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Development of a New Resilience Scale: The Resilience in Midlife Scale (RIM Scale)

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Abstract

Resilience, the ability to maintain or regain positive levels of functioning despite adversity, is one of several strengths that can assist people in positive life adaptation. Midlife (35 - 60 years) is a period when individuals need to adapt to several major changes and challenges. However, no scale exists to measure resilience specifically in the midlife population. Therefore, this study develops a new scale to measure resilience in midlife. The RIM scale consists of 25 items, each self-rated on a 5-point scale (0-4), with higher scores reflecting greater resilience. The scale was administered to a sample of 130 men and women, aged 35 - 60 years, from the normal population. The reliability, validity and factor analytic structure of the scale were evaluated, and reference scores established. The RIM scale demonstrated sound psychometric properties and factor analysis yielded five factors. The RIM scale has potential utility in clinical and research settings.

Keywords: Resilience, Midlife, Scale development, Reliability, Validity, Factor structure

1. Introduction

Recently, the field of mental health has seen a shift in focus from a deficit-oriented approach to a strengths-based approach, which encompasses an interest in the strengths that are associated with healthy adjustment trajectories, such as resilience. In the growing field of positive psychology, resilience is highlighted as a strength that can assist people in positive life adaptation (Masten & Reed, 2005). Resilience has been broadly defined as the capacity to positively adapt to, or regain levels of functioning after difficult life experiences (Luthar, Cicchetti & Becker, 2000; Staudinger, Marsiske & Baltes, 1995). Furthermore, it has been proposed that resilience constitutes not just recovery, but growth and strengthening from adversity (Bonanno, 2004; Hardy, Concato & Gill, 2004; Ryff, Singer, Love & Essex, 1998). Resilience has also been described as a measure of stress-coping ability (Connor & Davidson, 2003), and Werner's (1995) conception of resilience emphasised sustained competence under stress.

Resilience enquiry originally emerged through research that explored the characteristics of young people living in high-risk situations, such as poverty or abuse, who appeared to thrive in the face of adversity (Garmezy, 1991; Richardson, 2002). Researchers in child and adolescent development described resilience as a factor that enabled children to achieve positive outcomes despite adverse circumstances (Campbell-Sills, Cohan & Stein, 2006; Hardy et al., 2004). However, there was no attempt to measure the construct of resilience; rather, children were inferred to be resilient if they possessed certain positive characteristics (such as self-esteem). Further lines of enquiry focused on identifying the protective factors underlying resilience that could explain these positive responses to adversity (Werner & Smith, 1992). This involved a paradigm shift in focus from the identification of risk factors that led to psychopathology to the identification of protective factors that contributed to resilience; that is, from a reductionist,

problem-oriented approach to a positive approach that nurtured individuals' strengths (Kumpfer, 1999; Richardson, 2002).

It was proposed that protective factors enhanced resilience by moderating an individual's response to a stressful situation or threatening environment (Ryff et al., 1998). Garmezy (1991) described protective factors as including the dispositional attributes of the child, the familial characteristics, and the external support factors. Werner (1995) also distinguished between protective factors within the individual, the family, and the community. Subsequently, current theories view resilience as a multidimensional construct that incorporates both internal and external protective factors (Friborg, Hjemdal, Rosenvinge & Martinussen, 2006; Kumpfer, 1999; Luthar et al, 2000; Richardson, 2002). Although many factors have been proposed, common findings reveal that the internal characteristics associated with resilience include self-efficacy, perseverance, internal locus of control, coping and adaptation skills (Garmezy, 1985; Kumpfer, 1999; Luthans, Vogelgesang & Lester, 2006; Tedeschi & Kilmer, 2005). In addition, the external factors that promote coping include family and social support networks (Friborg et al., 2006; Hardy et al., 2004; Luthar et al., 2000; Werner & Smith, 1992). Assessment tools to measure resilience would therefore need to tap into these five factors.

