60 minutes course credit for their time or \$10 remuneration and were thoroughly debriefed on the deception component of the manipulation at the end of the study.

Measures

Self-complexity

Self-complexity was measured using Showers' (1992) self-descriptive card sorting task which was adapted for online use. Participants were instructed to label up to eight different self-aspects (e.g. 'me as a student,' me at work.'). Following this, they were asked to select and drag attributes from a pool of 40 (20 positive and 20 negative) which best describe each self-aspect. Participants were allowed to use the same aspect as many times as they required.

To calculate self-complexity, we employed the most commonly used measure, (Rafaeli-Mor & Steinberg, 2002), known as the *H*-statistic (Scott, 1969). The *H*-statistic represents the information from an individual's card sort using a matrix of binary data (i.e. the number of self-aspects by the number of attributes). A high self-complexity score reflects a large number of non-redundant self-aspects (i.e. aspects share only a few attributes) and a low complexity score reflects a lower number self-aspects which share many attributes

Self-clarity

The Self-Concept Clarity Scale (*SCC*; Campbell et al., 1996) was also administered online. This scale provides a measure of the degree to which one's beliefs about the self are clearly defined, internally consistent and temporally stable. It comprises of 12-items in a self-report format, for example "I seldom experience conflict between different aspects of my personality." A five point scale was used for participants to rate their agreement with the items, with scale points ranging from 'strongly disagree' (1) to 'strongly agree' (5).

Affect

A brief measure of affect was administered before and after the manipulation. This is a one item scale developed by Bless, Bohner, Schwarz and Strack (1990) which reads 'How do you feel right now, at this very moment?' Participants were asked to respond using a 9 item scale (1 = very bad, 9 = very good).

Self-esteem

The Rosenberg (1965) 10 item self-esteem scale was administered before and after the manipulation. This measure asks participants to respond to items using a 4-point rating scale ranging from 1 (strongly disagree) to 4 (strongly agree). Example items include “On the whole, I am satisfied with myself” and “I feel that I have a number of good qualities.” Overall scores range from 10 to 40, with higher scores indicating higher self-esteem.

Collective esteem

Luhtanen and Crocker’s (1992) 4-item Private Regard subscale of the Collective Self-Esteem Scale was used to assess collective self-esteem before and after the manipulation. Items include “In general I am glad to be a woman” and “Overall I feel that being a woman is not worthwhile,” (reverse scored). Responses range from ‘strongly agree (5) to strongly disagree (1)’.

Results

Table 15 presents the means and standard deviations (SDs) for the pre- and post-affect scores by condition. To test whether the differences between the pre- and post- affect scores vary significantly as a function of condition, we conducted a repeated measures ANOVA with Affect as the within subject variable (pre-affect, post affect) and Condition as a between subject variable (discrimination, no discrimination). The results from this analysis are summarised below in Table 16. No significant main effect was found for Affect, $F(1, 80) = 0.000, p > .05$, indicating that there was no significant difference between pre-affect and post-affect scores. However, a significant interaction effect was found between Condition and Affect, $F(1, 80) = 3.817 p < .05$. A simple effect analysis was made of the results (see Figure 16). Post affect was significantly lower for participants in the discrimination condition compared to those in the control condition, indicating that the manipulation was likely effective.

Table 15. Pre- and post-test differences in affect, self-esteem and collective-esteem

	Experimental (n = 44)		Control (n = 38)	
	M	SD	M	SD
Pre-Affect	5.64	1.45	5.55	1.59
Post-affect	5.48	1.36	5.71	1.56
Pre-self esteem	29.98	4.24	27.95	5.15
Post-self-esteem	27.14	4.72	28.47	5.63
Pre-collective esteem	22.36	4.25	22.97	4.41
Post- collective esteem	21.86	4.21	22.97	4.08

A repeated measures ANOVA was also conducted with the other between subject variables; Self-Esteem (pre-self-esteem, post-self-esteem) and Collective Esteem (pre-collective-esteem, post-collective-esteem) as the within-subject variables and Condition as the between-subject variable (discrimination, no discrimination). No significant main effect was found for Self-Esteem, $F(1, 80) = 3.371, p = 0.07$ or Collective-Esteem, $F(1, 80) = 1.070, p = .30$, indicating that there was no significant difference between pre and post self- and collective-esteem scores (see Table 16). Furthermore, the interaction between Self-Esteem and Condition was non-significant, $F(1, 80) = 0.968, p = 0.33$, nor was the interaction between Collective-Esteem and Condition $F(1,80) = 1.070, p = .30$

Table 16. Summary of results from One-Way Repeated Measures ANOVA

Source	Sum of Squares	df	Mean Square	F	Partial eta squared
Affect	1.46	1	1.46	.000	.00
Affect x Condition	1.02	1	1.02	3.82*	.05
Error	21.47	80	0.27		
Self-esteem	4.79	1	4.79	3.37	.04
Self-esteem x Condition	1.38	1	1.38	0.97	.97
Error	113.68	80	1.42		
Collective-esteem	2.55	1	2.55	1.07	.01
Collective-esteem x Condition	2.55	1	2.55	1.07	.01
Error	190.50	80	2.38		

* p < 0.05

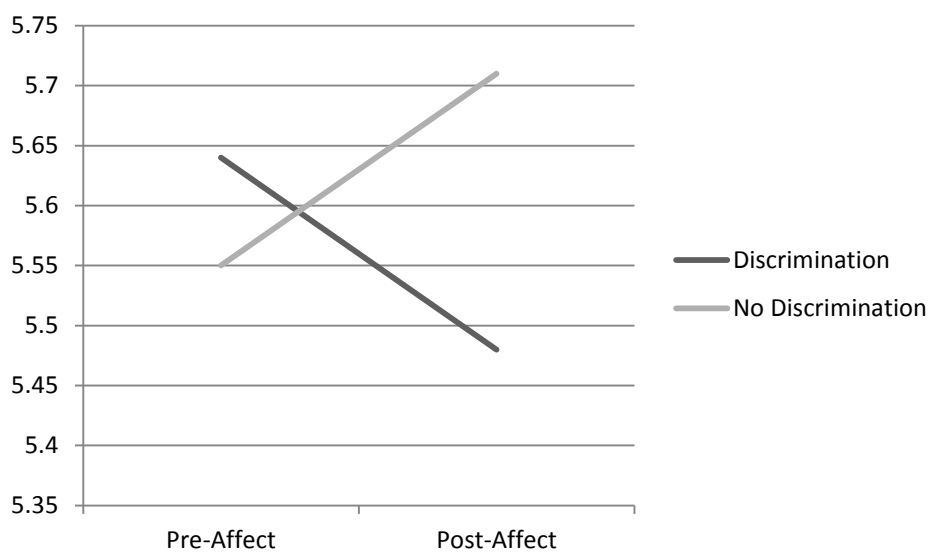


Fig 16. Change in affect scores by condition

Finally, we examined whether the self-structure variables would predict mood change scores for individuals in the discrimination condition. We did not examine whether self-structure variables would predict collective- and self-esteem as the analyses above indicate that these did not reliably differ by condition. Specifically, we predicted that higher self-clarity and self-complexity should predict smaller mood changes. As previous literature is unclear as to whether self-structure variables have a moderating or a mediating effect on psychological wellbeing (Lee-Flynn et al., 2011), we tested both a simple moderated regression model and a simple mediated regression model, using pre-affect as the covariate, post-affect as the dependent variable. As previous literature suggests self-clarity and self-complexity are distinct constructs (Constantino et al., 2006; Campbell et al., 2003), we tested them separately as either the moderating or the mediating variable in both models.

Firstly, we ran Hayes' (2013) PROCESS macro for SPSS, model 1 (simple moderated regression model) to test whether self-clarity (see Table 17) and self-complexity (see Table 18) would separately moderate the relationship between pre-affect and post affect. Results show that pre-affect significantly predicts post-affect in both models ($b = .83, t = 15.25, p < 0.001$) (see Table 17) and ($b = .85, t = 16.01, p < .001$). However, the interaction between self-clarity and pre-affect was non-significant ($b = .00, t = .05, p = .96$), as was the interaction between self-complexity and pre-affect ($b = -.05, t = -.90, p = .37$)

Table 17. Moderation effect of self-clarity on the relationship between pre-affect and post-affect

Variables	<i>Coeff.</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Dependent variable: Post-affect				
Constant	5.58	.08	69.91	.00**
Pre-affect	.83	.05	15.25	.00**
Self-clarity	.01	.01	1.30	.20

Pre-affect*self-clarity	.00	.01	0.05	.96
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Note: * $p < .05$, ** $p < .01$

Table 18. Moderation effect of self-complexity on the relationship between pre-affect and post-affect

Variables	<i>Coeff.</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Dependent variable: Post-affect				
Constant	5.58	.08	70.67	.00**
Pre-affect	.85	.05	16.01	.00**
Self-complexity	.09	.08	1.07	.29
Pre-affect*self-complexity	-.05	.06	-0.90	.37

Note: * $p < .05$, ** $p < .01$

Secondly, Hayes' (2013) PROCESS macro for SPSS, model 4 (simple mediated regression model) was used to test whether self-clarity (see Table 17) and self-complexity (see Table 18) would separately mediate the relationship between pre- and post-affect. The results from these analyses are displayed in Tables 19-20. When self-clarity is included in the model as a mediator, pre-affect impacts significantly on post-affect ($b = .83$, $t = 15.49$, $p < .001$), however pre-affect does not significantly influence self-clarity ($b = 1.14$, $t = 1.90$, $p = .06$), nor does self-clarity significantly impact on post-affect ($b = .01$, $t = 1.3$, $p = .19$).

Table 19. Model for effect of pre-affect on post affect, mediated by self-clarity

Variables	Adjusted R^2	<i>Coeff.</i>	<i>SE</i>
Dependent variable: Self-clarity			
Step 1	.04		
Constant		27.42**	3.48
Pre-affect		1.14	.60

Dependent variable: Post-affect

Step 1	.77**		
Constant		.54	.40
Self-clarity		.01	.01
Pre-affect		.83**	.05
	Effect	LLCI	ULCI
Total	.8255	.7194	.9315
Self-clarity	.0145	-.0047	.0731

Note: * $p < .05$, ** $p < .01$

Similarly, when self-complexity is entered in the model as a mediator, pre-affect significantly influences post affect ($b = .85$, $t = 16.08$, $p < 0.001$), however, pre-affect does not significantly predict self-complexity, ($b = -.07$, $t = -.96$, $p = .34$, nor does self-complexity significantly predict post affect ($b = .09$, $t = 1.08$, $p = .28$).

Table 20. Model for effect of pre-affect on post-affect, mediated by self-complexity

Variables	Adjusted R^2	Coeff.	SE
Dependent variable: Self-complexity			
Step 1	.01		
Constant		3.27**	.41
Pre-affect		-0.68	.07
Dependent variable: Post-affect			
Step 1	.77**		
Constant		0.59	.41
Self-complexity		0.09	.08

	Effect	LLCI	ULCI
Pre-affect		0.85	.05**
Total	.8460	.7413	.9507
Self-complexity	-.0061	-.0466	.0065

Note: * $p < .05$, ** $p < .01$

Discussion

This study aimed to investigate whether self-structure influences individual affective reactions to perceived gender discrimination. In line with previous experimental designs manipulating perceptions of gender discrimination (e.g. Schmitt, Branscombe & Postmes, 2002), our experimental group was given a reading indicating that discrimination towards women was prevalent in society. We predicted significantly lower outcome measures (affect, self-esteem, collective esteem) would be observed for participants in the experimental condition compared to their control counterparts. These differences would indicate that we had successfully manipulated perceptions of gender discrimination. Our results showed that affect scores significantly differed by condition, with participants in the experimental condition showing lower post affect scores relative to those in the control condition. However, the self-esteem and collective esteem scores did not significantly differ by condition. The failure to observe a shift in self-esteem and collective-esteem may be related to the scales selected. While these scales have been used in similar study designs (e.g. Renaud & McConnell, 2002; Schmitt et al., 2002), both scales were designed to assess self- and collective esteem as relatively stable traits, as opposed to states that are more prone to fluctuation. Consequently, they may be too broad to detect fluctuations in self-evaluation (Heatherton & Polivy, 1991).

We found no support for our prediction that self-complexity and self-clarity would moderate or mediate the relationship between pre-affect and post-affect in the discrimination condition. Firstly, the finding that self-complexity does not moderate the negative effects of

negative feedback on affective responses was unexpected as this has been demonstrated by previous studies (e.g. Linville, 1985; Renaud & McConnell, 2002; McConnell, Strain, Brown & Rydell, 2009). However, the finding that self-complexity does not mediate this relationship is consistent with the theoretical underpinnings of self-complexity which is proposed to have a buffering, rather than a direct effect on the relationship between stress and wellbeing (Linville, 1988).

Secondly, the finding that self-clarity does not mediate or moderate the relationship between pre-affect and post-affect was also unexpected. While self-clarity has not been previously shown to influence affective responses to discrimination, it has been shown to moderate the relationship between discrimination-related stress and depression in a previous study by the current authors, suggesting that it may have some utility in the current context (Sharpe-Davidson et al., 2015). Additionally in the same study it has been shown to mediate the relationship between discrimination and depression and in another study by Ritchie et al. (2011), to mediate the relationship between stress and depression.

We propose that this study should be replicated before we can draw any conclusions regarding the influence of self-structure on affective responses to discrimination. This recommendation is based on our sample size ($n = 44$) which may be too small to detect meaningful changes and the fact that this is the first study to examine self-structure in this context. In replicating this study, we make the following suggestions which may help to establish whether self-structure can contribute to our understanding of the link between discrimination and affective responses. Firstly, we argue that the content of the manipulation could also influence its efficacy. For example, research suggests that gender discrimination is prevalent in Australia (Human Rights Commission, 2014). Consequently, women may be less likely to report increases in perceived discrimination following a manipulation if this is their experience. Therefore, a less salient form of discrimination might make for a stronger manipulation. Secondly, if measures of esteem are to be used as indicators of women's

emotional responses to discrimination, then state rather than trait measures should be employed as they are more likely to detect changes over a brief time period. However, the use of a bogus computer error to ask participants to complete the same measures a second time, may introduce a response bias for the conscientious participant who attempts to replicate their original answers. Other methods of administering the same measures twice may be utilised for future studies, including being transparent with participants about the study's purpose (i.e. to see whether their scores shift in response to the manipulation) or having a longer time lag between the administration of the same items to reduce the chance of participants recognising them.

In conclusion, understanding how individuals cope with discrimination is hugely important in developing interventions to help people in this population. While the ultimate goal should be to reduce the occurrences of discriminatory events, the well documented link between discrimination and poor wellbeing outcomes highlights the importance of fostering effective coping in the interim. Given the relevance of discrimination to the self-concept, it is important to consider how self-structure may influence an individual's resiliency to discrimination.

