

**The Design and Evaluation of a Hope Enhancement
Programme for Adults**

C. J. Pretorius

**The Design and Evaluation of a Hope Enhancement
Programme for Adults**

Charl J. Pretorius Hons. B.A.

**Dissertation (article format) submitted in partial fulfilment of the requirements
for the degree
Magister Artium (Clinical Psychology)
at the North-West University, Potchefstroom Campus**

Supervisor: Prof. C. A. Venter

Potchefstroom 2004

TABLE OF CONTENTS

Acknowledgements	i
Summary	ii
Opsomming	iv
Consent	vi
Intended Journal and Guidelines for Authors	vii
Manuscript	ix

ACKNOWLEDGEMENTS

- ◆ My Heavenly Father for providing me with the guidance and strength to complete the research.
- ◆ Special thanks to my family for their support, caring and encouragement throughout this year.
- ◆ My supervisor, Prof. Chris Venter, for his assistance, guidance and encouragement.
- ◆ Michael for the assistance with the statistics and his much needed insights.
- ◆ Cindy for her friendship, support and prayers.
- ◆ All the research participants, without whom this study would not have been possible.

SUMMARY

The Design and Evaluation of a Hope Enhancement Programme for Adults

Key words: hope enhancement, programme design, programme evaluation, psychological well-being, adults, sense of coherence, satisfaction with life

The aim of the research was to design and assess the effectiveness of a hope enhancement programme for a group of adults and the resulting influence on their general psychological well-being.

The purpose of the programme was to increase hope, as conceptualised by Snyder *et al.* (1991), by enhancing participants' abilities to set feasible goals, planning ways to reach those goals (pathways) and increasing determination and motivation (agency) towards goal achievement. The workshop-format programme, presented by the researcher, consisted of six two-hour sessions spread over five days. The programme was developed through incorporating suggestions from existing Hope literature together with health psychological and positive psychology principles.

In order to determine the impact of the programme, four measurement instruments were used, namely the Hope Scale, the Hunter Opinions and Personal Expectations Scale (HOPES), the Satisfaction with Life Scale (SWLS) and the Sense of Coherence scale (SOC-29). A pre and post-test design included an experimental group (n = 8), control group (n = 8) and 'chat' group (n = 8). Prior to group compilation, screening interviews were conducted with interested participants to exclude those who had recently experienced trauma or displayed overt signs of psychological pathology. The control group received no intervention, while the 'chat' group, of which the researcher was also a member, was allowed to discuss topics of their choosing. The study groups

comprised both men and women of different ages and socio-economic status. All participants were White and Afrikaans speaking.

Descriptive statistics, psychometric analysis of the measuring instruments and significant differences between groups were calculated with the assistance of the STATISTICA (version 6) computer programme (StatSoft Inc., 2003). Reliability indices compared well with those recorded in the literature for the various scales. For the experimental group, the findings indicated an increase in the hope levels as reflected by significant improvement on the Hope Scale and the Hopefulness subscale of the HOPES. Subjective feedback from the group confirmed these findings. Psychological well-being improved, as shown by a significant increase in Sense of Coherence (SOC-29) along with a positive change in Satisfaction with Life (SWLS). Neither the control nor experimental groups revealed any significant changes.

It was established that the hope enhancement programme is effective in increasing the levels of hope and general psychological well-being of a group of adults relatively free of psychological pathology. Considering the findings, it is recommended that future wellness intervention should not focus solely on individuals with established psychological pathology, but also consider a preventative approach within the average population.

OPSOMMING

Die Ontwerp en Evaluering van 'n Hoopverrykingsprogram vir Volwassenes

Sleutelwoorde: hoopverryking, programontwerp, program evaluering, psigologiese welstand, volwassenes, koherensiesin, lewensteveredenheid

Die doel van die navorsing was om 'n hoopverrykingsprogram te ontwerp en die effektiwiteit daarvan op 'n groep volwassenes te bepaal, asook die resulterende invloed daarvan op die persone se algehele psigologiese welstand te ondersoek.