Whether resilient qualities are learned or are a part of one's genetic nature has been the subject of debate by many professionals. The general theme in both clinical and positive psychology is that while resilience has traditionally been portrayed as dispositional and trait-like (Robins, John, Caspi, Moffitt & Southamer-Loeber, 1996; Wagnild & Young, 1993), there is mounting evidence that it is also open to development and state-like (Banyard, 2004; Bonanno, 2004; Luthans et al., 2006; Luthar et al., 2000; Masten & Reed, 2005). Research demonstrates that resilience can be enhanced by interventions (Connor & Davidson, 2003; Staudinger et al., 1995), and that there are a wide range of behaviours associated with resilience, which can be learned by almost everyone (Newman, 2005). Luthans et al. (2006) state that people can learn ways to become more resilient, for example, by practising techniques that help them stay in the present, work on the problem at hand, and keep things in perspective. Newman (2005) suggests that building resilience is a personalized process and that one individual's strategy for building resilience may be different from another's. Bonnano (2004) also suggests that there are multiple pathways to resilience. Furthermore, Luthar et al. (2000) argue that resilience is not a static state, but can fluctuate as changes during the lifespan see the emergence of new vulnerabilities and strengths, and that resilience can be achieved at any point in the life cycle. Therefore, assessment scales to measure resilience need to be specific to particular age groups. Connor and Zhang (2006) state that resilience varies with context, time, age, gender, and cultural origin, and is modifiable. In addition, individuals may display resilience in some areas of functioning (such as work), but not others (e.g. relationships) (Connor & Davidson, 2003).

Few studies have focused on gender differences in resilience; however, earlier developmental studies of children living in at-risk environments repeatedly found girls to be more resilient than boys (Werner & Smith, 1992). In the adult population, resilient women were found to elicit and provide more social support than men (Werner, 2001). More recent research on resilience in the elderly by Hardy et al. (2004) found older men to be more resilient than older women. However, resilience was measured using a six-item scale, which suggests questionable validity and generalizability. In another study investigating resilience and health outcomes in the elderly, older women scored higher on resilience than older men (Caltabiano & Caltabiano, 2006).

As prior studies indicate, the majority of resilience research has been conducted with children and adolescents, with the focus more recently shifting to the elderly, due to the increased aging population. However, the study of resilience in middle adulthood remains seriously lacking (Bonanno, 2004; Ryff et al., 1998; Staudinger et al., 1995). Scales that presently exist to measure resilience in adults are not tailored to suit the midlife population (Wagnild & Young's Resilience Scale (RS), 1993; Connor-Davidson Resilience Scale (CD-RISC), 2003; Resilience Scale for Adults (RSA), Friborg et al., 2006). The Resilience Scale (Wagnild & Young, 1993) was initially developed through interviews with older women, and was developed at a time when resilience was viewed as a personality trait (whereas it is now seen as modifiable). This scale and the Connor-Davidson Resilience Scale (2003), contain items worded for the general population – that is, not specific to a particular age group. The Resilience Scale for Adults (Friborg et al., 2006) was developed in Norway, and is a lengthy scale consisting of 45 items. These items are also aimed at the general population and not a specific period in the lifespan. Therefore, existing scales to measure resilience are not adequate for use with the midlife population.

Midlife (from approximately 35 to 60 years) is one of the longest stages in the lifespan, and a time of major changes for both men and women, yet this stage of human development is often neglected or deemphasized (Dziegielewski, Heymann, Green & Gichia, 2002; Lachman, 2004). Ryff et al. (1998) propose that midlife provides a compelling period in the lifespan to study resilience, as it is a time when individuals are faced with potentially stressful changes and turning points, and individual differences in health and well-being become more pronounced. Midlife is a period that brings a unique set of challenges and issues to be negotiated, which can include separation, divorce, marriage/remarriage, raising children/stepchildren, changing work conditions, career transitions, re-entry into the workforce or further study, financial difficulties, caring for elderly parents, retirement, deteriorating health, potential

illness, and the empty nest (Kail & Cavanaugh, 2004; Lachman, 2004). Physical changes in appearance have been highlighted as another area of concern during midlife (Berger, 2005). The emphasis on youth and the negative view of aging in Western societies creates additional pressure, especially for women (Dziegielewski et al., 2002).

The midlife period is characterised by a complex interplay of multiple roles and responsibilities, with an increasing amount of time spent juggling these roles and attempting to achieve a balance between work, family and personal needs (Dziegielewski et al., 2002; Lachman, 2004). This stage has often been referred to as the 'sandwich generation,' as individuals attempt to meet the competing demands of two generations – their children and their aging parents (Kail & Cavanaugh, 2004). According to Kail and Cavanaugh (2004), middle-aged people report the highest levels of stress, which relates to how much control people perceive to have over their lives. Although stress affects people of all ages, it is during midlife that the effects become most apparent. Each issue that individuals face has the potential to become a stressor; that is, an event that damages a person's physical or psychological well being (Berger, 2005). Furthermore, as individuals progress through this stage of the lifespan they are increasingly confronted with deaths of close friends and relatives, with parental loss being most prevalent during this stage (Bonanno, 2004; Lachman, 2004). There is agreement in the lifespan literature that no-one escapes at least one trauma during midlife (Berger, 2005, Kail & Cavanaugh, 2004).