Conclusions

This study was important in determining directions for our final study based on some of the challenges it posed. As it is not clear whether the non-significant findings are meaningful or related to the study design, there are several issues to address as follows. First, a larger sample size is required in order for the self-structure analyses to be meaningful and this is incorporated in study four. Second, gender discrimination may be difficult to make salient, given that it continues to be prevalent in Australia. To address this, we recruited an LGBTI population for study four as a less prevalent form of discrimination. Third, the manipulation in which the experimenter told participants to re-complete their missing data

may have created a possible response bias, with some participants attempting to replicate their original results. The fourth study addresses this issue by being transparent with participants regarding the reason why items are repeated in the survey (i.e. 'we are interested if your results differ or not after reading the articles').

CHAPTER 7: Self-clarity and resiliency in Australian LGBTI

Context statement: The final empirical chapter investigates several questions raised by the previous studies in the thesis, in addition to addressing whether self-clarity can be used therapeutically. We also divert from the previous studies by focusing on self-clarity as the sole form of self-structure. This decision was based on the previous studies in which self-complexity did not appear to play a key role in the relationships between discrimination and wellbeing. Additionally, as a key purpose of the final empirical chapter was to investigate whether self-clarity was amenable to change, we wanted to exclude other variables that might contribute to changes in self-clarity. Given that the self-complexity task involves reflecting on different self-aspects and their attributes, it is possible that this process could increase self-clarity.

This chapter builds on earlier chapters in the thesis in several ways. We continue to investigate whether self-clarity is best conceptualised as a mediator or as a moderator of the relationship between discrimination and depression, given that previous evidence we presented shows support for both models. We also attempted to resolve design issues from the previous study by using a less salient form of discrimination (sexuality) and being transparent about our reasons for wanting the participants to complete the same measures twice. This chapter also adds to the thesis by investigating self-clarity's utility as a means of building resiliency in a stigmatised population. Specifically, we examine whether self-clarity can be increased using a brief values based exercise and whether participating in the values exercise reduces the impact of reading discriminatory articles on mood. We also discuss implications from our findings for a clinical setting.

Abstract

Sexual discrimination contributes to the incidence of high mental health rates experienced by gay, lesbian, bisexual, transgender and intersex (LGBTI) people in Australia. As discrimination represents a social stressor, resiliency factors from the stress and wellbeing

literature may contribute to the reduction of discrimination-related health problems. Self-clarity is an individual difference factor that has been demonstrated to mediate the effects of stress on wellbeing. In this study we use a sample of LGBTI people ($n = 102$) to examine the utility of self-clarity in a discrimination-related context. Firstly, using a series of pre-test measures, we examine self-clarity as both a moderator and a mediator of the relationship between discrimination and depression and use regression analyses to demonstrate evidence that self-clarity moderates this relationship. Secondly, we employ an experimental task to investigate a value affirmation task as a means to increase self-clarity and buffer the effects of reading discriminatory articles on affect. Pre- and post-measures of self-clarity and affect were taken. Factorial ANCOVAs showed that the values task had no impact on self-clarity; however, it reduced the impact of reading the discriminatory articles on positive, but not negative affect. Implications for interventions for LGBTI people are discussed.

Introduction

Lesbian, gay, bisexual, transgender and intersex (LGBTI) people in Australia report significantly poorer mental health and higher suicide rates than their heterosexual peers (Leonard et al., 2012; Rosenstreich, 2013). While national interventions have been implemented to improve LGBTI psychological health over the last decade, the risk of mental health problems has remained fairly stable (Leonard & Metcalf, 2014). Given that LGBTI are estimated to make up 8-10% of the Australian population, this represents an important issue (Department of Health & Human Services, 2015). The poor health outcomes of LGBTI people can be largely attributed to perceived discrimination (Hatzenbuehler, 2009; Hillier et al., 2010; Meyer, 2003). Discrimination is generally understood to affect psychological wellbeing through two pathways. Firstly, as a form of social stress, it may have a direct negative effect on psychological health. Secondly, the relationship between discrimination and psychological wellbeing may also be mediated through stress, with discrimination

activating perceptions of stress, resulting in poor psychological wellbeing (Pascoe & Smart Richman, 2009).

However, research indicates that discrimination does not routinely undermine psychological wellbeing, suggesting the presence of moderating or mediating factors which may mitigate the effects of stress on wellbeing (Major, Quinton, & McCoy, 2002; Schmitt, Branscombe, Postmes, & Garcia, 2014). One factor which has been largely overlooked in the discrimination literature is self-clarity which describes the presence of clear, coherent and stable self-beliefs (Campbell et al., 1996). Research from the general life stress and coping literature suggests that self-clarity may mediate the effects of stress on psychological wellbeing, with individuals high in self-clarity showing better wellbeing in response to stress (Ritchie, Sedikides, Wildschut, Arndt, & Gidron, 2011). Given that discrimination represents a form of stress, we seek to elucidate whether its protective benefits extend to discrimination-related stress. We build on earlier work in Sharpe-Davidson et al. (2015) that supports self-clarity as both a moderator and a mediator of discrimination-related stress and seek to clarify its role as either a moderator or a mediator.

Additionally, we investigate whether self-clarity can be increased using a values affirmation exercise. Value affirmations involve identifying and expanding on important values and are theorised to buffer the effects of stress on psychological wellbeing by helping to facilitate feelings of global self-worth (Cohen & Sherman, 2014; Steele, 1988). While multiple studies have demonstrated the efficacy of values affirmation as a buffer against stress, the mechanisms through which this process occurs are less clear. Self-clarity has been proposed as a possible mechanism, as it reflects clear self-beliefs and is related to positive wellbeing indicators (Cohen & Sherman, 2014). While Wakslak and Trope (2009) demonstrated that self-clarity could be increased via a values affirmation exercise, to our knowledge, self-clarity has not been tested as a mechanism through which value affirmations

buffer the effects of stress on wellbeing. The current study seeks to test self-clarity as a buffer against the effects of discrimination related stress on mood, using a LGBTI sample.

Self-clarity

Self-clarity is a form of self-concept structure which describes the degree to which an individual perceives their self-beliefs as clearly articulated, coherent and stable across time (Campbell, 1990). According to self-clarity theory, a unified self-concept is essential to psychological wellbeing because by allowing individuals access to coherent and integrated self-knowledge it enables them to adapt to changing contexts and social roles (Campbell, Assanand, & Paula, 2003). The importance of self-coherency is also highlighted within clinical psychology in Erikson's stages of psychosocial development which emphasise the importance of knowing oneself and continuity of self for wellbeing (Erikson, 1968). Additionally, low self-clarity is akin to the identity disturbance characterised by borderline personality disorder, whereby an individual experiences marked fluctuation in their experience of themselves (Diagnostic and Statistical Manual 5th edition; American Psychiatric Association [APA], 2013).

The theoretical relationship between psychological wellbeing and self-clarity is supported by empirical research, in which significant correlations have been demonstrated between low self-clarity and depression, anxiety, high levels of perceived stress, and reduced life satisfaction (Bigler, Neimeyer, & Brown, 2001; Constantino, Wilson, Horowitz, & Pinel, 2006; Lee-Flynn, Pomaki, DeLongis, Biesanz, & Puterman, 2011; Ritchie et al., 2011). Research conducted using prospective and longitudinal designs provide evidence that self-clarity directly predicts depression (Constantino et al., 2006b; Lee-Flynn et al., 2011).

Self-clarity as a mediator

Self-clarity has been shown to mediate the relationship between general life stress and life satisfaction, with stress predicting less self-clarity and leading to lower life satisfaction (Ritchie et al., 2011). Experiences of stress are theorised to compromise self-clarity by challenging existing self-beliefs and placing conflicting demands on the self-system which require it to flexibly adapt to new information (Sedikides, De Cremer, Hart, & Brebels, 2010; Smith, Wethington, & Zhan, 1996). Given that discrimination represents a form of social stress, it is plausible that self-clarity may also function as a mediator between discrimination and psychological wellbeing. Evidence for this comes from a recent study, in which self-clarity was demonstrated to mediate the relationships between discrimination and depression symptomology, with discrimination reducing self-clarity and leading to an increase in depression symptomology (Sharpe-Davidson et al., 2015). Given this is a novel finding, we seek to test whether this finding can be replicated in a different target group experiencing discrimination. We predict that discrimination will directly increase depression symptomology and that self-clarity will mediate this effect, with discrimination leading to reduced self-clarity and self-clarity leading to reduced depression symptomology (see Fig. 17).

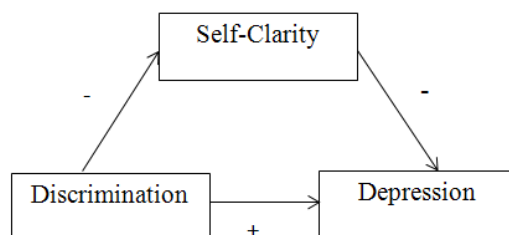


Fig 17. Model 1. Self-clarity mediates the relationship between discrimination and depression

Self-clarity as a moderator

It has also been proposed that self-clarity may act as a moderator in the relationship between stress and psychological wellbeing, by attenuating the effects of stress on wellbeing (Constantino et al., 2006). Specifically, individuals with low self-clarity are theorised to demonstrate more extreme responses to stress because they lack access to effective and consistent information on how to behave (Lee-Flynn et al., 2011). To date, two studies which tested this, failed to find evidence of the moderating effects of self-clarity (Constantino et al., 2006b; Lee-Flynn et al., 2011). However, the stress that is triggered by general life stress may differ from the stress that arises from discrimination. For example, perceived discrimination has been demonstrated to uniquely predict negative outcomes distinct from general life stress (Dion, Dion, & Pak, 1992; Pieterse & Carter, 2007). Furthermore, it is plausible that discrimination is particularly potent to the self-system, given it communicates negative external views about the self. Sharpe-Davidson et al., 2015 demonstrated that self-clarity moderated as well as mediated the relationship between discrimination-related stress and depression symptomology. Given that discrimination represents a form of stress, we seek to test whether self-clarity moderates the relationship between perceptions of discrimination and depression symptomology.

In this study, we sought to test self-clarity as both a moderator and a mediator of the relationship between sexual discrimination and depression, with a view to determining which approach was best supported by the evidence. To do this, we used a cross-sectional design in an online survey in which participants were asked questions regarding, sexual discrimination, sexuality, depression and self-clarity. Additionally we predicted that self-clarity would act as a moderator, attenuating the relationship between discrimination and depression (see Fig. 18).

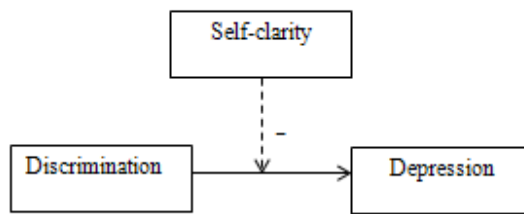


Fig. 18. Model 2. Self-clarity moderates the relationship between discrimination and depression

Self-clarity and value affirmations

Within the value-affirmation literature, the process of identifying and elaborating one's values has been shown to buffer the effects of multiple forms of stress on wellbeing, including stress related to examinations, difficult lab tasks, criticism and early stage breast cancer (Creswell et al., 2007; Creswell et al., 2005; Koole, Smeets, Van Knippenberg, & Dijksterhuis, 1999; Sherman et al., 2009). Value affirmations are theorised to buffer the effects of stress by facilitating a more global sense of self-integrity (Steele, 1988). In this way, one's perceived worth is no longer anchored to the domain or situation specific to the source of the stress (Cohen & Sherman, 2014). However, the mechanisms through which the stress-buffering effects of value affirmations remain unclear. Importantly, the task of identifying and elaborating on one's values may function to increase self-clarity, especially given that a key component of self-clarity is having a clearly articulated sense of self. Direct evidence for this comes from only one study to date in which individuals who participated in a values affirmation exercise before completing a self-clarity measure showed higher levels of self-clarity relative to those who wrote about a non-important value (Wakslak & Trope, 2009).

We seek to test whether self-clarity is a mechanism through which the benefits of self-affirmation on mood can operate. To do this, we test whether self-clarity has an impact on mood scores following exposure to the discriminatory articles. We predicted that individuals

who did the values affirmation task would show higher mood scores following the discriminatory readings relative to those who did not do the values affirmation task. In line with previous research by Wakslak and Trope (2009) we also predicted that individuals who did the values affirmation task would show higher self-clarity scores than those who did not.

The two-by-two experimental design included exposure to the discrimination articles (discrimination articles or neutral articles) and engaging in a value affirmation task (value task or no value task). The dependent variables were positive and negative affect and self-clarity, which were measured before and after the experimental manipulations. We predicted that value-affirmation participants would show higher self-clarity scores than non-value affirmed participants. Additionally, we predicted that value-affirmation participants would demonstrate more positive mood scores and lower negative mood scores following exposure to the discriminatory articles than non-value affirmed participants.

Participants

One hundred and two participants aged between 18 and 64 years ($M = 18$, $SD = 0.5$) were recruited via advertisements placed on Australian same-sex attracted websites, forums and Facebook pages. Participation was limited to LGBTI people who were either Australian citizens or permanent residents. Most participants identified as female (70.2%), with a smaller proportion identifying as male (27.2%) or other (3.5%). The largest percentage of participants identified as lesbian (43.9%), followed by gay (23.7%), bisexual (15.8%), queer (7.3%), other (5.2%), no label (2.6%) and not sure (0.9%). The majority of participants were living in the Australian Capital Territory (64.9%), followed by New South Wales (14.9%), Victoria (13.2%), Queensland (5.3%), Northern Territory (0.9%) and Western Australia (0.9%).

Procedure

Participants were provided with a web link to an anonymous survey. After indicating their consent to participate, they were asked to complete pre-measures, including their

experiences of discrimination, self-clarity and depression symptomology. Following this, they were randomly allocated to one of four experimental conditions: 1) discriminatory articles and values affirmation task (n = 22); 2) discriminatory articles and no values affirmation task (n = 29); 3) neutral articles and values affirmation task (n = 21); 4) neutral articles and no values affirmation task (n = 30). All participants were asked to rate their mood and their self-clarity at the beginning of the survey. Following this, participants in the value affirmation conditions were given a values affirmation task. All participants were then given three actual news articles to read which were taken from Australian online newspapers, and contained either negative views towards same-sex marriage or neutral content about coffee and sport. This was followed by a manipulation check in which participants indicated the degree to which they agreed with the views expressed in the articles. Following this, all participants completed the same mood and self-clarity measures a second time. All participants were then asked to complete demographic questions pertaining to their age, gender, and sexuality. Finally, all participants were debriefed regarding the purpose of the study and were provided contacts for same-sex attracted support groups.

Measures

Discrimination

Discrimination towards sexuality was assessed using items adapted from Hillier, Mitchell, and Turner (2005). This measure incorporates the frequency of discrimination, which is rated on a 6-point scale from 'never' to 'almost everyday.' Participants are also asked to select the type of discrimination encountered (e.g. verbal, physical, or other) and the context in which it was experienced (e.g. on the street, from family members, at a sporting event, at work, from friends or other).

Depression

The Centre for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) provides a measure of depressive symptomology. It is a self-report measure containing 20 items, for example 'I felt that I was not as good as other people' ($\alpha = .76$). It asks participants to refer to the past week to rate the occurrence and frequency of depressive symptoms using a 4-point scale. Scale points read as follows: [1] rarely or none of the time (less than 1 day), [2] some or a little of the time (1–2 days), [3] occasionally or a moderate amount of the time (3–4 days), or [4] most or all of the time (5–7 days).