Die doel van die program was om hoop te bevorder, soos gekonseptualiseer deur Snyder *et al.* (1991), deur deelnemers se vermoëns tot konstruksie van bereikbare doelwitte en beplanning van roetes na hierdie doelwitte (pathways) te bevorder, asook die versterking van determinasie en motivering ten einde doelwitte te bereik (agency). Die program, in werkswinkelformaat, is aangebied deur die navorser as ses tweeuursessies wat oor vyf dae versprei is. Die program is ontwerp deur die samevoeging van voorstelle uit bestaande hoopliteratuur, sowel as beginsels uit die gesondheidsielkunde en positiewe sielkunde.

Om die impak van die program te bepaal is vier meetinstrumente gebruik, naamlik die Hope Scale, die Hunter Opinions and Personal Expectations Scale (HOPES), die Satisfaction with Life Scale (SWLS) en die Sense of Coherence scale (SOC-29). 'n Voor- en natoetsontwerp het 'n eksperimentele groep (n = 8), kontrolegroep (n = 8) en 'kletsgroep' (n = 8) ingesluit. Voor die groepsamestelling is siftingsonderhoude gehou om deelnemers uit te sluit wat onlangs trauma ervaar het, of wat duidelike tekens van psigologiese patologie toon. Die kontrolegroep het geen intervensie ondergaan nie terwyl die 'kletsgroep', van wie die navorser ook 'n deelnemer was, toegelaat is om enige temas vir gesprek te kies. Die groepe het bestaan uit beide mans en dames van

verskillende ouderdomme en sosio-ekonomiese status. Al die deelnemers was wit Afrikaanssprekendes.

Beskrywende statistiek, psigometriese analise van die meetinstrumente en beduidende verskille tussen die groepe is bepaal met behulp van die STATISTICA (weergawe 6) rekenaarprogram (StatSoft Inc., 2003). Betroubaarheidsindekse vir die betrokke skale het goed vergelyk met ander wat in die literatuur opgeteken is. Bevindings van die eksperimentele groep het 'n toename in hoopvlakke getoon soos aangedui deur 'n verbetering op die Hope Scale en die Hopefulness-subskaal van die HOPES. Subjektiewe terugvoer deur die groep het hierdie bevindings bevestig. Psigologiese welstand het verbeter soos aangedui deur die beduidende toename in Sense of Coherence (SOC-29) sowel as 'n positiewe verandering in Satisfaction with Life. Beide die kontrolegroep en 'kletsgroep' het geen merkbare veranderinge getoon nie.

Dit is bevind dat die hoopverrykingsprogram effektief in die vermeerdering van hoop en die algemene psigologiese gesondheid van 'n groep volwassenes redelik vry van psigologiese patologie was. Uit genoemde bevindinge word voorgestel dat toekomstige welstandintervensie nie slegs fokus op individue met gevestigde psigologiese patologie nie, maar dat 'n voorkomende benadering by die gemiddelde populasie oorweeg moet word.

CONSENT

I the co-author, hereby gives consent that Charl Johan Pretorius may submit the manuscript for the purposes of a dissertation. It may also be submitted to the South African Journal of Psychology for publication.

Prof. C. A. Venter

INTENDED JOURNAL AND GUIDELINES FOR AUTHORS

South African Journal of Psychology

The manuscript as well as the reference list has been styled to the above journal's specifications.

(Guidelines for authors on the next page)

SOUTH AFRICAN JOURNAL OF PSYCHOLOGY
INSTRUCTIONS TO AUTHORS

1. The manuscript should be typed in 12-point font (Times Roman) double-spacing.
2. The first page should contain the title of the article, the name(s) of the author(s), as well as the address of the author to whom the correspondence should be addressed.
3. The abstract should be on a separate page.
4. The text of the article should be started on a new page.
5. Indicate the beginning of a new paragraph by indenting its first line two spaces, except when the paragraph follows a main or secondary heading.
6. The headings should all start at the left margin, and should not be numbered. The introduction to the paper does not require a heading.
7. The referencing style of the SAJP is similar to those used by the British Psychological Society and the American Psychological Association (See *SAJP Guide to Authors*).
8. In the reference list, the first line of each reference starts at the left margin; subsequent lines are indented two spaces.
9. Illustrations, tables, and figures should be prepared on separate A4 sheets. They should be numbered consecutively, grouped together, and attached to the end of the manuscript. Tables should be drawn without grid-lines separating the cells in the tables. The appropriate positions in the text should be indicated.
10. Authors are requested to pay attention to the proportions of illustrations, tables, and figures so that they can be accommodated in single (82mm) or double (179mm) columns after reduction, without wasting space.
11. Once the article has been accepted for publication, a computer diskette must also be submitted. MS Word is the preferred text format. The manuscript number and author or author's name(s) should be clearly indicated on the diskette.
12. As the SAJP does not employ a full-time language editor, it is recommended that, once articles have been accepted for publication, authors send their manuscripts to an external language specialist for language editing. Furthermore, it is recommended that a note indicating that the manuscript had been language edited accompany the final submission of the manuscript.