Midlife is also a time of heightened re-evaluation and re-orientation, with the time around 40 years portrayed by some as a midlife crisis (Lachman, 2004; Levinson, 1978). Others define this time as a midlife transition, with individuals facing the challenge of resolving issues pertinent to this stage of the lifespan (Lachman, 2004). Great variability exists in the depiction of gains and losses during this period (Dziegielewski et al., 2002). The usual sources of the losses have been proffered as major life events such as illness, divorce, or job loss, which create turning points during midlife. Turning points are significant changes in the trajectory of life, which cause one to reinterpret the past (Lachman, 2004). Either way, individuals in midlife begin to assess their lives in relation to how far they've come, and how long they have left to achieve their ambitions and desires. This questioning involves a reassessment of personal goals, relationships, career, family, the future, and the meaning of life. This illumination of the self may cause many people unease, and researchers report that fear, anxiety and depression are issues of concern at this time (Dziegielewski et al., 2002).

Therefore, midlife is a time when life stresses accumulate and individuals face several major changes. It is proposed that whether the midlife transition is viewed as a challenge and opportunity for positive change, or as a stressful and trying time, depends on the personal resources each individual brings. It follows that individuals who possess the necessary personal resources (protective factors), thus being more resilient, are more likely to cope with and adapt to these stresses and changes. Furthermore, individuals lacking the protective factors that contribute to resilience can be aided by interventions designed to build resilience. Therefore, the need for a valid measure of resilience in midlife becomes evident. However, to date there are few well-validated measures of resilience for use with adult populations, and there is no scale to measure resilience specifically in the midlife population.

The purpose of the present study, therefore, was to develop a scale to measure resilience in midlife (the RIM scale). The specific aims were to establish reference scores for resilience in a normal midlife population; to assess the reliability and validity of the RIM scale; and to explore the factor structure of the RIM scale. It was hypothesized that the RIM scale would provide a reliable and valid measure of resilience for individuals in midlife. It was further hypothesized that the RIM scale would reveal a five-factor structure, reflecting the factors of self-efficacy, perseverance, internal locus of control, coping/adaptation and family/social support, which constitute resilience (as discussed in the following section).

2. Method

2.1 Scale development

The RIM scale was developed as a brief, self-rated assessment to quantify resilience in individuals in midlife. It was designed for use with men and women aged 35 to 60 years. The content of the scale was drawn from a number of sources, and based on current research on resilience and midlife. A comprehensive literature review found resilience to be a multidimensional construct, incorporating both internal and external factors (Connor & Davidson, 2003; Friborg et al., 2006; Luthar et al., 2000; Maluccio, 2002; Richardson, 2002). Common findings revealed five interrelated components of resilience (four internal and one external), including self-efficacy, perseverance, internal locus of control, coping and adaptation, and family/social networks (Kumpfer, 1999; Luthans et al., 2006; Masten & Reed, 2005; Rotter, 1989; Ryan & Deci, 2000).

The first component, self-efficacy, involves an individual's belief in his or her ability to mobilize the motivation, cognitive resources and action to exert control over a given event (Bandura, 1997). Rutter (1987) described resilient individuals as possessing self-esteem and a belief in their own self-efficacy. When faced with adverse events, efficacious individuals tend to persist in a given task until success is achieved. Thus, unless individuals believe that they

can achieve desired goals through their actions, they will have very little incentive to persevere in the face of adversity (Benetti & Kambouropoulos, 2006; Friborg et al., 2006; Wagnild & Young, 1993).

Perseverance, the act of persistence, entails self-discipline and a willingness to continue the struggle to rebalance one's life after adversity. Resilient individuals rebound from adversity by remaining actively involved and developing new goals or plans if their original plans are unsuccessful (Schwartz, 2000; Werner, 2001). The closely related construct of hardiness also associates perseverance with commitment to work consistently towards a goal, as well as the ability to view change as a challenge (Kobasa, 1979).