Self-concept clarity

The Self-Concept Clarity Scale (Campbell et al., 1996) evaluates the degree to which an individual perceives their self-beliefs as clearly defined, internally consistent and temporally stable ($\alpha = .81$). It is a 12 item self-report scale, with example items including "In general I have a clear sense of who I am and what I am." These items were administered to participants twice (before and after completing the values affirmation exercise). Participants are asked to rate their agreement on a five-point scale, with scale points ranging from 'strongly disagree' to 'strongly agree.'

Positive and Negative Affect Schedule Short Form (PANAS-SF)

The Positive and Negative Affect Scale Short Form (Watson, Clark, & Tellegen, 1988) is a shortened version of the original scale developed by (Kercher, 1992). It consists of ten items, with 5 positive (PA) and 5 negative (NA) affective states ($\alpha = .78$). Participants are instructed to rate the degree to which they identify with each affective state in the present moment, using a 5 point rating scale ranging from "Not at all" to "Extremely." The PANAS is sensitive to changes in affective states, making it a useful tool for detect affective changes (Watson et al., 1988). Sample affective states include guilty and enthusiastic. Studies have

demonstrated good reliability for the PANAS-SF (Mackinnon et al., 1999). PA and NA are considered to be at least moderately independent constructs (Crawford & Henry, 2004).

Reading Manipulation

For the experimental condition, three articles were chosen which express anti-marriage equality views that were taken from two Australian newspapers and one Australian blog. For the control condition three articles were chosen from Australian newspapers (two about sport and one about coffee). Similar methodology has been used previously by Renaud and McConnell (2002) and in an earlier study conducted by the current author with no adverse effects reported (see chapter 5). Articles supporting marriage equality were provided in the debriefing to highlight support for the other side of the debate in the media.

Discrimination Manipulation check

Participants were asked how carefully they read the article, whether the article is supportive or not of marriage equality or unrelated, whether they endorse the views expressed in the article and whether they support marriage equality in Australia. These items help to control for other variables that may explain changes in mood following reading the articles about anti-marriage equality.

Values manipulation

A values exercise by Harris (2010) was used as this is a commonly employed exercise in Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 1999). This exercise was administered to participants in the experimental conditions only. It involves getting participants to identify their “most important,” “somewhat important” and “least important” values from a list of values, and then to write 1-2 paragraphs about why their top value is important to them. This exercise is designed to help individual’s clarify which values are most important to them and other values based exercises have been associated with improved self-clarity.

Results

Step 1: Testing process for the pre-test data

To test the relationships between discrimination, self-clarity and depression, we conducted correlational analyses and tested the mediation and moderation models discussed in the introduction. Hayes' PROCESS macro (Hayes, 2012) was used to test the two models. This uses multiple regression to assess mediation (model 4) and moderation (model 1) and uses bootstrapping to estimate the size of the direct and indirect effects (Hayes, 2012). Results from these analyses are summarised in Tables 21-22 and displayed in Figures 21-23.

Correlations between discrimination, self-clarity and depression

As predicted, a significant correlation was found between perceived discrimination and depression symptomology ($r = .29, p < .01$). This finding is consistent with past research (Pascoe & Smart Richman, 2009; Schmitt et al., 2014) and suggests that individuals who perceive more discrimination are more likely to report higher levels of depression symptomology. Self-clarity was not significantly related to discrimination ($r = -.11, p = .25$), although this relationship has been observed in previous studies (Ritchie et al., 2011; Sharpe-Davidson et al., 2015). Finally, a negative significant relationship was found between self-clarity and depression ($r = -.53, p < .001$), indicating that self-clarity is associated with significantly less depression, which is consistent with other studies (Constantino, Wilson, Horowitz, & Pinel, 2006a; Lee-Flynn et al., 2011).

Model 1

The hypothesised model 1 was not supported as shown in Table 21 (see Fig. 19). Consistent with the correlations, discrimination did not have a significant effect on self-clarity ($b = -.96, t = 1.16, p = .25$), however self-clarity significantly predicted less depression ($b = -.59, t = -6.26, p < .001$). Discrimination had a significant impact on depression independent of its effect on self-clarity and depression ($b = 2.22, t = 2.72, p < .01$). The indirect effect of the

relationship between discrimination and depression with self-clarity as a mediator was not significant.

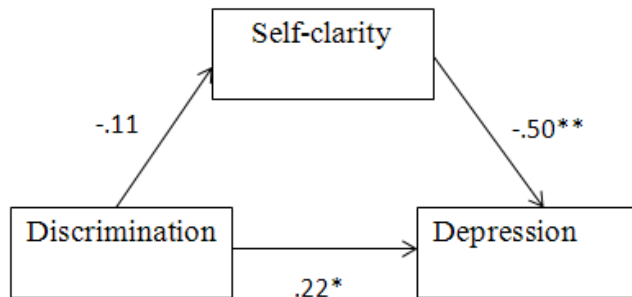


Fig 19. Model 1. Standardised scores for mediated model with the self-clarity mediating the relationship between discrimination and depression

Table 21. Mediation analyses for model 1

Variables	Adjusted R^2	B	β	SE
Dependent variable: Self-clarity				
Step 1	.01			
Constant		31.13**	.00	2.28
Discrimination		-.96	-.11	.83
Dependent variable: Depression				
Step 1	.33**			
Constant		34.68**	-.02	3.70
Self-clarity		-.59**	-.50**	.10
Discrimination		2.22*	.22**	.82
	Effect	LLCI	ULCI	

Total	-2.22	.6049	3.8424
Self-clarity	-.5715	-.2746	1.7037

Note: * $p < .05$, ** $p < .01$
 LLCI – low level confidence interval
 ULCI – upper limit confidence interval

Model 2

Support was found for model 2, as summarised in Table 22 (see Fig 20).

Discrimination significantly predicted depression ($b = 2.06, t = 2.62, p < .01$) and self-clarity influenced depression ($b = -.55, t = -5.97, p < .001$). Self-clarity moderates the link between discrimination and depression ($b = -.27, t = -3.07, p < .01$). The conditional indirect effects of discrimination on depression are shown in Table 5 at three different levels of self-clarity. The three levels of self-clarity include the mean and plus/minus one standard deviation (SD) from the mean. As shown in Table 23, the direct effect of discrimination on depression significantly increases at lower levels of self-clarity ($b = 4.66, t = 4.17, p < .001$). The direct effect of discrimination on depression was also marginally reduced at high levels of self-clarity, although this effect was not significant ($b = -.54, t = -.45, p = .65$).

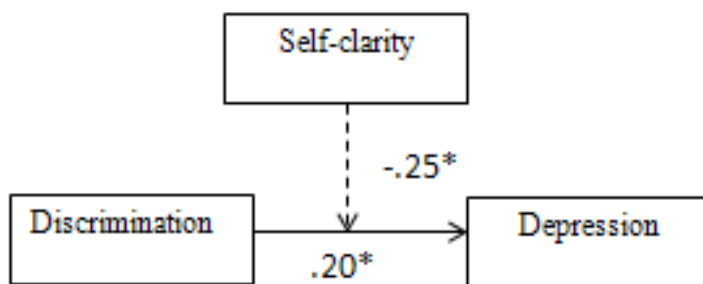


Fig 20. Model 2. Standardised scores in moderated model with self-clarity moderating the relationship between discrimination and depression

Table 22. Moderation analyses for model 2

Variables	Adjusted R ²	B	β	SE
Dependent variable: Depression				
Step 1	.38**			
Constant		22.85**	-.05	.88
Self-Clarity		-.55**	-.46**	.09
Discrimination		2.06*	.20*	.79
Discrimination x self-clarity		-.27*	-.25*	.09

Note: All variables were mean-centred prior to analysis

* $p < .05$, ** $p < .01$

Table 23. Conditional direct and indirect effects of discrimination on depression at values of the moderator

Z*	Effect	SE	LLCI	ULCI
-9.65	4.66	1.12	2.4449	6.8736
.00 _{mean}	2.06	.79	-3.6228	-.5004
9.65	-.54	1.19	-2.9039	1.8317
Direct effect of discrimination on depression				
	Effect	SE	LLCI	ULCI
	2.06	.79	.5004	3.6228

Note: * $p < .05$, ** $p < .01$

Note: All variables were mean-centred prior to analysis

Z level denotes the mean and plus/minus one SD from mean

LLCI – low level confidence interval

ULCI – upper limit confidence interval

Step 2: Testing process for the experimental data

The experimental data was analysed using factorial ANCOVAs to assess the interaction between the two conditions (discrimination x values) and their impact on the dependent variables, positive and negative affect. Means and standard deviations are also provided for each condition.

Means and standard deviations by condition

Table 24 shows the means and standard deviations (SDs) for the pre- and post-clarity, positive affect and negative affect scores by condition.

Table 24. Means and standard deviations* for pre- and post-clarity scores

	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
	clarity	clarity	positive	positive	negative	negative
			affect	affect	affect	affect
Discrimination						
Value	10.64	10.95	13.93	12.00	7.30	9.39
affirmation	(3.12)	(3.28)	(3.55)	(4.05)	(3.01)	(4.92)
No value	8.57	8.94	13.07	8.87	7.43	8.88
affirmation	(3.51)	(3.91)	(3.78)	(3.66)	(2.71)	(3.66)
No discrimination						
Value	9.61 (3.98)	9.68 (4.12)	14.00	13.09	8.00 (4.35)	7.48 (3.82)
affirmation			(3.55)	(5.01)		
No value	8.22 (3.86)	8.34 (3.92)	14.00	12.44	7.71 (3.56)	12.44
affirmation			(4.41)	(5.05)		(5.05)

*Standard deviation scores are shown in brackets

Manipulation check

As a manipulation check, participants were asked to rate each the orientation of each of the articles towards same-sex marriage from 1 ‘strongly supportive’ to 7 ‘strongly opposed.’ A score of 4 indicated ‘neutral or unrelated.’ The mean scores for the neutral articles indicate that on average participants rated the articles as unrelated to same-sex marriage ($M = 4.04$; $SD = .20$), while the mean scores for the discriminatory articles show that on average participants rated the articles between ‘somewhat opposed’ to ‘strongly opposed’ ($M = 6.03$, $SD = 1.1$) This indicates that the manipulation was successful, as participants in the discriminatory conditions were more likely to perceive discriminatory views in the articles than participants in the control conditions.

Effect of interaction between values and discrimination on mood

Firstly we sought to test whether values affirmation could reduce the impact of discrimination on mood. To do this, we conducted two factorial ANCOVAs (factors: discrimination x values) with post-test positive affect (Table 25) and post-test negative affect (Table 26) as the dependent variables. We also controlled for the possible influence of pre-clarity and pre-test positive and pre-test negative affect scores on post-test positive and post-test negative affect. Results show significant interactions between values and discrimination for post-test positive affect $F(1, 105) = 6.21$, $p < 0.01$ and post-negative affect $F(1,105) = 19.14$, $p < 0.001$ (see Fig. 21-22). Individuals who were exposed to the discriminatory articles and the values task, showed higher post-test positive affect ($M = 12.18$, $SE = 0.67$) relative to those who read the discriminatory articles but did not do the values task ($M = 8.80$, $SE = .57$). For individuals who read the neutral articles, the mean scores do not substantially differ between those who did the values task ($M = 12.14$, $SE = .54$) compared those who did not ($M = 12.51$, $SE = .65$).

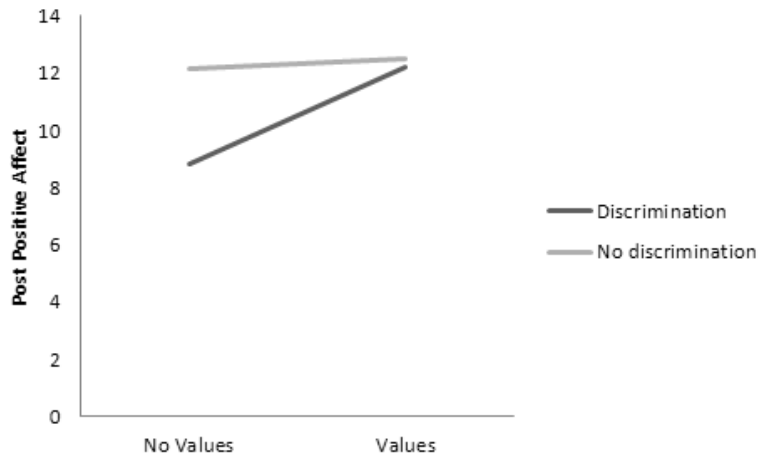


Fig 21. Values by discrimination

In contrast, the negative affect scores showed little difference between those who read the discriminatory articles and did the values task ($M = 9.83, SE = .76$) versus those who did not ($M = 8.96, SE = .65$). However, for individuals who read the neutral articles and did the values task, negative affect was substantially lower ($M = 7.03, SE = .74$) relative to those who did not ($M = 12.16, SE = .62$).

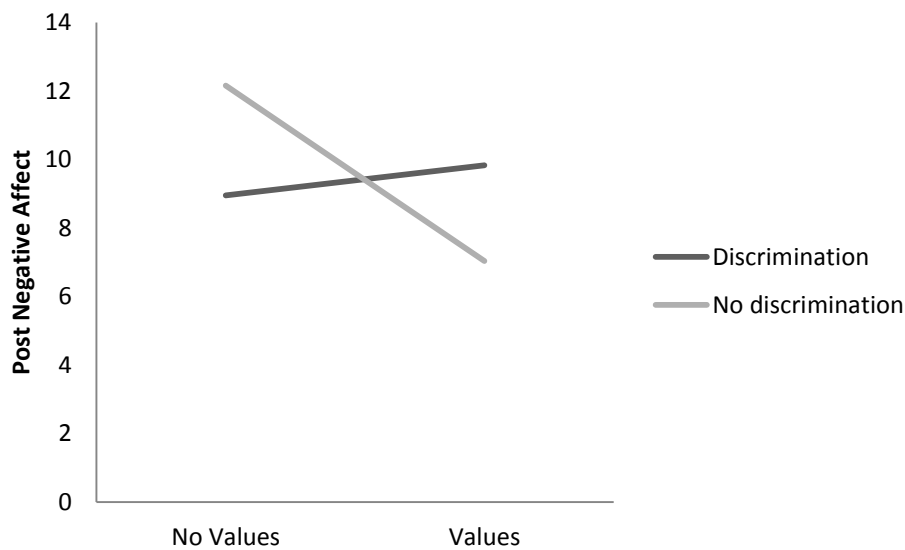


Fig 22. Values by discrimination

Table 25. Results from factorial ANCOVA

Dependent variable: Post-positive affect; Covariates: pre-clarity, pre-positive and pre-negative affect

Source	Sum of Squares	df	Mean Square	F	p
Pre-Clarity	1.03	1	1.03	0.10	.75
Pre-Negative Affect	.08	1	.08	.01	.93
Pre-Positive Affect	898.24	1	898.24	91.44	.00
Values	90.51	1	90.51	9.22	.00
Discrimination	88.68	1	88.68	9.03	.00
Values*Discrimination	61.02	1	61.02	6.21	.01
Error	1031.41	105	9.82		

Table 26. Results from factorial ANCOVA

Dependent variable: Post-negative affect; Covariates: pre-clarity, pre-positive and pre-negative affect

Source	Sum of Squares	df	Mean Square	F	p
Pre-Clarity	1.06	1	1.10	.09	.77
Pre-Negative Affect	452.66	1	452.66	35.51	.00
Pre-Positive Affect	180.43	1	180.43	14.15	.00
Values	115.98	1	115.98	9.10	.00
Discrimination	1.07	1	1.07	0.08	.77
Values*Discrimination	244.03	1	244.03	19.14	.00
Error	1338.66	105	12.75		

Impact of values affirmation task on self-clarity

We also sought to test our prediction that the value affirmation task influenced mood scores by increasing self-clarity. A one-way ANOVA was conducted to test whether there was a significant difference in post self-clarity scores between the affirmation conditions (see Table 27). We also controlled for the effects of pre-self-clarity, pre-positive and pre-negative affect on mood. Results showed that there was no significant difference between the values and the non-values affirmation conditions for post self-clarity $F(1, 107) = 1.949, p = .17$. This suggests that the values affirmation task did not have an effect on self-clarity.