MANUSCRIPT

MANUSCRIPT TITLE, AUTHORS AND ADDRESSES

TITLE

THE DESIGN AND EVALUATION OF A HOPE ENHANCEMENT
PROGRAMME FOR ADULTS

AUTHORS

Charl Johan Pretorius
P O Box 265585
Three Rivers
Vereeniging
1935

E-mail: charlpretorius@hotmail.com

Chris Venter *

Department of Psychology
The School for Psychosocial Behavioural Sciences
North-West University, Potchefstroom Campus
Private Bag X6001
Potchefstroom
2520

E-mail: psgcav@puk.ac.za

* To whom correspondence should be addressed.

Abstract

The study assessed the effectiveness of a hope enhancement programme for a group of adults and the resulting influence on their general psychological well-being. The aim of the research was to increase hope, as conceptualised by Snyder *et al.* (1991), by using a programme to enhance participants' abilities to set feasible goals, planning ways to reach those goals (pathways) and increasing determination and motivation (agency) towards goal achievement. The workshop-format programme, presented by the researcher, consisted of six two-hour sessions spread over five days. A pre and post-test design included an experimental group (n = 8), control group (n = 8) and 'chat' group (n = 8). Four measurement instruments were utilised to assess the impact of the programme. The findings reflected the effectiveness of the programme through an increase in the hope levels of the experimental group as indicated by the Hope Scale and the Hopefulness Subscale of the Hunter Opinions and Personal Expectations Scale (HOPES). Well-being also improved as indicated by a significant increase in Sense of Coherence (SOC-29) along with a positive change in Satisfaction with Life. Recommendations for future research were made.

Historically, psychology has been inundated with the negative side of human experience as evidenced by the so-called pathogenic paradigm, which stresses illness and vulnerability over health and strengths (Wissing, 2000). Myers (2001) maintains that “psychology understandably focused much of its attention on understanding and alleviating negative states”, supporting Seligman and Csikszentmihalyi’s (2000) contention that the traditional approach to psychology concentrated on repairing damage within a disease model of human functioning.

In recent years, focus has shifted more towards the salutogenic (Antonovsky, 1979) or fortigenic (Strümpher, 1995) paradigms in psychology, which are concerned with the origins of psychological health and strengths and have paved the way for the development of a new sub-discipline in the field of psychology. According to Wissing and Van Eeden (2002), this newly developing sub-discipline is called ‘psychofortology’ by Wissing and Van Eeden (1997), ‘positive psychology’ by Seligman and Csikszentmihalyi (2000) and ‘hedonic psychology’ by Kahneman, Diener and Schwarz (1999). This new positive psychology is in principle cued towards prevention, maintaining that there is a set of buffers against psychopathology: the positive human traits (Seligman, 2002). These traits or strengths include courage, future mindedness, optimism, interpersonal skill, faith, work ethic, hope, honesty, perseverance, the capacity for flow, resilience and insight, to name several (Seligman, 2002).

From a positive psychological framework, Lopez, Floyd, Ulven and Snyder (2000) state that the notion of reducing negative symptoms to achieve improved mental health and effective functioning may not be entirely accurate, suggesting that something else appears to be essential to effective psychological functioning. Lopez *et al.* (2000) cite several research programmes (Scheier & Carver, 1985,1992; Snyder, Cheavens, & Michael, 1999; Snyder, Irving, & Anderson, 1991) that have in recent

years demonstrated the importance of positive thinking and hope relative to improved physical and psychological well-being. Recent research has, furthermore, found that hoping engenders positive emotions (Snyder, Irving, & Anderson, 1991; Snyder, Cheavens, & Michael, 1999), which, according to Fredrickson (2002), will in turn build further personal resources or strengths. Since hope theory focuses on increasing the positive rather than decreasing the negative, it provides a simple yet effective framework whereby individuals increase their personal strengths and focus on successful functioning (Lopez *et al.*, 2000).