Internal locus of control refers to an individual's perception of being able to influence his or her current environment and future destiny. In essence, internal locus of control represents the extent to which individuals believe that they are responsible, through their own actions, for the things that befall them in life (Rotter, 1989). Resilient individuals have a greater internal locus of control and are optimistic about their ability to create positive outcomes for themselves and others. Individuals who believe that they can influence their own circumstances and personal outcomes are more likely to face adverse conditions with resilient approaches (Friborg et al., 2006; Kumpfer, 1999; Werner & Smith, 1992).

Coping refers to a set of cognitive and behavioural strategies used by an individual to manage the demands of stressful situations (Folkman & Moskowitz, 2004), while adaptation is the process of adapting to a changing environment or adverse circumstances (Maluccio, 2002). As internal and external stressors always exist, an individual's ability to cope with these events is influenced by how he or she appraises the situation, how much has been learnt from previous experiences with stress, and how successfully he or she can adapt (Connor & Davidson, 2003). Resilient individuals are more likely to feel confident that they can cope successfully with adversity, and often employ a range of problem-solving and emotion-focused strategies (Caltabiano & Caltabiano, 2006; Masten & Reed, 2005; Rutter, 1987).

Family and social networks have also been indicated as playing an important role in building greater resilience. Secure interpersonal relationships provide an important source of emotional support, and social support from the wider community can also serve as a building block for resilience (Greff, Vansteenwegen & Ide, 2006; Wagnild & Young, 1993). Resilience includes the individual's ability to utilise family, social and external support systems to better cope with stress (Friborg et al., 2006). Furthermore, religious or spiritual belief has been implicated as another external component that can aid resilience by instilling a sense of hope in some individuals (Connor & Davidson, 2003; Johnson, 2000).

In developing the RIM scale, several items were devised to measure each of these five components. These items were then adapted to relate to the issues that individuals contend with during midlife: separation/divorce, changes with work, financial difficulties, changes in the body due to age, children leaving home, loss, illness and death (Lachman, 2004). Items relating to stress, due to the multiple roles and pressures of midlife, were also included (Berger, 2005; Kail & Cavanaugh, 2004), as well as items relating to goals and achievements (Berger, 2005; Dziegielewski et al., 2002; Lachman, 2004). This resulted in the scale being tailored to measure resilience in midlife individuals.

The RIM scale contains 25 items, each of which is rated on a 5-point Likert scale as follows: 0 – Strongly disagree, 1 – Somewhat disagree, 2 – Neither disagree nor agree, 3 – Somewhat agree, 4 – Strongly agree. A Likert rating scale format was utilised because of its ability to produce reliable scores and its ease of use for both respondents and assessors (Breckler, Olson & Wiggins, 2006). Each item was worded for sixth grade reading ability and items were worded to exclude gender bias. To avoid the possibility of a response set bias, some items were negatively worded (6, 10, 12, 13, 17.19, 20, 23) and these items were reverse scored. The total scores can range from 0 – 100, with higher scores reflecting greater resilience. The content of the individual items comprising the RIM scale can be seen in Table 1.

Insert Table 1 Here

2.2 Study sample

The study sample to represent the normal population was drawn from two sources: the first was mature-aged university students from James Cook University, Cairns (men and women aged between 35 and 60 years); and the second involved men and women in the wider community (aged 35 to 60 years). The demographic data collected included gender, age bracket, marital status, and employment status. The total sample recruited consisted of 130 participants, 90 female (69.2%) and 40 male (30.8%). The participants were divided into three age categories: 41 participants were aged between 35 - 42 years, 39 participants were aged 43 - 50 years, and 50 participants were aged 51 - 60 years. In the marital status categories: 28 participants were single, 74 were married or defacto, and 28 were separated or divorced. There were no participants in the widowed category. In the employment status categories: 22 participants were unemployed, 43 were in part-time/casual employment, and 65 worked full-time.

2.3 Procedure

University students from James Cook University, Cairns, aged between 35 and 60 years, were invited to participate in the study through advertisements. Participants from the outside community were recruited through Toastmasters City Club, Cairns, as well as through friends and colleagues via the snowball technique. Participation in the study required subjects to complete a questionnaire taking approximately ten to fifteen minutes. Approval to conduct the study was obtained from the Human Ethics Committee, James Cook University, and participant welfare was assured by following the guidelines of this committee.

2.4 Psychometric analysis of the RIM scale

The data was analysed with the following objectives: 1) to establish reference scores for the RIM scale and to assess whether scores were affected by demographic factors, 2) to assess the reliability and validity of the RIM scale, and 3) to assess the factor composition of the RIM scale. SPSS Version 16 (Statistical Package for the Social Sciences; Pallant, 2005) was used for data analysis.