Table 27. Summary of results from One-Way ANOVA

Dependent variable: Post-Clarity

Source	Sum of Squares	df	Mean Square	F	Partial eta squared
Pre-Clarity	1039.31	1	1039.31	457.00**	.00
Pre-Negative Affect	1.24	1	1.24	0.52	.47
Pre-Positive Affect	3.08	1	3.08	1.29	.26
Values	4.66	1	4.66	1.95	.17
Error	255.98	107	2.39		

* $p < 0.01$ ** $p < 0.01$ **Discussion**

This study aimed to explore the moderating and mediating effects of self-clarity on the relationship between discrimination and depression and to examine whether a values affirmation exercise could reduce the effects of perceived discrimination on mood by increasing self-clarity. We will discuss the results and implications for each of these aims in turn. First, with regard to the mediating and moderating effects of self-clarity, discrimination was found to be significantly associated with depression symptomology and self-clarity was

significantly related to less depression symptomology. This is consistent with established findings that discrimination is associated with poorer psychological wellbeing (Pascoe & Smart Richman, 2009; Schmitt et al., 2014), while self-clarity is associated with fewer psychological problems (Lee-Flynn et al., 2011).

Self-clarity was also demonstrated to moderate the relationship between discrimination and depression symptomology. This adds weight to an earlier finding by the current authors, in which self-clarity was observed to moderate the effects of discrimination-related stress on depression symptomology (Sharpe-Davidson et al., 2015). Specifically, low self-clarity was found to significantly strengthen the relationship between discrimination and depression. This is consistent with our prediction that low levels of self-clarity might increase an individual's vulnerability in the context of discrimination related stress. Importantly, this finding differs from that of two previous studies which found no moderating effect of self-clarity on the relationship between general life stress and depression, lending support to our proposal that discrimination-related stress may be more potent to the self-system than general life stress (Constantino et al., 2006b; Lee-Flynn et al., 2011). We argue that this has important implications for clinicians working with minority populations, as it highlights the need to assess the self-concept of individuals who report discrimination as a potential intervention target.

Our hypothesis that self-clarity would mediate the effects of discrimination on depression symptomology was not supported. While self-clarity was found to predict fewer depression symptoms, discrimination did not significantly predict less self-clarity as we predicted. This is inconsistent with an earlier study in which self-clarity was demonstrated to mediate the effects of discrimination on depression (Sharpe-Davidson et al., 2015). However, the previous study also examined whether perceptions of general life stress would reduce self-clarity and found a stronger effect for this than for the impact of discrimination on self-clarity. This suggests that perceptions of stress may differently impact the self-system than

discriminatory experiences. However, given that discriminatory experiences tend to increase perceptions of stress (e.g. Pascoe & Richman, 2009), understanding the role of self-clarity in the context of discrimination remains important.

We also investigated whether a values affirmation could reduce the impact of perceived discrimination on mood. Results showed that while values affirmations had no impact on negative affect, they reduced the impact of discrimination on positive affect. One reason for this may be the negative affect scale we used which does not contain anger as an affective state. However, evidence suggests that anger is a common response to perceived discrimination and consequently the inclusion of anger may have better captured the negative affect of the participants than the other affective states used (Guyll, Matthews, & Bromberger, 2001; Mendes, Major, McCoy, & Blascovich, 2008). While replication is needed before we can make strong inferences about the utility of value affirmations for increasing positive affect in stigmatised populations, this study provides preliminary support for a values based intervention. This is consistent with Acceptance and Commitment Therapy (Hayes et al., 1999), in which one component of therapy focuses on helping clients to identify and engage in values driven behaviour. Given that discrimination continues to represent a significant health issue for stigmatised groups, it is important to identify interventions for supporting these individuals. This study highlights the potential for a values affirmation based intervention to support stigmatised group members.

We also sought to test self-clarity as a mechanism through which value affirmations increase positive affect. However, our analyses showed no significant differences in post-clarity between the values affirmation versus non-values affirmation participants. This result differs from a previous study by Wakslak and Trope (2009) which found that self-clarity did increase following a values affirmation task. However, the study by Wakslak and Trope (2009) did not assess and control for the pre-clarity levels of their participants, so it may be the case that self-clarity scores were higher to begin with in the values affirmed participants.

Additionally, they employed a different control condition in which they asked participants to write about a value that is important to someone else rather than themselves. This is different from the existing study in which the control condition involved the absence of a values task. It may be possible, that the self-clarity levels of the participants were influenced by other components of the study, for example, reading about discrimination towards same-sex people in the media or reflecting on their sexual identity. It is also possible that values affirmations may influence self-clarity levels over time. For example, Campbell et al. (1996) demonstrated that self-clarity scores remained fairly stable over a 4-5 month period. Certainly, we cannot rule out self-clarity as a potential mechanism through which value affirmations operate.

One assumption in the literature is that the benefits of self-affirmations apply to everyone, without considering individual factors which may moderate the effects of value affirmations. For example, affirming one's values may not increase positive affect for someone whose global self-worth is negative, yet it might for someone who is experiencing negative self-beliefs specific to one domain. In the case of discrimination, values affirmations may not improve mood for someone who has internalised stigma (i.e. someone who believes the negative societal views about their stigma to be true) or for someone who sees it as central to their identity as it is tied up with their global self-worth as opposed to being limited to a single domain. Future research could benefit from considering how individual factors might moderate the effects of self-affirmations on different outcomes.

Conclusions

The above study makes an important contribution towards our understanding of self-clarity as an individual difference factor which may contribute to the resiliency of LGBTI people. LGBTI people represent a stigmatised group in society who are at risk of developing mental health problems as a result of pervasive discrimination towards their sexuality. We demonstrate that self-clarity may moderate the relationship between discrimination and depression. Specifically, having clear, coherent and stable self-beliefs may function to protect

the self from the negative views communicated by acts of discrimination, thereby ameliorating the link with depression. Furthermore, we demonstrate that value affirmations may serve as a means to foster resiliency in this population. We did not find support for the hypothesis that the stress buffering effects of value affirmations operate through increasing self-clarity. However, due to the use of a shortened scale, we cannot rule out the possibility that value affirmations may increase self-clarity over time and future research is needed to investigate this. In the interim, value affirmations may serve as a brief intervention for individuals for mild to moderate stress following a discriminatory event by interrupting processes such as rumination which may lead to a depressed mood (Brinker & Dozois, 2009). Individual psychological interventions may also utilise values affirmation exercises in combination with Acceptance and Commitment Therapy to foster resiliency. Given the potential of value affirmations to inform brief treatments, more research is required to replicate these results and to test out their generalisability to other forms of discrimination.

CHAPTER 8: Contribution and implications of research programme

The current thesis sought to inform theoretical and empirical knowledge regarding self-structure as a resiliency factor for stigmatised populations. To do this, we sought to integrate bodies of work on (a) discrimination, stress and well-being and (b) self-structure as a moderator or mediator of the discrimination-wellbeing relationship. The move towards integrating these bodies of work to understand the relationship between discrimination and wellbeing represents a novel approach in the literature and as such makes a unique contribution to current understandings of discrimination and wellbeing. In addition to contributing to existing research regarding the relationship between discrimination and wellbeing, we aimed to extend current research in this area by clarifying whether self-structure has a moderating or a mediating effect on the relationship between discrimination and wellbeing. Finally we sought to test a brief intervention designed to increase self-clarity in a stigmatised population, as a more resilient form of self-structure. We discuss our empirical findings and their implications for both theoretical and clinical practice as follows.

Discrimination and psychological wellbeing

This thesis demonstrated that discrimination has both a direct impact on negative wellbeing outcomes and an indirect impact via stress. This finding is consistent with Pascoe and Smart's (2009) model in which they identify both a direct impact of discrimination on negative wellbeing indicators and a mediating effect of stress on the relationship between discrimination and wellbeing. Additionally, these findings are consistent with a strong body of empirical research (e.g. Paradies, Harris & Anderson, 2008; Schmitt et al., 2014; Williams, Neighbours & Jackson, 2003) which support Pascoe and Smart Richman's (2009) model and documents multiple negative wellbeing indicators which are significantly related to discrimination in across experimental, cross-sectional and longitudinal designs.

Furthermore, the stability of this relationship was demonstrated across different stigmatised groups, including women, international students and same-sex attracted participants. This relationship also was found to hold for different psychological wellbeing scales, including more immediate measures such as mood and longer-term measures such as depression and anxiety symptoms. Furthermore, discrimination had a negative impact on wellbeing, regardless of whether participants read about discriminatory attitudes and behaviour towards their group in online news articles or perceived themselves to be the target of discriminatory behaviour. The stability of this relationship across different measures, diverse populations and study designs highlights discrimination as a significant risk factor for the wellbeing of stigmatised populations.

One exception to this pattern of findings was study 2 where we did not observe a direct effect of discrimination on psychological wellbeing. However, this study differed from the others in that it used a measure of acculturative stress, rather than general stress as this was deemed more appropriate for international students in the context of acculturation. Consequently, discrimination was found to indirectly impact on psychological wellbeing via acculturative stress, with acculturative stress dominating the direct impact on psychological wellbeing and being the basis of the strong indirect effect of discrimination in this case. This has theoretical implications for the wellbeing of international students in that it suggests that acculturative stress is a central issue for the wellbeing of international students which may be compounded by experiences of discrimination (Lee, 2010; Rosenthal, Russell, & Thomson, 2006)

Beyond confirming expected patterns of discrimination and psychological wellbeing in several contexts, a central aim of this thesis was to clarify the role of self-structure as a moderator or a mediator of this relationship. The distinction between mediation and moderation has important implications for both theory and practice. First, in regard to theory,

the mediation analysis provides a different theoretical framework, whereby instead of attenuating the relationship between discrimination and wellbeing as is the case with moderation, discrimination directly reduces more functional forms of self-structure, while self-structure enhances wellbeing. Second, this distinction has implications for clinical practice and intervention. For example, if self-structure is conceptualised as a moderator, which attenuates the strength of the discrimination and wellbeing relationship, interventions could focus on increasing self-clarity. In contrast, if self-structure is conceptualised as a mediator, this suggests that discrimination may directly compromise self-structure, therefore seeking to promote more functional forms of self-structure may be difficult for individuals who are exposed to regular discrimination. We summarise our findings for self-clarity and self-complexity separately as research suggests they are distinct concepts (Campbell et al. , 2003).

Self-clarity

A key finding across three of the four empirical studies is that self-clarity can usefully inform current knowledge of the relationship between discrimination and psychological wellbeing. A moderating effect of self-clarity was observed in studies 1 and 4. In study 3 we did not find evidence of a moderating or mediating effect of self-clarity, however we consider this to be related to methodological limitations of the experimental design. In particular, the absence of a manipulation check means further empirical research is needed before strong conclusions can be made. However, strong evidence was found for a moderating effect of self-clarity on the relationship between discrimination and depression in study 4.

In study 1, perceptions of discriminatory treatment were assessed in participants who were largely from an undergraduate population. Results showed that while self-clarity mediated the relationship between discrimination and depression, there was stronger evidence for a moderating effect of self-clarity on the relationship between general perceptions of stress

and depression symptomology. This finding is also consistent with study 4, which demonstrated more support for a moderating effect of self-clarity in a LGBTI population.

However, study 2 failed to find evidence of a moderating effect of self-clarity on the relationships between discrimination, acculturative stress and psychological wellbeing (as measured by the absence of depression and anxiety symptomology). Instead, it provided evidence that self-clarity mediated the relationship between discrimination and depression. While this finding is contrary to study 1, it also extends current theory relating to self-clarity by demonstrating that in addition to predicting positive psychological wellbeing indicators such as life satisfaction (Ritchie et al., 2011), self-clarity may also directly reduce mental health symptoms, including anxiety and depression.

Furthermore, the different findings for the same models in studies 1 and 2 also may be at least partially accounted for by two important differences between the studies. First, they use different measures of stress, with study 2 looking at acculturative stress in a sample of international students, while study 1 examines perceptions of general life stress in a sample of largely Australia participants. Second, discrimination does not directly predict psychological wellbeing in study 2, but rather it indirectly influences wellbeing through acculturative stress, while discrimination has a direct and indirect effect on wellbeing in study 1. Consequently, acculturative stress emerges as a key mechanism through which psychological wellbeing is influenced in study 2, over and above the impact of discrimination. While self-clarity is still a significant predictor of psychological wellbeing, it appears that acculturative stress is a more immediate issue for international students. Alternatively, study 1 suggests that for other stigmatised populations who expect to be considered part of the culture (e.g. same-sex attracted individuals), discrimination may reflect a more critical issue for wellbeing and therefore self-clarity may be more helpful in understanding variation in individual wellbeing outcomes.

Additionally, current thesis also provides empirical evidence for self-clarity as a moderator of the relationship between stress arising from discrimination and psychological wellbeing. Previous authors have proposed that self-clarity should function to moderate the relationship between stress and psychological wellbeing by facilitating access to clear and reliable self-representations, however empirical evidence has not found this to be the case (Constantino, et al., Lee-Flynn et al., 2011). It appears that for stress arising from discriminatory experiences, self-clarity does have a buffering function. One reason for this difference could be that discrimination is particularly salient to the self-system because it communicates negative views about the self which may or may not be embodied within more general life stress. In this way, we extend current theory by suggesting that the buffering effects of self-clarity may be more responsive to stress which is more salient to the self.

Self-complexity

Across all three studies investigating the role of self-complexity in the relationship between discrimination and psychological wellbeing, no support was found for either a moderating or a mediating effect. One reason for this may be the use of the H-statistic to measure self-complexity. Specifically, some authors have argued that the H-statistic does not accurately capture the degree to which attributes are repeated across an individual's self-concept (see Luo & Watkins; Rafeki-Mor & Steinberg, 2002). Some authors have attempted to address this concern by analysing the two components of self-complexity separately (Luo et al, 2009; Rafaeli-Mor et al., 1999). However, this approach reflects a significant shift from Linville's original construct of self-complexity which continues to be widely used in the self-structure literature (McConnell, 2011).