To establish reference scores for the RIM scale, the range of obtained scores was calculated, as well as the mean (and standard deviation) for the total sample. Demographic differences were assessed with t-test and ANOVA.

The reliability of the RIM scale was assessed using the Spearman-Brown split half reliability test. The internal consistency of the scale was evaluated using Cronbach's alpha for the total and item-total scores. Convergent validity was assessed by correlating the RIM scale with the Connor-Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003). Concurrent validity was assessed by correlating the RIM scale with theoretically relevant constructs. Research suggests there is a positive relationship between resilience and self-esteem (Benetti & Kambouropoulos, 2006; Tedeschi & Kilmer, 2005; Wagnild & Young, 1993); hence, concurrent validity was evaluated by correlating the RIM scale with the Rosenberg Self Esteem Scale (RSES: Rosenberg, 1965), with a positive correlation expected. Studies have also indicated that individuals high in resilience are often low in the trait anxiety (Benetti & Kambouropoulos, 2006; Connor & Davidson, 2003). Therefore, concurrent validity was further assessed by correlating the RIM scale with the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch & Lushene, 1970), with a negative correlation between anxiety and resilience expected.

To assess the factor composition of the RIM scale, as well as the construct validity, an exploratory factor analysis was conducted. Data was subjected to a principal components analysis (PCA), followed by an orthogonal (varimax) rotation, to identify the underlying factors of the scale. It was expected that the RIM scale would reveal a five- factor structure.

2.5 Validation measures for the RIM scale

2.5.1 CD-RISC

The Connor-Davidson Resilience Scale (Connor & Davidson, 2003), which was used to measure convergent validity, is a 25-item self-report scale that employs a five-point Likert scale (0 – not true at all, 1 – rarely true, 2 – sometimes true, 3 – often true, 4 – true nearly all of the time). All items are positively worded. Scores can range from 0 – 100, with higher scores reflecting greater resilience. The CD-RISC has good internal consistency - Cronbach's alpha for the present study was .914. Past studies indicate good convergent and discriminant validity, and high test-retest reliability (Connor & Davidson, 2003).

2.5.2 RSES

The Rosenberg Self-Esteem Scale (Rosenberg, 1965), which assessed concurrent validity, comprises ten statements. Participants rate the extent to which they agree with each statement on a 4-point Likert scale (1 – Strongly disagree, 2 – Somewhat disagree, 3 – Somewhat agree, 4 – Strongly agree). Half of the items are positively worded and half are negatively worded. Obtained scores can range from 10 – 40, with higher scores indicating higher self-esteem. The RSES has shown high reliability and good validity (Greenberger et al, 2003). Cronbach's alpha for the present study was .838.

2.5.3 STAI-T

The State Trait Anxiety Inventory - Trait (Spielberger, Gorsuch & Lushene, 1970), which was used to assess concurrent validity, consists of 20 statements. There are positively and negatively worded items. A 4-point Likert scale is used to rate each item (1 – Almost never, 2 – Sometimes, 3 – Often, 4 – Almost always). The possible range of scores is 20 – 80, with higher scores signifying higher levels of trait anxiety. The STAI, which has been well validated with a number of populations, correlates highly with other measures of trait anxiety, and has exhibited high test-retest reliability (Beiling, Antony & Swinson, 1998). Cronbach's alpha for the present study was .904.

3. Results

3.1 Reference scores and demographic groups

The RIM scores for the total sample ranged from 35 to 98, with a mean score of 75.19 and a standard deviation of 12.01. Mean (sd) scores were also calculated for the various demographic groups and can be seen in Table 2.

Insert Table 2 Here

An independent samples t-test found there was no significant difference between the RIM scores for men and women [t (58.17) = .57, p = .57]. A one-way analysis of variance found no significant difference in resilience between the three age groups [F (2,127) = .7, p = .5]. There was however a significant difference in resilience levels for marital status [F (2,127) = 7.22, p = .001]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the single group (M = 70.79, SD = 13.69) was significantly different from the separated/divorced group (M = 82, SD = 11.77), at the .05 level. It was also revealed that the mean score for the married/defacto group (M = 74.28, SD = 10.4) was significantly different from the separated/divorced group. No significant difference was found between the scores of the single and married/defacto groups. Therefore, the separated/divorced group scored significantly higher on resilience than the other two groups. Finally, a one-way analysis of variance explored the difference in resilience levels in groups with different employment status (unemployed, part-time/casual, fulltime), and found no significant difference between the groups [F (2,127) = .97, p = .38].

3.2 Reliability and validity

3.2.1 Internal consistency

Cronbach's alpha for the total RIM scale was .87, which indicates good internal consistency and therefore high reliability. Item-total correlations ranged from .16 to .61, with the majority falling between .35 and .57 (see Table 3).

Insert Table 3 Here

3.2.2 Split-half reliability

The Spearman-Brown coefficient for the RIM scale was .88, which suggests good reliability (Frances, 2004).

3.2.3 Convergent validity

Convergent validity was assessed by correlating the RIM scale with the Connor-Davidson Resilience Scale (CD-RISC), using Pearson product-moment correlation coefficient. A strong, positive correlation between the two scales was evidenced (r = .81, p < .01), supporting the convergent validity of the RIM scale.

3.2.4 Concurrent validity

The relationship between resilience and self-esteem was investigated by correlating the RIM scale with the Rosenberg Self-Esteem Scale (RSES). There was a strong, positive correlation between the two variables (r = .71, p < .01), indicating that high levels of resilience are associated with high levels of self-esteem. Concurrent validity was further assessed by exploring the relationship between resilience (as measured by the RIM scale) and the trait anxiety (as measured by the STAI-T). A significant negative correlation was found (r = -.682, p < .01), indicating that higher levels of resilience correspond to lower levels of anxiety.

3.2.5 Factor analysis

To assess the factor composition of the RIM scale, as well as the construct validity, the 25 items of the RIM scale were subjected to principal components analysis (PCA), followed by varimax rotation. Prior to performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed coefficients of .3 and above. The Kaiser-Meyer Oklin value was .83, exceeding the recommended value of .6, and the Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix (Pallant, 2005). Principal components analysis revealed the presence of seven factors with eigenvalues above 1, explaining 61.3 % of the total variance. However, only three items loaded onto two of these factors. The factor solution indicated a primary factor underlying the data, and inspection of the scree plot revealed a break after the first factor, with another smaller break after the fifth factor. As a five factor structure was expected, it was decided to retain five factors for further analysis. Varimax rotation revealed all items loading onto one or more of the five factors. The five factors were interpreted in the following manner: factor 1 represented self-efficacy, factor 2 - family/social networks, factor 3 - perseverance, factor 4 - internal locus of control, and factor 5 - coping and adaptation. The item loadings and factor pattern are presented in Table 4. The eigenvalues of the five factors, the percentage of variance explained by each factor, and the total variance explained, can also be seen in Table 4.

Insert Table 4 Here

4. Discussion

4.1 Demographic groups

The results of this study indicated that there was no significant difference between the resilience levels of men and women in midlife. This is not consistent with previous research, which found girls to be more resilient than boys (Werner & Smith, 1992), women to elicit more social support than men (Werner, 2001), and elderly women to be more resilient than elderly men (Caltabiano & Caltabiano, 2006). However, it should be noted that there were more female participants than males in the present study and therefore this finding may not be representative of the normal midlife population. No significant difference was found between the three age groups within the midlife age range, therefore individuals at the beginning of midlife (e.g. 35 yrs) had similar resilience levels to those in the middle (45 yrs) and at the end of midlife (60 yrs). Additionally, there was no significant difference found between the employment status groups, with the unemployed, casually employed, or fulltime workers exhibiting similar resilience levels.

There was, however, a significant difference found between the marital status groups, which indicated that separated or divorced individuals were more resilient than single or married individuals in midlife. This finding contrasts with several studies, which appear to suggest the opposite – that married individuals are the most resilient. Lucas (2005) found that divorced people reported lower levels of life satisfaction than married people, and Steptoe and Marmot (2003) reported that single and divorced people were more vulnerable to risk factors and an impaired quality of life than married people. Mortality rates for unmarried people are also reported to be higher, with married people allegedly being healthier and living longer (Joutsenniemi et al., 2006; Murphy, Grundy & Kalogirou, 2007). However, these studies are not actually measuring resilience as such. One explanation for this study's findings might be that divorced people were found to be more resilient because they have been through a trying time and found ways to cope, and therefore now feel that they are more resilient.