A second reason for the absence of a mediating or moderating effect of self-complexity relates to the study designs we utilised, which were less than ideal for assessing the buffering effect of self-complexity supported by other studies (i.e. Linville, 1987;

McConnell, 2011). Given that the buffering effects of self-complexity are hypothesised to occur in response to stress, longitudinal designs likely provide a more appropriate approach because they allow for initial stress and wellbeing levels to be controlled for (Koch & Shepperd, 2004). This design allows for potential buffering effects of self-complexity to be detected in response to stressors as they occur. Consequently, it was planned that the longitudinal design in study 2 would also provide a means through which to assess the buffering effect of self-complexity at time 2 by controlling for acculturative and discrimination related stress at time 1. However, unfortunately the low follow-up rate at time 2 ($n = 40$), did not provide us with sufficient power to adequately assess the buffering effects of self-complexity. Unfortunately, this largely prevents us from drawing implications about the theoretical framework for self-complexity and we cannot rule out that self-complexity may in fact contribute usefully to the relationship between discrimination and psychological wellbeing when using a longitudinal design. However, the findings here are consistent with other studies which have also found no effects in cross-sectional designs (Koch & Shepperd, 2004; Rafaeli-Mor & Steinberg, 2002).

Furthermore, an interesting finding to emerge from study 2 was a contradictory effect of self-complexity with regard to discrimination and acculturative stress. Specifically, we found that self-complexity was positively related to acculturative stress, while being negatively related to discrimination. First, the significant relationships between self-complexity and both forms of stressors (acculturative stress and discrimination) suggest that self-complexity is in some way implicated in the stress process. Although, self-complexity theory is more interested in the interaction effect, rather than the relationship between self-complexity and stress (e.g. Linville, 1987), other authors have also shown that self-complexity is positively related to stress (for a review, see Rafaeli-Mor & Steinberg, 2002). Importantly, this has led some authors to propose that maintaining multiple distinct self-aspects (as is the case in high self-complexity) may increase perceptions of stress, leading to

negative wellbeing outcomes, although the positive relationship between self-complexity and stress is not consistently observed (Rafaeli-Mor & Steinberg, 2002). McConnell and colleagues (2005) attempt to address this discrepancy in the literature by demonstrating how high self-complexity is only related to higher perceptions of stress when individuals report lower perceived control over their self-aspects. This introduces perceived control as an additional variable which may impact on the relationship between self-complexity and stress, while a perceived sense of control is also demonstrated to be an important factor in maintaining psychological wellbeing (Jang, Graves, Haley, Small & Mortimer, 2003; Johnson & Kreuger, 2005). While the correlational and cross-sectional nature of these relationships in the current thesis prevents us from making causal inferences with regard to how they might inform theory, this finding is worth further investigation and may clarify some of the opposing implications of self-structure.

Values intervention

Given that self-clarity was demonstrated to have an impact on psychological wellbeing outcomes, an important aim of the thesis was to test whether an intervention aimed at increasing self-clarity could buffer the effects of discrimination on mood. The rationale for this drew on previous study relating to the overlap between self-clarity and values affirmation, in which the task of identifying and elaborating on one's values is held to increase self-clarity because a key component of self-clarity relates to having a clearly articulated sense of self (Wakslak & Trope, 2009). This is consistent with Wakslak and Trope's (2009) findings which demonstrated that individuals who participated in a values affirmation exercise before completing a self-clarity measure showed higher levels of self-clarity relative to those who wrote about a non-important value. Importantly, we extended Wakslak and Trope's study by investigating whether the value affirmation task would also reduce the impact of reading a discriminatory article on mood. This is consistent with the broader value affirmation literature

which supports the buffering effect of values affirmations on mood in the context of stress, including stress related to examinations, difficult lab tasks, criticism and early stage breast cancer (Creswell et al., 2007; Creswell et al., 2005; Koole, Smeets, Van Knippenberg, & Dijksterhuis, 1999; Sherman et al., 2009).

In study 4 we sought to increase self-clarity through a values based affirmation task, while assessing whether the values task reduced the impact of reading a discriminatory article on mood. A comparison was made between participants in the experimental values affirmation group relative to the non-value affirmed controls. While we found support for the values affirmation as a buffer against the effects of discrimination on positive mood, our prediction that the values affirmation task would increase self-clarity was not supported.

The finding that value affirmations buffer the impact of reading discriminatory articles on mood both reinforces and extends current theory in the literature. While value affirmations are theorised to buffer the impacts of stress (e.g. Steele, 1988), to our knowledge, this study is the first of its kind to examine the effect of value affirmations on discrimination related stress. In this way it appears that similar to other forms of stress, in that values affirmation also function to buffer the effects of discrimination related stress.

The thesis also informs theory regarding the mechanisms through which value affirmations impact on mood. While previous authors have suggested self-clarity as a mechanism (e.g. Cohen & Sherman, 2014), only one previous study has tested this relationship (Wakslak & Trope, 2009). In this study by Wakslak and Trope (2009) where it was found that self-clarity in the experimental group increased following a values affirmation exercise relative to the non-value affirmed control group, it did not control for pre-clarity levels. This is problematic given it cannot be ruled out that the control group had higher self-clarity prior to the value affirmation exercise. We attempted to address this issue by controlling for pre-clarity levels, however in this case, self-clarity was not found to

significantly increase following the values affirmation exercise. In this way, while further research is needed to test whether this result can be replicated, it suggests that self-clarity might not be the main mechanism through which value affirmations buffer the effects of stress.

The findings from study 4 also support one alternative theoretical explanation that values affirmation exercises protect wellbeing by increasing positive mood, rather than increasing self-clarity (e.g. Galinsky, Stone, & Cooper, 2000; Koole, Smeets, Van Knippenberg, & Dijksterhuis, 1999; van den Bos, Maas, Waldring, & Semin, 2003). While clarifying the mechanism through which value affirmations have an impact is beyond the scope of the current thesis, we contribute to current theoretical debates by testing self-clarity as a mechanism and providing further evidence that value affirmations may increase positive mood.

Limitations

There were several limitations to this series of studies which should be acknowledged. Arguably a major limitation is that we were unable to make strong inferences regarding the relationships between discrimination, stress, self-structure and psychological wellbeing across time. While study 2 was intended to be a longitudinal study, our high attrition rate at the 6-month follow up prevented us from being able to draw meaningful conclusions about the data and consequently, study 2 became a cross-sectional study. Given there is a paucity of longitudinal research on self-structure and in particular its relationships with stress and psychological wellbeing over time, the directionality of the relationships between these variables remains unclear. This also has implications for theory regarding self-structure which assumes that psychological wellbeing problems emerge as a consequence of more vulnerable forms of self-structure, when in fact poor psychological wellbeing could also impact on self-structure. In particular, some forms of psychopathology may have conceptual overlap with

self-clarity, for example anxiety and self-uncertainty (Stopa, 2009) and also depression and unstable self-esteem (Hayes, Harris & Carver, 2004). One possibility is that having a lack of clear and reliable self-representations has a casual impact on depression and anxiety.

Although we were unable to make strong inferences regarding the direction of the relationships between self-structure and psychological wellbeing, longitudinal research may help to shed light on this possibility.

Additionally, while our theoretical models assume that discrimination and stress precede reductions in psychological wellbeing, it is possible for example that individuals who are more anxious or depressed report more stress and discrimination. Certainly a substantial body of work supports the standard view that anxiety and depressive symptoms follow higher levels of major life stressors (Brown & Harris, 1989; Hammen, 2005). We did test alternative models in study 1, however the absence of longitudinal analyses makes it difficult to rule out alternative models.

Second, while our use of different stress and wellbeing measures across studies had the advantage of allowing us to assess self-structure in relation to multiple forms of stress, discrimination and psychological wellbeing, it made it difficult to draw conclusions between studies. Certainly, using the same measures across studies and finding replication of our results would have allowed us to draw stronger conclusions regarding the relationships between our variables of interest. Nonetheless, we did find some consistent findings, including that self-clarity and stress were related to negative psychological wellbeing indicators. These findings suggest that some of our findings may be robust despite the different measures and contexts.

Additionally, while our use of multiple stigmatised populations allowed us to draw conclusions regarding the stability of findings across studies, it may be the case that different types of discrimination affect people in different ways. In particular, this could go some way

towards explaining our contrasting findings in study 2. Furthermore, while we measured the frequency of discrimination, we did not assess for other dimensions such as the severity of the discrimination or the degree to which the individual felt distressed by it. While a number of self-report instruments continue to only assess for the frequency of discrimination, more recent research suggests that these other facets may also impact on wellbeing outcomes and as such should be considered (Huynh, Devos & Dunbar, 2012).

Finally, we were unable to offer meaningful conclusions regarding the buffering role of self-complexity given the cross-sectional and experimental study designs. Therefore it remains unclear whether self-complexity might contribute to the relationship between discrimination and psychological wellbeing.

Future research

The limitations discussed above are suggestive of several pathways for future research. First, longitudinal research in which initial self-structure, stress and psychological wellbeing levels are controlled for is likely to be hugely informative in clarifying current confusion regarding the direction of causality between variables, while identifying how they impact on each other across time. However, we also acknowledge a progression in the literature away from unidimensional models of the stress-psychological wellbeing research and a shift towards a more dynamic relationship in which both variables influence each other (Hammen, 2005). In this way, more complex modelling of these relationships with regard to their bidirectional effect on each other and consideration surrounding how self-structure might also contribute to these relationships is likely to be informative. Given that we were unable to make strong inferences regarding how self-complexity might inform these relationships in the current thesis, this is also an area for future research to investigate.

Additionally future research could benefit from further examination of the role of self-clarity in relation to value affirmations. While one previous study has demonstrated support

for value affirmations as a means to increase self-clarity, the current study did not find this to be the case. Given that value affirmations may help to reduce the impact of discrimination on mood as shown in study 4, it is important to understand the mechanisms behind this process. A further important issue relates to the degree to which self-clarity may fluctuate over time. Most evaluations of the stability of self-clarity have relied on test-retest correlations which only span over a few months (e.g. Campbell et al., 1996; Matto & Realo, 2001) and provide some support for the stability of self-clarity. One exception to this is a longitudinal study by Wu, Watkins and Hattie (2010) in which self-clarity was demonstrated to be fairly stable over a period of one year. However, this study employs a sample of Chinese adolescents living in Hong Kong and as such replication across different age and cultural groups represents an important area for future research. In particular, in western culture, the belief that one's self-worth is related to personal achievements and accomplishments may lead to self-clarity being more valued than in eastern cultures (Wu et al., 2010). As such, the stability of self-clarity over time is not adequately addressed by the current literature and this issue needs to be addressed.

Finally, with self-clarity emerging as an important predictor of psychological wellbeing, future research could help to clarify the theoretical processes through which this effect may occur. While previous research has assumed that having clear and reliable self-representations helps individuals to manage stress (e.g. Lee-Flynn et al., 2011; Ritchie et al., 2011), there is much to be done in terms of specifying how these features might be beneficial for psychological wellbeing. One way in which the relationships between self-structure, stress and wellbeing could be tested is to use a framework like the retrieval competition account (Brewin, 2006), which takes a cognitive approach to understanding self-structure. In this way, Brewin's account of poorly articulated self-representations is similar to the construct of self-clarity, with less articulated self-representations being less accessible in memory. Therefore,

linking Brewin's account to self-clarity may provide a clearer theoretical framework through which research can be generated.

Practical implications of the current research

Given the negative impact of discrimination on wellbeing, interventions that focus on reducing occurrences of discrimination are crucial. However, in the interim, interventions that aim to support stigmatised individuals are also necessary. The current research offers several important implications with regard to how this research can be integrated into a clinical setting. First, we demonstrate tentative evidence that a brief values affirmation exercise may have utility for stigma management, by buffering the effects of discrimination on mood. While further research is required to test whether this can be replicated, values affirmations represent a brief intervention that is able to be self-administered and in this way provide a cost-effective mechanism of enhancing resilience. Values affirmation may also be integrated in individual therapy as part of a larger treatment package informed by an Acceptance and Commitment based framework. In line with this approach, a key component of Acceptance and Commitment Therapy relates to helping clients to identify with their key values and engage in values driven behaviours. This process relates to the core concept of ACT which states that a major cause of psychological suffering is experiential avoidance and therefore by identifying and engaging with values, clients develop psychological flexibility which serves to reduce psychological symptoms (Hayes, Strosahl, & Wilson, 1999).

In addition to informing therapeutic interventions, our research regarding the utility of values affirmation may also help guide the clinical assessment of stigmatised group members. For example, assessing an individual's ability to identify their values or potential conflict between important values may indicate difficulties in this area that can be addressed in therapy by helping a client to explore their values or resolve or accept conflict between values. Both these approaches are consistent with an Acceptance and Commitment based

framework, however the current research highlights how this approach could be of benefit to treatment of mental health difficulties resulting from discrimination in stigmatised populations.

Conclusions

The literature on discrimination and wellbeing has largely focused on establishing the prevalence of negative psychological indicators. While elevated perceptions of stress represent a pathway through which discrimination is theorised to impact on wellbeing, there are likely to be other variables which may also influence the pathways between discrimination, stress and psychological wellbeing. Identifying such variables is of great importance as they may help to reduce mental health difficulties in stigmatised populations. The current thesis sought to inform this gap in the literature by investigating self-structure in this context.

We conducted four studies to examine the role of self-clarity and self-complexity in the context of discrimination, stress, depression and anxiety in a general population and across multiple stigmatised populations, including international students, women and LGBTI individuals. Across all studies discrimination was found to either directly impact on psychological wellbeing or indirectly through its impact on stress. Contrary to our predictions, self-complexity did not moderate or mediate the relationships between discrimination, stress and psychological wellbeing. However, with the exception of our study on international students, the other studies demonstrated that self-clarity moderated the relationship between discrimination related stress and psychological wellbeing. In contrast, for international students self-clarity mediated the relationship between discrimination and psychological wellbeing. However, while self-clarity contributed to the wellbeing of international students, acculturative stress was a more immediate issue for this sample, as demonstrated by its contribution to psychological wellbeing, which was greater than that of discrimination. We

also demonstrated evidence that values affirmations buffer the effect of reading discriminatory articles on mood and in this way may inform future therapeutic interventions for stigmatised populations.

In conclusion, this thesis examined several different contexts in which discrimination may be experienced and may have negative implications for wellbeing. The consistent findings but also the differences are both useful in developing a better understanding of the implications of discrimination for wellbeing and the role of self-structure.

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Appendix A. Study 1 Information Form

THE AUSTRALIAN NATIONAL UNIVERSITY

RESEARCH SCHOOL OF PSYCHOLOGY

SELF-CONCEPT, PERCEIVED DISCRIMINATION AND PSYCHOLOGICAL WELLBEING

INFORMATION FORM

There are many different ways of organising knowledge about the self which vary across individuals. Previous research shows that some ways of organising self-knowledge may buffer the negative effects of general life stress on wellbeing. The current research aims to investigate whether the buffering effect extends to perceived discrimination as a specific stressor.

Procedure

Participation will involve answering questions about your experiences of discrimination (if any), your current psychological wellbeing and different ways you have of thinking about yourself.

The questionnaire should take 20-25 minutes to complete. If you are a first year psychology student enrolled at the ANU you will receive 30 minutes course credit for your participation. **TO RECEIVE COURSE CREDIT, PLEASE RECORD THE UNIQUE CODE WHICH APPEARS ON THE SCREEN AT THE END OF THE COMPLETED SURVEY. YOU WILL THEN NEED TO EMAIL THE UNIQUE CODE TO THE EMAIL ADDRESS PROVIDED.**

Risks

Answering questions about your experiences of discrimination may make you feel distressed. You are free to withdraw from the study at any time without penalty and your data will not be included in the analyses. If you feel distressed at any stage during this survey, please don't hesitate to contact one of the following services:

Lifeline Telephone Counselling Services (free service, 24 hrs) Phone: 13 11 14

The ANU Counselling Centre (free service for ANU students and staff). Phone: 6125 2442

Kids Helpline (free service for people aged 25 and under): 1800 55 1800

Confidentiality

Any information or personal details collected in this study are confidential. The data collected will be stored in a secure place and only the investigators on this project will be allowed access to this data. The results of this study may appear in journals or other publications, but not in any way that would identify you.

Questions about the research

If you have any issues or questions about the study please contact: Dora Sharpe-Davidson (dora.sharpe-davidson@anu.edu.au) or the co-supervisor of this research Dr. Kate Reynolds (katherine.reynolds@anu.edu.au)

Any concerns about the conduct of this research may be directed to the Human Research Ethics Committee: Human Ethics Officer, Australian National University ACT 0200, Tel: (02) 6125 3427, Email: Human.Ethics.Officer@anu.edu.au

Appendix B. The perceived discrimination scale for study 1

Source: Williams, D.R., Yu, Y., Jackson, J.S., and Anderson, N.B. "Racial Differences in Physical and Mental Health: Socioeconomic Status, Stress, and Discrimination." *Journal of Health Psychology*. 1997; 2(3):335-351.

In your day-to-day life, how often do any of the following things happen to you?

1. You are treated with less courtesy than other people are.
2. You are treated with less respect than other people are.
3. You receive poorer service than other people at restaurants or stores.
4. People act as if they think you are not smart.
5. People act as if they are afraid of you.
6. People act as if they think you are dishonest.
7. People act as if they're better than you are.
8. You are called names or insulted.
9. You are threatened or harassed.

Recommended response categories for all items: Almost everyday; At least once a week; A few times a month; A few times a year; Less than once a year; Never

Follow-up Questions: (Asked only of those answering "A few times a year" or more frequently to at least one question.): What do you think is the main reason for these experiences? (CHECK MORE THAN ONE IF VOLUNTEERED).

1. gender
2. ethnicity
3. age
4. religion
5. appearance
6. sexual orientation
7. education or income level
8. physical disability
9. mental health disorder
10. other (please specify)

Appendix C. Perceived Stress Scale (short version) for study 1

Source: Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

1. In the last month, how often have you felt that you were unable to control the important things in your life?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

2. In the last month, how often have you felt confident about your ability to handle your personal problems?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

3. In the last month, how often have you felt that things were going your way?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

Appendix D. Self-Concept Clarity Scale used in study 1, 2, and 4

Source: Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, 70(1), 141-156.

1. My beliefs about myself often conflict with one another.*
2. On one day I might have one opinion of myself and on another day I might have a different opinion.*
3. I spend a lot of time wondering about what kind of person I really am.*
4. Sometimes I feel that I am not really the person that I appear to be.*
5. When I think about the kind of person I have been in the past, I'm not sure what I was really like.*
6. I seldom experience conflict between the different aspects of my personality.
7. Sometimes I think I know other people better than I know myself. *
8. My beliefs about myself seem to change very frequently.*
9. If I were asked to describe my personality, my description might end up being different from one day to another day.*
10. Even if I wanted to, I don't think I could tell someone what I'm really like.*
11. In general, I have a clear sense of who I am and what I am.
12. It is often hard for me to make up my mind about things because I don't really know what I want.*

Scale ranges from 1 (*strongly disagree*) to 5 (*strongly agree*).

* Indicates reverse-keyed item.

Appendix E. Self-complexity task

Source adapted from: Showers, C (1992). Compartmentalization of positive and negative self-knowledge: Keeping bad apples out of the bunch. *Journal of Personality and Social Psychology*, 62, 1036–1049

Please read the following instructions carefully.

Most people behave, think and feel differently depending on the social situation and the kinds of people who are around them. A set of behaviours, thoughts and feelings can be thought of as another version or ‘subtype’ of the same person. For example, there might be Tim at work, Tim at home with his mother, Tim the artist and Tim the professional rugby player.

In this study we are interested in these “subtypes” of a person. We would like you to ***think of up to 8 different subtypes of yourself***. It is alright if some of these subtypes have a lot in common with each other. To help you with this, here are some ideas of areas in your life which you might use for this task:

- Yourself engaging in different activities (e.g. jobs, sports, studies, hobbies, etc)
- Yourself in your relationships with different people (e.g. with parents, siblings, extended family, close friends, romantic partners, patients, teachers, doctors or classmates)
- Yourself in different situations or places (e.g. alone, in social situations, with people you don't know, trying to give a good impression, in a crowd, at the hospital, at home, on holidays, at the beach)
- The different ways in which you see yourself (e.g. extrovert, fashionista, partyer, academic, sporty)

These are simply some suggestions to get you thinking about the different versions or subtypes of yourself, please do not feel limited by them.

In the boxes below, please list subtypes of yourself, by giving each a brief label or description (e.g. "me with mum", "me at work", "me doing art", "me playing rugby" etc). When you cannot think of any more subtypes leave the remaining lines blank and click the forward arrow to move on.

Subtype 1 _____

Subtype 2 _____

Subtype 3 _____

Subtype 4 _____

Subtype 5 _____

Subtype 6 _____

Subtype 7 _____

Subtype 8 _____

For each subtype, please select the attributes which best describe how you behave, act or feel when

you think of this subtype of you. The attributes are listed under "items" and you can scroll down to see the complete list. You may use as many attributes as you need to describe yourself in each subtype. You can repeat the same attributes in different subtypes as often as you need.

To select an attribute, click on it and then click the > symbol to enter it into the relevant group. If you want to remove an attribute from a group, select the X button. Please leave the "Group" text entry box entry and ignore the up and down arrows, as it does not matter what order you put the attributes in.

Attributes

Capable	Interested
ComforTable	Irresponsible
Communicative	IrriTable
Confident	Isolated
Disagreeing	Lazy
Disorganised	Like a failure
Energetic	Lovable
Friendly	Mature
Fun and Entertaining	Needed
Giving	Optimistic
Happy	Organised
Hardworking	Outgoing
Hopeless	Sad and Blue
Immature	Self-centered
Incompetent	Successful
Indecisive	Tense
Independent	UncomforTable
Inferior	Unloved
Insecure	Weary
Intelligent	Worthless

Appendix F. Depression scale used in studies 1 and 4.

Source: Radloff, L.S. (1977). The CED-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401

	During the Past Week			
	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I did not feel like eating; my appetite was poor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I felt that I could not shake off the blues even with help from my family or friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I felt I was just as good as other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I had trouble keeping my mind on what I was doing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I felt depressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I felt that everything I did was an effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I felt hopeful about the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I thought my life had been a failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I felt fearful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. My sleep was restless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I was happy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I talked less than usual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I felt lonely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. People were unfriendly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. I enjoyed life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I had crying spells.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I felt sad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I felt that people dislike me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I could not get "going."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SCORING: zero for answers in the first column, 1 for answers in the second column, 2 for answers in the third column, 3 for answers in the fourth column. The scoring of positive items is reversed. Possible range of scores is zero to 60, with the higher scores indicating the presence of more symptomatology.

Appendix G. Participant Debriefing sheet (Study 1)

THE AUSTRALIAN NATIONAL UNIVERSITY
SCHOOL OF PSYCHOLOGY
INFORMATION FORM

Thank you for participating in this study. The main purpose of this study is to investigate whether some ways of organising knowledge about the self may be related to better psychological wellbeing in individuals who have experienced discrimination.

Previous research indicates that some ways of organising knowledge about the self are related to better wellbeing in individuals who experience stressful life events. This study seeks to extend previous research by examining whether this finding also applies to discrimination as a specific stressful life event.

The findings of this study will help health care professionals to better assist people who experience psychological distress resulting from perceived discrimination experiences.

It is common for people to feel distress when reflecting on their experiences of discrimination and stress or thoughts and feelings raised by the questionnaire. If you feel upset, we urge you to contact one of the following services (or a similar service if you are located outside Australia):

Lifeline telephone counselling services (free service, 24 hrs) Phone: 13 11 14

The ANU Counselling Centre (free service for ANU students and staff). Phone: 6125 2442

Kids Helpline (free service for people aged 25 and under): 1800 55 1800

If you have any questions about this research please contact either Dora Sharpe-Davidson, Department of Psychology, ANU; Ph: 02 6125 5168; Email: Dora.Sharpe-Davidson@anu.edu.au or Associate Professor Kate Reynolds, Department of Psychology, ANU; Ph: 02 6125 0637; Email: Katherine.Reynolds@anu.edu.au

If you have any complaints or concerns about any ethical aspect of your participation in this research, you may contact: Human Ethics Officer, Research Services Office, ANU; Ph: 6125 3427; Email: Human.Ethics.Officer@anu.edu.au

Please print this form, should you like a copy of this information to keep

Appendix H. Study 2 Information Form

THE AUSTRALIAN NATIONAL UNIVERSITY

RESEARCH SCHOOL OF PSYCHOLOGY

INFORMATION FORM

Are you an international student who has lived in Australia for four months or less?

We are interested in your experience of studying and living in Australia. The Australian government is committed to ensuring international students have a great education experience in Australia. This research seeks to understand the factors which help international students to have a positive experience in Australia.

Here's how it works:

Participation involves filling out an online survey two times:

- (1) In the first four months of arriving in Australia
- (2) Six months later

Questions will cover a range of topics, including your wellbeing, your experience of living in Australia and how you view yourself. **Participation should take no more than 30 minutes.**

We value your time and your input. All participants will be given the opportunity to go into the draw to win one of five \$50 Coles Gift Vouchers at the completion of each survey. First year psychology students at the ANU will also receive 30 minutes course credit for completing each survey. We anticipate the raffle will be drawn between August and September this year for the first survey and between March and April next year for the second survey. The raffle winners will be asked to provide a mailing address to receive the vouchers.

Confidentiality

Participation is voluntary and you may withdraw at any time. Your responses to the survey are anonymous and no personal details will be disclosed in any future reports. A valid email address is required to receive the second survey and to enter the draw for a Coles voucher. Participant email addresses will be kept separately from the data in a locked filing cabinet and destroyed after the second draw at the end of the second survey. While this survey is anonymous, psychology students seeking credit will be asked to email the researcher (Dora Sharpe-Davidson) to be given an acknowledgment for their research participation. These emails will be deleted after participants have received course credit to protect participant confidentiality.

If you find the questions distressing, please do not hesitate to call any one of the following services: Lifeline Crisis Telephone Counselling (free 24 hour service): 13 11 14 ANU Counselling Centre (free for ANU students and staff): 6125 2442

Want to know more?

If you have any questions about this research and why it is being conducted:

Dora Sharpe-Davidson (PhD Clinical Candidate), Tel (02) 612 55168 or dora.sharpe-davidson@anu.edu.au

Dr Katherine Reynolds (Research Supervisor), Tel (02) 6125 0637 or katherine.reynolds@anu.edu.au

Any concerns about the conduct of this research may be directed to the Human Research Ethics Committee:

Human Ethics Officer, Australian National University ACT 0200, Tel: (02) 6125 3427, Email: Human.Ethics.Officer@anu.edu.au

Appendix I. Ethnic Discrimination scale for study 2

Source: Adapted from Bourguignon, D., Seron, E., Yzerbyt, V., & Herman, G. (2006). Perceived group and personal discrimination: differential effects on personal self-esteem. *European Journal of Social Psychology, 36*(5), 773-789

Please rate how much you agree with the following statements:

1. I think that people from my ethnic group are undervalued in Australian society
2. In Australia society, people often despise people from my ethnic group
3. People from my ethnic group meet with more obstacles in their daily life than Australians
4. People from my ethnic group are often confronted with discrimination.

0 = strongly disagree; 3 = somewhat agree; 5 = strongly agree

Appendix J. Acculturative stress scale (Study 2)

Source: Rosenthal, D., J. Russell and G. Thomson (2006) *A Growing experience: The Health and the Wellbeing of International Students at the University of Melbourne*. Melbourne: The University of Melbourne.

Please rate the degree to which you agree with the following statements:

1. I miss the familiar way of life in my own country
2. It's hard being away from the people I love
3. It is lonely for me here in Australia
4. I feel less important here than at home
5. People treat me differently because of my cultural background
6. I feel uncomfortable in the Australia culture
7. I don't feel safe here in Australia
8. I feel I don't really belong here at the university

0 = not at all; 1 = to some degree; 2 = to a considerable degree; 3 = very much

Appendix K. Wellbeing measure for study 2

Source: Lovibond, S.H.; Lovibond, P.F. (1995). Manual for the Depression Anxiety Stress Scales (2nd ed.). Sydney: Psychology Foundation (Available from The Psychology Foundation, Room 1005 Mathews Building, University of New South Wales, NSW 2052, Australia)

Depression, Anxiety and Stress Scale (DASS-21)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all

1 Applied to me to some degree, or some of the time

2 Applied to me to a considerable degree, or a good part of time

3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3

14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Appendix L. Debriefing form for study 2

THE AUSTRALIAN NATIONAL UNIVERSITY

RESEARCH SCHOOL OF PSYCHOLOGY

DEBRIEFING FORM

Thank you for participating in this study. The main purpose of this study is to better understand the experiences of international students in Australia and their relationship to wellbeing over a six month period. The findings from this study will further current knowledge about the wellbeing of international students in Australia, while highlighting the areas in which they may require additional support.

If at any stage during this questionnaire you felt distressed or upset, we urge you to contact one of the following services:

Lifeline telephone counselling services (free service, 24 hrs) Phone: 13 11 14

The ANU Counselling Centre (free service for ANU students and staff). Phone: 6125 2442

Kids Helpline (free service for people aged 25 and under): 1800 55 1800

If you have any questions about this research please contact Dora Sharpe-Davidson (Dora.Sharpe-Davidson@anu.edu.au) or Associate Professor Kate Reynolds, Department of Psychology, ANU; Ph: 02 6125 0637; Email: Katherine.Reynolds@anu.edu.au

If you have any complaints or concerns about any ethical aspect of your participation in this research, you may contact: Human Ethics Officer, Research Services Office, ANU; Ph: 6125 3427; Email: Human.Ethics.Officer@anu.edu.au

Please click next to submit your responses and receive your UNIQUE CODE FOR COURSE CREDIT if you are a first year psychology student at the ANU

Appendix M. Information sheet for Study 3

THE AUSTRALIAN NATIONAL UNIVERSITY

RESEARCH SCHOOL OF PSYCHOLOGY

INFORMATION SHEET

Are you a female aged 18 years or older?