4.2 Reliability and validity

The RIM scale demonstrated sound psychometric properties, with good internal consistency and split-half reliability. The item-total correlations were moderate to high, further indicating adequate reliability. Support for convergent validity was evidenced by a high correlation of the RIM scale with the CD-RISC, which also measures resilience in the adult population. Concurrent validity was supported by high correlations of the RIM scale with well-established valid measures of constructs related to resilience. The strong, positive correlation between resilience and self-esteem indicated that high levels of resilience are associated with high levels of self-esteem. This is consistent with previous research, which suggests that resilient people often possess a positive self-image (Tedeschi & Kilmer, 2005), and parallels the construct of self-efficacy, which was identified as an underlying factor of resilience in this study. Further support for concurrent validity was evidenced by a moderate negative correlation between resilience and anxiety, indicating that people high in resilience were often low in anxiety, and those lower in resilience were generally found to be higher in anxiety. This is consistent with Benetti and Kambouropoulos (2006), who suggest that elevated levels of trait anxiety are associated with an increased sensitivity to adverse situations, thus promoting lower levels of resilience. Therefore, this study found the RIM scale to be a reliable and valid scale for measuring resilience in midlife individuals.

4.3 Factor analysis

Analysis of the factor composition of the RIM scale revealed a five-factor structure, which supports the theoretical understanding of resilience as a multidimensional construct (Friborg et al., 2006; Richardson, 2002). The scale was consistent with four internal and one external factor: factor 1 related to self-efficacy, factor 2 to family and social networks, factor 3 to perseverance, factor 4 to internal locus of control, and factor 5 to coping and adaptation. This corresponds well with the literature, which suggests that these five factors can be regarded as the underlying mechanisms or protective factors that comprise resilience (Hardy et al., 2004; Kumpfer, 1999; Luthans et al., 2006; Masten & Reed, 2005; Tedeschi & Kilmer, 2005). Therefore, the five factors reflect the theoretical definitions of resilience, as well as provide support for the construct validity of the RIM scale.

4.4 Applications of the RIM scale

The RIM scale could have potential utility in both clinical practice and research. The RIM scale could be employed to measure and quantify the level of resilience an individual brings to a difficult life situation, his or her potential ability to cope with change and negotiate the challenges of midlife, as well as the level of recovery an individual exhibits after an adverse life event. Assessing resilience in midlife individuals may allow clinicians to distinguish those who are likely to 'bounce back' after an illness or loss, from those who may find it a real struggle, and to customise treatment accordingly (Hardy et al., 2004). The RIM scale might also identify specific protective factors that are strong in an individual, or those that are weaker and may need developing (for example, self-efficacy or external supports). Prevention and intervention programs designed to build resilience may aim to develop specific areas in an individual such as self-efficacy or coping strategies, or link the individual with supportive networks in the community (Caltabiano

& Caltabiano, 2006; Masten & Reed, 2005; Ryff et al., 1998). Richardson (2002) proposes that individuals can access and develop their inner resilience through meditation, yoga and other alternative practices.

Contemporary resilience interventions identify resilient qualities in the individual to nurture and build on, with the idea that focusing on the strengths of an individual increases his or her adaptive abilities and promotes the growth of further strengths (Tedeschi & Kilmer, 2005). Luthar and Cicchetti (2000) state that a resilience model involves an emphasis on protective factors that can be targeted and used in work for positive change. The RIM scale would be of particular use to those interested in the growing field of positive psychology, where assessments include strengths in addition to risks and problems (Banyard, 2004; Masten & Reed, 2005). Additionally, the scale can be used to assess the individual's response to a treatment or intervention. It is also envisaged that the RIM scale would be of assistance to researchers in further understanding resilience in midlife. The well-being of middle-aged adults affects not only the individual, but also the many others with whom they influence at this stage of life; thus, a better understanding of resilience in midlife can have far-reaching consequences (Lachman, 2004).

4.5 Limitations of the study

The study sample had a greater representation of females to males in midlife which may limit the generalizability of the results. Reference scores for the RIM scale were established using the normal population; however the scale is yet to be evaluated with low-resilience groups, to confirm that it can differentiate between individuals with different levels of resilience. Another limitation of this study is that the number of stressors or the degree of adversity that people in this sample have faced was not known; therefore it was difficult to determine if all individuals viewed as resilient had experienced comparable levels of adversity. Notwithstanding, midlife is a transitional period where individuals must negotiate several stressors, changes and challenges.