We are interested in how your self-concept relates to your wellbeing. Participation involves completing a short reading and answering questions about your wellbeing and how you see yourself as a female and as an individual.

Here's how it works

- (1) Follow the online link below to complete a brief online survey (20-30 mins)
- (2) Make a time to come into the Research School of Psychology to complete a reading and a brief survey (20 mins)

We value your time and your input. Participants will receive \$10 after completing both parts of the survey OR first year psychology students can claim **1 hour course credit**

Confidentiality

Participation is voluntary and you may withdraw at any time. Your responses to the survey are anonymous and no personal details will be disclosed in any future reports.

If you find the questions distressing, please do not hesitate to call any one of the following services: Lifeline Crisis Telephone Counselling (free 24 hour service): 13 11 14

ANU Counselling Centre (free for ANU students and staff): 6125 2442

Want to know more?

If you have any questions about this research and why it is being conducted:

Dora Sharpe-Davidson (PhD Clinical Candidate), Tel (02) 612 55168 or dora.sharpe-davidson@anu.edu.au

Dr Katherine Reynolds (Research Supervisor), Tel (02) 6125 0637 or katherine.reynolds@anu.edu.au

Any concerns about the conduct of this research may be directed to the Human Research Ethics Committee: Human Ethics Officer, Australian National University ACT 0200, Tel: (02) 6125 3427, Email: Human.Ethics.Officer@anu.edu.au

Appendix N. Experimental reading (Study 3)

Source: Compiled from several news articles from the following webpage:

<https://www.wgea.gov.au/news-and-media/media-coverage>

As you are probably aware, women still face widespread discrimination in many important areas of life. Research conducted worldwide confirms that discrimination is particularly prevalent in the workforce. An Australian survey indicated that over half of women in the business community have been discriminated against on the basis of their gender.

Experimental studies show that both women and men are more likely to hire a man than a woman with the same academic record. Recommendation letters written for men contain more “standout descriptors” such as “the most gifted” or “best qualified” than those written for women.

Research suggests that women with children may face additional discriminatory behaviour. A US based study showed that mothers are 79% less likely to be hired and are offered US\$11,000 (AUD\$12,280) less salary than women with no children. In contrast, men were not penalised for, and sometimes, benefited from being a parent. In the UK, it is estimated that 50,000 women are forced out of their jobs each year because of pregnancy discrimination.

Discrimination towards women also extends to leadership, with research showing that despite being equally effective as their male counterparts, female leaders are judged more negatively. Across studies, participants tend to rate the “ideal female” as a “follower,” rather than a “leader,” while the “ideal man” exhibits the qualities that describe a good leader, such as “able to take charge.” Female leaders also tend to be judged more harshly than male leaders for what they wear, the colour of their hair or other physical characteristics.

Appendix O: Control reading (Study 3)

Source: Allard, S. M., Earles, J. L., DesFosses, L. (2014). Spatial memory in captive giant anteaters. *Animal Behavior and Cognition 1*: 331-340.

To be successful in the wild, animals must overcome various challenges that impact their survival. Locating sufficient food is one challenge that evolutionarily drives cognitive skills and behavior. The summation of environmental factors and physiological needs shapes an animal's foraging strategies to achieve a balance between energy expenditure and gained nutrients from acquired food. These factors include, but are not limited to, territory size, competition, type of food consumed, and metabolism of the animal (Pyke, 1984). Giant anteaters (*Myrmecophaga tridactyla*) are specialized carnivores, feeding exclusively on ants and termites (Redford, 1985). They will feed for short periods of time from numerous different locations, which is necessitated by the defense mechanisms of their prey. However, the means by which giant anteaters locate their food are currently unknown. They could use one or a combination of olfactory, visual, or spatial cues to find enough food to meet their daily energy demands. Understanding how giant anteaters forage could therefore provide clues to the cognitive abilities of giant anteaters.

One early study attempted to discern the acuity of the sense of smell of giant anteaters. Researchers used a T-maze and two scents, camphor and eucalyptus, to indicate positive and negative cues that would lead to a food reward or nothing. During the experiment, researchers blended the two scents and varied the concentrations to determine when the giant anteater could no longer discriminate between the two scents. These results were then compared to similar discrimination tests in human subjects. The researchers concluded that giant anteaters likely have a sharper sense of smell than humans, but they were unable to further specify their olfactory capabilities or the extent to which giant anteaters rely on this strategy (McAdam & Way, 1967).

Appendix P. Self-esteem measure (Study 3)

Source: Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree

Appendix Q. Collective esteem measure (Study 3)

Source: Adapted from Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin*, 18, 302–318.

Please rate the degree to which you agree or disagree with the following items

1. I often regret that I belong to my gender group (reverse scored)
2. In general, I'm glad to be a member of the gender group I belong to (reverse scored)
3. Overall, I often feel that the gender group of which I am a member is not worthwhile (reverse scored)
4. I feel good about the gender group I belong to (reverse scored)

1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree

Appendix R. Wellbeing scale (Study 3, study 4)

Source: Thompson, E.R. (2007). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule (PANAS).

Journal of Cross-Cultural Psychology, 38, 227–242

Thinking about yourself and how you normally feel, to what extent do you generally feel:

Upset	Nervous
Hostile	Determined
Alert	Attentive
Ashamed	Afraid
Inspired	Active

1 = never; 5 = always

Appendix S. Debriefing form (study 3)THE AUSTRALIAN NATIONAL UNIVERSITYRESEARCH SCHOOL OF PSYCHOLOGYDEBRIEFING FORM

Thank you for participating in this study. The main purpose of this study is to better understand how differences in how people think about themselves influences their mood and self-esteem after reading that discrimination towards women is increasing. Unless you were in the control condition, you would have read an article about discrimination towards women. This article emphasised research supporting widespread discrimination towards women. This article presented a very one-sided argument about the state of gender discrimination. We would like you to know that the situation regarding gender discrimination is much more complex than what you read. Discrimination towards women continues to be an issue within Australian employment and leadership. However, increasing attention is being given to the issue of gender inequality and this is reflected by reforms within the Government and the public sector to address current disparities. If you would like to know more about this issue, the following website contains further resources: <http://www.humanrights.gov.au/our-work/sex-discrimination>

If at any stage during this experiment you felt distressed or upset, we urge you to contact one of the following services:

Lifeline telephone counselling services (free service, 24 hrs) Phone: 13 11 14

The ANU Counselling Centre (free service for ANU students and staff). Phone: 6125 2442

Kids Helpline (free service for people aged 25 and under): 1800 55 1800

If you have any questions about this research please contact either Dora Sharpe-Davidson, Email: Dora.Sharpe-Davidson@anu.edu.au or Associate Professor Kate Reynolds, Department of Psychology, ANU; Ph: 02 6125 0637; Email: Katherine.Reynolds@anu.edu.au

If you have any complaints or concerns about any ethical aspect of your participation in this research, you may contact: Human Ethics Officer, Research Services Office, ANU; Ph: 6125 3427; Email: Human.Ethics.Officer@anu.edu.au

You have the right to have your results withdrawn from the study without any consequences. If you choose to remove your results from the study you will still be entitled to course credit. Your 8 digit number will be used to identify your results and this will be deleted from the study data set.

Appendix T. Information form (study 4)

THE AUSTRALIAN NATIONAL UNIVERSITY
RESEARCH SCHOOL OF PSYCHOLOGY
PARTICIPANT INFORMATION SHEET

Researcher: The study is being conducted by Dora Sharpe-Davidson (PhD student), Professor Kate Reynolds and Dr Ken Mavor in the Research School of Psychology at the Australian National University.

Project Title: Self-concept and coping in same-sex attracted people

General Outline of the Project:

Description and Methodology: This study aims to understand how same sex attracted people cope with discrimination related to their sexuality. Participation involves completing an online survey which takes approximately 20 minutes.

Participants: We are seeking 100 same-sex attracted participants for participation in our online survey

Purpose of Data and Feedback: This data will be used as part of the primary researcher's PhD thesis and in any publications that arise from this. We will also send a summary of our results to the National LGBTI Health Alliance.

Participant Involvement:

Voluntary Participation & Withdrawal: Participation in the survey is **voluntary** and you may, without any penalty, decline to take part or withdraw at any time before September 2015 when the results will be written up for the researcher's thesis. You can also choose not to answer a question by clicking on the next question. If you click out of the survey before completing it, we will delete your data and it will not be included in the results.

What does participation in the research request of you? You will be asked questions about your mood, your experiences of homophobia and about how you see yourself and your sexuality. You will also be asked to read three articles which may or may not be related to anti-marriage equality views in Australia.

Remuneration: Participants will receive \$10 for their time.

Risks: Some questions may be experienced as distressing (for example, questions about your mood or your experiences of homophobia). You do not have to complete any questions that you don't feel comfortable answering.

Benefits: We aim to use the results of this research to inform the academic community and the National LGBTI Health Alliance about these issues relating to how homophobia affects same-sex attracted people and the coping strategies they employ.

Exclusion criteria:

Participant Limitation: Participation is limited to same-sex attracted people who are 18 years or older and who are citizens or permanent residents of Australia. This is because we are interested in how homophobia affects same-sex attracted people in Australia (which may differ from same-sex attracted people's experiences in other countries).

Confidentiality:

Confidentiality: Confidentiality will be protected as far as the law allows. Only members of the research team will have access to identified data. All data will be coded in a de-identified manner and subsequently analysed and reported in such a way that responses will not be able to be linked to any individual. The data you provide will only be used for the specific research purposes of this study. To receive the \$10 remuneration, you will be directed to a new page to where you will be asked to provide your bank details. Your bank details will be stored separately from your data and will only be used to reimburse you for your time, after which they will be deleted.

Data Storage:

Where: The data collected will be stored in the Qualtrics-secure database. The statistical analysis and compiled data will be stored in a secure location within the psychology department

How long: Study data will be stored for five years from publication, following which it will be destroyed.

Queries and Concerns:

Contact Details for More Information: For further requests for information or queries regarding the study, please contact the primary investigator, Dora Sharpe-Davidson, by emailing dora.sharpe-davidson@anu.edu.au or by phone, 612 55585. The primary investigator's supervisor, Professor Katherine Reynolds can also be contacted, by emailing Katherine.Reynolds@anu.edu.au or by phone, 612 50637.

Contact Details if in Distress: If you feel distressed by any of the questions in the survey we advise you to contact one of the following free counselling phone services, including Lifeline (phone 13 11 14) or Kidsline if you are 25 years of age or younger (phone 1800 55 1800)

Ethics Committee Clearance:

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee. If you have any concerns or complaints about how this research has been conducted, please contact: Ethics Manager, The ANU Human Research Ethics Committee, The Australian National University, Telephone: +61 2 6125 3427, Email: Human.Ethics.Officer@anu.edu.au

Appendix U. Neutral article 1 of 3 (Study 4)

Source: Tailem Bend track redevelopment gets green light, paves way for second SA V8 Supercar race (May 20, 2015). In *ABC News*. Retrieved December 18, 2015 from <http://www.abc.net.au/news/2015-05-21/tailem-bend-racetrack-redevelopment-gets-green-light/6486972> Tailem Bend track redevelopment gets green light, paves way for second SA V8 Supercar race

A multi-million-dollar upgrade of the Tailem Bend racetrack will begin later this year after it was approved by the state's Development Assessment Commission (DAC).

The decision paves the way for a second V8 Supercar race in South Australia from 2017, complementing the season-opening Clipsal 500 street race in Adelaide.

Last year, the Peregrine Corporation bought the 680-hectare site.

The site is Mitsubishi's former test track and currently operates as SA Motorsport Park.

Peregrine signed an agreement with V8 Supercars to host a race should the redevelopment go ahead.

It was yesterday informed the DAC had given the upgrade the green light.

The project is expected to cost \$80 million, with the state and federal governments each contributing \$7.5 million in funding for the complex, which will include a hotel and caravan park.

The park's business development manager Paul Trengove said construction would start within months.

"Our master plan and the conceptual side of the development was what got approved and now we can start to focus on the detailed side of things," he said.

"Once we've got that in place, we'll go straight into the construction phase.

"We're sort of thinking just after the halfway mark of the year, we'll probably start to see some earthworks begin and we're anticipating a one-and-a-half-year build, maybe a bit longer."

Mr Trengove said the project was expected to create more than 1,000 jobs.

"The Murraylands area will start to see a huge amount of jobs created through the development process," he said.

"Once the motorsport park is operating, we expect to see good full-time employment numbers."

The completed facility will include a new drag strip, rally tracks and go-kart circuits.

Neutral article 2 of 3 (Study 4)

Source: Jefferson, A. & Favata, D. (2015, May 22). Need further proof Melbourne is expensive? Look at the price of coffee. *Herald Sun*. Retrieved from <http://www.heraldsun.com.au/news/victoria/need-further-proof-melbourne-is-expensive-look-at-the-price-of-coffee/news-story/f6710d0f1b18c9176d057987d13418a1>

Need further proof Melbourne is expensive? Look at the price of coffee

WE love our coffee in Melbourne - and we're really paying for it.

Living website Expatistan.com has found the typical price of a coffee in here is \$3.98, but in Rome a cappuccino costs about \$1.94.

Melbourne remains one of the most expensive cities in the world to live, with soaring costs pushing the cost of living above Paris, Los Angeles, Rome and Barcelona.

However the Victorian capital is still cheaper to live in than Perth, Sydney, and Brisbane with four Australian cities included in the world's top 20 most expensive cities.

Melbourne is also the world's fourth most pricey city for a tube of toothpaste with an average cost of \$5.11.

A 110g of toothpaste cost between \$4.80 and \$5.43 in the Melbourne CBD.

Geneva was the world's most expensive city to buy toothpaste at \$7.36 followed by Abu Dhabi at \$5.54 and Tel Aviv at \$5.51.

The Expatistan.com Figures come from a report after comparing information from 327,000 users around the world to calculate average prices in 1,939 cities.

Australians continue to be hard done by in our entertainment costs. The price of two tickets to the movies costs \$38 in Melbourne compared to \$24 in Rome and Barcelona, \$29 in Paris and Christchurch and \$31 in LA.

But there was good news for motorists.

The typical cost of a litre of petrol in Melbourne was \$1.38, more than 75 per cent lower than the price of fuel in London, where a litre can be purchased for \$2.43.

In terms of rent, a property in Melbourne will set you back \$2766 a month compared to \$1838 in Barcelona and \$2457 in Rome. By comparison, rent in London would set you back \$4820 a month or \$4863 in Rome.

The rental prices are based on 85 metres of furnished accommodation in an area of the city where young, educated, employed members of the expat community typically live.

Melbourne is the third most expensive city in the world to purchase a pack of Marlboro cigarettes with an average price of \$22.31

Neutral article 3 of 3

Source: Matthew Dellavedova's Cleveland Cavaliers defeat Atlanta Hawks to go 2-0 up in NBA Eastern Conference Finals (May 23, 2015). In *ABC News*. Retrieved December 18,

2015 <http://www.abc.net.au/news/2015-05-23/matthew-dellavedova-cleveland-cavaliers-beat-atlanta-hawks/6492232>

Matthew Dellavedova's Cleveland Cavaliers defeat Atlanta Hawks to go 2-0 up in NBA Eastern Conference Finals

Australian point guard Matthew Dellavedova has helped guide the Cleveland Cavaliers to a commanding lead in their NBA Eastern Conference Finals series against the Atlanta Hawks.