4.6 Future directions

Given the paucity of research on resilience in midlife, it is imperative that further research be conducted into the development of resilience in midlife, including investigation of the protective factors that contribute to resilience, and the processes involved in the development of resilience. As resilience is a dynamic developmental construct, longitudinal studies would be beneficial to measure not only the ability of individuals to recover after difficult life events, but the stability of resilience over time. Clinicians need to assess for strengths and protective factors, in addition to risk factors and psychopathology, in order to develop innovative prevention and intervention programs that build on strengths and increase protective factors, as well as address areas of concern. Such efforts may not only enhance the health and well being of individuals presently in midlife, but potentially reduce their need for health services in the future, and ensure a successful transition into later life.

4.7 Conclusion

Positive psychology recognises the value of assessing and developing individuals' strengths to increase positive adaptation. Resilience is one of those strengths and research suggests that it is modifiable. The assessment and development of resilience in midlife is important, as it is a time when individuals are faced with many stresses, challenges and changes. The RIM scale is a brief, self-rated measure of resilience in midlife that has sound psychometric properties. Resilience is a multidimensional construct, with the RIM scale revealing five factors that constitute resilience. Prevention and intervention programs could focus on developing these protective factors. The RIM scale could be utilised in clinical and research settings.

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Table 1. Content of the RIM scale

Item No.	Item Description
1	Deal with whatever comes my way
2	Achieve my goals
3	My life has meaning
4	Overcome financial difficulties
5	Friends I can confide in
6	Easily discouraged by failure
7	View change as a challenge
8	Can find a solution to a problem
9	In control of my own life
10	Do not cope well with stress
11	Have someone to help me if needed
12	Inability to deal with death
13	Give up when things look hopeless
14	Accept changes to body due to age
15	Can get through difficult times
16	Rely on family in tough times
17	Not equipped to handle changed work conditions
18	Belief in myself gets me through
19	Do not follow through with plans
20	I have little influence over what happens to me
21	Cope positively with illness
22	Love challenges and follow them through
23	Difficulty with loved ones leaving home
24	Control how I respond to events in my life
25	Spiritual beliefs give me hope during loss

Table 2. Means and standard deviations for subgroups

		N	M	SD
Gender	Male	40	74.18	14.66
	Female	90	75.64	10.69
Age	35-42	41	75.44	10.35
	43-50	39	73.38	12.18
	51-60	50	76.40	13.17
Marital status	Single	28	70.79	13.69
	Married/defacto	74	74.28	10.41
	Separated/divorced	28	82.00	11.78
Employment status	Unemployed	22	73.59	13.10
	Part-time/casual	43	73.79	10.76
	Full-time	65	76.66	12.42

Table 3. Item-total correlations.

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	71.74	135.44	.500	.863
Q2	71.57	137.21	.514	.864
Q3	71.55	134.11	.572	.861
Q4	71.85	134.50	.511	.862
Q5	71.78	133.94	.490	.862
Q6	72.65	133.19	.355	.867
Q7	72.05	134.94	.386	.865
Q8	71.73	135.07	.609	.861
Q9	71.85	131.73	.576	.860
Q10	72.97	128.19	.536	.860
Q11	72.01	130.32	.524	.861
Q12	72.75	131.91	.375	.866
Q13	71.95	133.93	.427	.864
Q14	72.82	138.71	.164	.872
Q15	71.74	137.02	.402	.865
Q16	72.12	129.50	.489	.862
Q17	72.27	134.04	.363	.866
Q18	71.80	134.22	.503	.862
Q19	72.72	134.64	.292	.869
Q20	72.22	127.15	.594	.858
Q21	72.19	134.67	.423	.864
Q22	72.13	132.69	.552	.861
Q23	72.68	134.14	.326	.867
Q24	71.53	138.11	.370	.866
Q25	72.65	131.53	.351	.868

Table 4. Rotated factor pattern and total variance explained

Item	Component				
	1	2	3	4	5
Q2	.718				
Q1	.706				
Q8	.676			.333	
Q24	.638				
Q4	.631	.324			
Q18	.626			.414	
Q9	.618			.355	
Q3	.582	.462			
Q20	.497			.335	
Q15	.437				.313
Q11		.804			
Q16		.786			
Q5		.725			
Q25		.320			
Q6			.811		
Q10			.603	.338	
Q17			.587		
Q13			.492		
Q7				.797	
Q22				.691	
Q23			.300	.406	
Q14					.570
Q19			.307		-.542
Q12			.320	.327	.472
Q21	.388	.329			.425
Eigenvalues	4.32	2.79	2.30	2.24	1.48
% of Variance	17.26	11.16	9.20	8.96	5.93
Cumulative %	17.26	28.42	37.62	46.58	52.51

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.