Dellavedova, starting the first playoff game of his NBA career, had 11 points, six rebounds and four assists while LeBron James had 30 points and 11 assists as the Cavaliers beat the Hawks 94-82 on Friday in Atlanta to take a 2-0 lead in the best-of-seven series.

The next two games will be played in Cleveland and the Cavaliers need just two more wins to eliminate the Hawks and book a place in the NBA Finals

It marked the first time this season Eastern Conference top seeds Atlanta dropped back-to-back games at home.

The Cavs now head back to Cleveland for games three and four in the best-of-seven series with a healthy lead.

The winners of the series will take on either the Golden State Warriors or Houston Rockets in the NBA finals. The Warriors lead the Western Conference finals 2-0 after two victories over the Rockets at home in Oakland, California.

James was 10-of-22 from the field and eight of his 11 assists led to a Cavs' three-pointer.

But James said his team's defensive effort was key in a game in which they held the Hawks to 41.8 per cent shooting overall and 23.1 per cent - six of 26 - from three-point range.

"That's where we hang our hat," James said. "We're the number one defensive team in the post-season and in order for us to win we have to defend - and that's what we're doing."

The Cavaliers were without Irving, who sat out the contest with lingering left knee trouble.

Cleveland coach David Blatt said doctors had advised that Irving, who is averaging 18.9 points and 3.5 assists in 11 games this post-season, remain on the sidelines.

Atlanta was also dealing with injuries. DeMarre Carroll, who endured a scary knee injury late in game one, started and played 34 minutes.

But the hawks saw forward Al Horford and guard Kyle Korver suffer injuries in the second half. Horford was sidelined just briefly, but Korver left with a sprained ankle and did not return.

Appendix V. Discrimination articles 1 of 3 (study 4)

Source: Flynn, D. (2015, April 19). Children raised by same-sex parents speak up for traditional families. In *Canberra Times*. Retrieved December 18, 2015 from <http://www.smh.com.au/comment/children-raised-by-samesex-parents-speak-up-for-traditional-families-20150417-1mn8ue.html>

Children raised by same-sex parents speak up for traditional families

As the Andrews government considers using the law to abolish the idea that a mother and father matter to a child, voices of people raised by same-sex-attracted people are starting to be heard. Heather Barwick, a former gay-marriage advocate turned children's rights activist, was raised by two women. While she loved both and grew up in a stable environment, she now believes that children need to grow up within traditional families. The void that having two carers of the same sex was unable to fill led her to believe that, "the best and most successful family structure is one in which kids are being raised by both their mother and father.

"My father's absence created a huge hole in me, and I ached every day for a dad. I loved my mum's partner, but another mum could never have replaced the father I lost." Barwick laments that children of same-sex parents have not been given the same voice as children of divorced parents, who are allowed and encouraged to express their hurt and pain. The current Adoption Act permits adoption to be in favour of a man and woman who are either married or in a de facto relationship. Gay adoption focuses on the rights of same-sex couples and neglects the rights of the children up for adoption; those who so far, have not had their voices heard.

The Australian Christian Lobby's call for the current law to be maintained is a bid to give voice to the countless number of children that are unable to articulate and exercise their rights to a mother and father. Allowing gay and lesbian couples to adopt is likely to have adverse affects on Victorian faith-based agencies like CatholicCare, who after declining to provide adoption services to same-sex couples may be sued or forced to close down. Exaggerating? Such intolerance has resulted in Catholic Charities closing its adoption services in Massachusetts and Illinois in the US.

In Victoria, a state that prides itself on diversity, agencies with religious foundations should have the right to continue to provide adoption services for children needing a home. Additionally, the rights of birth parents should be taken into consideration. Birth parents should be allowed to request that their child be adopted into a family with say "a Catholic mum and dad". At the very heart of adoption is a desire to give children the best possible environment within which they can grow and develop. Adoption is about the rights and best interests of the child. Adult desires need to take a back seat.

Heather Barwick isn't the only one that has experienced hurt because of a missing father or mother. Domenico Dolce of designer fashion label Dolce & Gabbana has recently spoken out in support of traditional families. Despite being openly gay, Dolce stated this year in an interview with Italian magazine *Panorama*: "It's not us who created the family. You are born to a mother and a father – or at least that's how it should be."

After this statement, there was an influx of support from children raised by same-sex couples. One published letter from six Americans raised by homosexual parents thanked the designer for speaking out and pleaded with him to "support the idea that all children need to be bonded with their mothers and fathers" as it is "a human right". We cannot let the best interests of the child be overlooked and overshadowed by the voices of adults, no matter how heart-felt, in favour of same-sex adoption. We owe that to the next generation of children.

Discrimination article 2 of 3 (study 4)

Source: Francis, W. (2015, April 1). Rights of children should rule same-sex marriage debate. In *Sunshine Coast Daily*. Retrieved 2015, December 18, from: <http://www.sunshinecoastdaily.com.au/news/rights-of-children-should-rule-the-same-sex-debate/2593468/>

WE ALL know that you don't have to be the same to be equal. And yet same-sex marriage lobbyists propose the only way they can be equal is to be legally the same as married couples. The latest attempt to change marriage legislation by fatigue is in Noosa, where local resident Robin Bristow has taken aim at the Mayor and the CEO because they have declined to enter the same-sex marriage debate. Mr Bristow claims this is bigotry and has promised to start a national campaign, including demonstrations outside council. He is quoted as saying, "get ready for the confetti, rainbow chalk and television cameras".

Noosa Council CEO Brett de Chastel has rightly pointed out to Mr Bristow that marriage is a Commonwealth issue, and the focus of the Noosa council is on local government issues they actually have jurisdiction over. Apart from this issue being an inappropriate use of council time and resources, it is inappropriate for council to support any policy that requires a child to miss out on a mother or father. And before someone accuses me of Helen Lovejoy syndrome, I'll come right out and say it - yes, we must stop and think of the children.

The undeniable truth is that redefining marriage will result in yet another group of children being deliberately removed from their parents as a result of government legislation. Same-sex marriage advocates believe motherless children to be a desirable outcome. They are lobbying for boys to be raised without their fathers and for girls to be raised without their mothers.

Life throws lemons sometimes, and it's not always possible for children to be with their mother and father, but we must learn from past mistakes and refuse to make laws that will deliberately deprive children of their mother or their father. There is no discrimination in Australian law against same-sex couples. Well-known actor and gay activist Magda Szubanski said recently, "Only until about five or six years ago there was still about 87 pieces of legislation that discriminated against us, so the changes are really quite recent."

At the same time, the discrimination against the rights of children caught up in this debate is being recognised and opposed worldwide. In France in 2013, hundreds of thousands protested in the streets to oppose same-sex marriage and same-sex adoption legislation, led by prominent homosexuals. "The rights of children trump the right to children," was their catchcry.

A recent news article featured Heather Barwick, who was raised by two lesbians. "Same-sex marriage and parenting withholds either a mother or father from a child while telling him or her that it doesn't matter. That it's all the same," she wrote. "But it's not. A lot of us, a lot of your kids, are hurting. My father's absence created a huge hole in me and I ached every day for a dad." There is no need for the definition of marriage to be changed. The onus is on Australian same-sex advocates to make the case for why redefining marriage will not adversely affect children.

Discrimination article 3 of 3 (Study 4)

Source: Brown, M. (2015, April 2). Talking Point: Same-sex marriage myths driven by deceit and ignorance. In *The Mercury*. Retrieved on 2015, December 18 from:
<http://www.themercury.com.au/news/opinion/talking-point-samesex-marriage-myths-driven-by-deceit-and-ignorance/news-story/e86296c2bc7d2b9be94e47a2deaa1f1e>

Talking Point: Same-sex marriage myths driven by deceit and ignorance

SO it is proven, Australians are happy to see the institution of marriage redefined by allowing same-sex couples to marry. That is if you trust the polls touted by the gay lobby.

Polling is often about the questions asked and how they are worded — 78 per cent of the 1000 surveyed by Crosby Textor last year agreed that “if it doesn’t hurt anyone else, gay couples should be able to do what makes them happy, including marry”.

I’m surprised the response isn’t higher. If there is no harm in something and it makes people happy, why not agree?

“Excluding same-sex couples from marriage fosters discrimination,” said 78 per cent. Yes it does, the Marriage Act is discriminatory, that is why not everyone can marry.

We all experience discrimination. Not being allowed to go in the ladies toilet if you are a bloke or to get a home loan without a deposit or decent security.

There is a difference between positive, just discrimination (as in these examples) from negative, unjust discrimination.

Discrimination in the Marriage Act is positive and just to regulate a life commitment between a man and woman, binding them for the nurture of children.

It is a myth to say all discrimination is bad.

There are many other myths supporting the idea of same-sex marriage.

“No one is hurt by this reform,” says Australians for Marriage Equality national director Rodney Croome.

Tell that to the hundreds who have lost jobs, businesses and livelihoods for objecting to same-sex marriage or not providing services for same-sex weddings in jurisdictions where it is legal.

Tell that to the thousands of children who will not know their mother (or father) and whose genetic ancestry is unattainable. Elton John admitted after the birth of his first baby the child will be “heartbroken” when he learns he doesn’t have a mum. The reality is he does, she is an anonymous Indian paid to donate her eggs.

Same-sex marriage normalises brokenness in children’s lives either relationally, from the separation from biological parents, or through genetic and biological brokenness via assisted reproductive technologies where mums or dads are often anonymous donors. No one is hurt?

The notion of marriage equality is a fallacy. To say the relationship between two men or two women is equivalent to that of a man and a woman is not true. The latter is complementary on many levels, and has potential for procreation. These differences are important.

Aristotle summed up this myth well: “The worst form of inequality is to try and make unequal things equal.”

Taking the marriage equality myth to its end means marriage for all groups seeking it. One such group is the polyamorists (multi-partner relationships). Think this is far-fetched? They too have had floats in the Sydney Gay and Lesbian Mardi Gras and there have been calls for equal marriage rights from the Polyamory Action Lobby.

Children raised by same-sex couples do equally if not better than those raised by a mum and dad? This is saying the role of mum or dad is not important for a child. There is an overwhelming body of research indicating children do best with married, biological parents.

Methodologically flawed surveys will continue to pop up, imploring the uninformed to ignore the obvious.

Same-sex marriage is a civil rights issue? Homosexuality cannot be equated with race or gender equality movements. Are people being excluded from voting, entering shops or using public transport?

There is no empirical evidence to suggest people are born gay, unlike race or gender. Research shows most who are predominantly same-sex attracted as teens will not be so in their 20s.

The European Court of Human Rights last year reiterated that same-sex marriage is not a human right.

Same-sex marriage in Australia is inevitable? The media makes much of other countries legalising same-sex marriage, but only 17 of about 200 nations in the world, less than 10 per cent, have national same-sex marriage laws. Hardly a majority.

We hear little about countries like Italy, Croatia and Northern Ireland who, like our own, recently rejected pushes for same-sex marriage.

Homosexuals make up about 10 per cent of the population? Latrobe University did the largest, most thorough survey in 2014. It found 3.5 per cent of Australians identify as non-heterosexual. The 2011 census shows homosexual couples make up about 1 per cent of Australian couples.

Most gay couples want to get married? Why then, after more than 18 months of legal same-sex marriage, have less than 10 per cent of New Zealand gay couples done so?

Twenty years ago stating such facts as I have here would have been ho-hum. Today it is controversial. Such is the nature of deceit.

As George Orwell noted: “In a time of deceit, telling the truth is a revolutionary act.”

Appendix W. Sexuality discrimination scale (Study 4)

Source adapted from: Hillier, L., Mitchell, A., & Turner, A. (2005). *Writing themselves in again - 6 years on: the 2nd national report on the sexuality, health and well-being of same-sex attracted young people*. Monograph Series Number 50. Melbourne: Australian Research Centre in Sex, Health and Society, La Trobe University. ARCSHS Monograph

Has anyone ever been abusive to you because of your sexuality? (Please select as many as apply)

-Yes, verbally (e.g. being called names)

-Yes, physically (e.g. assaulted)

-Yes, other forms of homophobia (e.g. this could include being excluded, homophobic language)

-No

In the past year, how often have you experienced homophobic abuse?

Almost everyday

-At least once a week

-A few times a month

-A few times a year

-Once a year

-Never

In which situations have you experienced homophobic abuse? (Please tick as many as apply)

-At work

-From family members

-At a sporting event

-On the street

-At a social occasion

-From friends

-Other (please specify)

Appendix X. Debriefing form (study 4)**THE AUSTRALIAN NATIONAL UNIVERSITY****RESEARCH SCHOOL OF PSYCHOLOGY****DEBRIEFING FORM****Dear Participant,**

We thank you for taking the time to be involved in this research project. Due to the nature of the stimulus materials provided, some participants may have experienced some distress or negative mood during this survey. We would like to take this opportunity to explain the reasoning behind this and to put the articles chosen in a broader context (as they were deliberately negative and media coverage is more balanced, generally speaking). This sheet you give you a brief overview of what the the study's main purposes were and some options for support if you were distressed by any of the survey content.

Purpose of the research project

This study has two key purposes. The first was to examine how self-clarity (i.e. having a clear sense of who you are and what is important to you) might reduce the negative effects that discrimination can have on wellbeing. The second purpose is to test whether increasing self-clarity (using a values exercise) can also reduce the effects of discrimination on wellbeing.

As a participant you were randomly assigned to either the experimental group or the control group. The experimental group were given anti-marriage equality articles to read and were asked to write about their most important value. The control group read articles about sport and coffee and were asked to write about their least important value. We divided participants into two groups to see if there were any differences in the results across the groups. In particular we were interested in whether participants who wrote about their most important value showed higher self-clarity than participants who wrote about their least important value. We were also interested in whether participants in the experimental group who reported lower self-clarity would also report more negative mood states in response to the anti-marriage equality articles.

The implications of this research are important for the wellbeing of same sex attracted people and the development of interventions which target this population. While it is critical that we target the broader issue of discrimination, we believe that it is also important to develop and test interventions which may reduce the effects of discrimination in the interim. This research focused on self-clarity as a possible protective factor.

Important note:

Important note: We strongly encourage you to contact the researchers if you feel upset or frustrated by any events in this study. You cannot be identified through your data. If you opted to go into the draw, your email address will be stored separately from your responses and there will be no way to link your email address with your data. If you would like to ask for additional information about the study you can do so by emailing Dora Sharpe-Davidson (dora.sharpe-davidson@anu.edu.au). If you have any complaints or concerns about any ethical aspect of your participation in this research, you may contact: Human Ethics Officer, Research Services Office, ANU; Ph: 6125 3427; Email: Human.Ethics.Officer@anu.edu.au .

If you have any complaints or concerns about any ethical aspect of your participation in this research, you may contact: Human Ethics Officer, Research Services Office, ANU; Ph: 6125 3427; Email: Human.Ethics.Officer@anu.edu.au