Snyder *et al.* (1991:571) defined *hope* as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals)”. It is an enduring disposition in which the two components are reciprocal, additive and positively related but not synonymous. Whereas the agency component refers to one’s determination and motivation to meet goals, the pathways refer to one’s ability to generate the means or routes for attaining the goals (Steed, 2002). McDermott and Snyder (1999) describe hope more simply as an active phenomenon, involving goals, willpower, and waypower. The focus of this study was on hope as conceptualised by Snyder *et al.* (1991), although other hope theories have been postulated (Stotland, 1969; Averill, Catlin, & Chon, 1990; Nunn, Lewin, Walton, & Carr, 1996; Lazarus, 1999). Hope theory is also distinguished from other positive psychological theories, for instance optimism (Scheier & Carver, 1985) and self-efficacy (Bandura, 1977).

Optimism emphasizes generalized outcome expectancies (Snyder, Rand, & Sigmon, 2002). It is assumed to be a goal-based cognitive process that operates whenever an outcome is perceived as having substantial value. Outcome expectancies (agency-like thought similar to that of hope theory) are the main elicitors for goal-directed behaviour, and as such, hope theory differs from optimism given that both

agency and pathways thinking are emphasized equally. Snyder (2002) furthermore observes the difference between the two theories in that hope theory describes the etiology of emotions (positive and negative) whereas Scheier and Carver (1985) do not.

Similar to hope theory, Bandura (1977, 1982) maintains that a goal related outcome must be important enough to capture attention for self-efficacy to be activated. This goal emphasis parallels that of hope theory, but Bandura maintains that cognitive processing must focus on situation specific goals, dissimilar to hope theory where goal-directed thoughts may be enduring, cross-situational and situational (Snyder *et al.*, 2002). Bandura (1982) differentiates between expectancies of self-efficacy (one's belief in one's ability to perform a specific behaviour) and expectancies of outcome (one's belief that a specific behaviour will produce a desired outcome; Margaletta & Oliver, 1999). Whereas self-efficacy reflects the individual's perception of his/her *capacity* to act in a given situation, hope theory stresses the *intentionality* to initiate (and continue) the required actions. Bandura highlights situational self-efficacy (agency) as the strongest predictor of behaviour, whereas in hope theory, both agency and pathway thoughts are emphasized prior to and during any goal-pursuit sequence (Snyder *et al.*, 2002). Finally, as with optimism, Bandura's theory does not address emotions directly whereas hope theory elaborates on emotions resulting from goal-directed thoughts.

As explicated by Snyder (1995), hope theory has much in common with such theories, however, it has defining properties that distinguish it from its relatives, whilst also having an advantage over them in that it is amenable to the development of a measurement instrument.

According to Kümpher (1999), the systematic application of existing knowledge about wellness in prevention services is almost non-existent, while Wissing (2000)

also illuminates the need and possibilities for future programme development. When considering hope theory, there also appears to be only two reported intervention studies, that of Klausner, Clarkin, Spielman, Pupo, Abrams and Alexopoulos (1998) and Irving, Snyder, Gravel, Hanke, Hilberg and Nelson (1997). They differ from the current study firstly in that; they used a multi-faceted group psychotherapeutic approach, rather than a workshop format; and secondly, in both cases intervention was aimed at individuals with pre-existing psychological problems such as major depressive disorder. This suggests that the application of wellness or, in this case, hope intervention programmes need to be tried and tested within the normal population. Positive psychology should become more than just theory and research, but should, according to Seligman and Csikszentmihalyi (2000), reorient itself back to its two neglected missions – making normal people stronger and more productive and making high human potential actual.

Clearly there appears to be a lack of sufficient fortigenic-based intervention or enhancement programmes for people without psychological pathology. The researcher believes that theory and workbooks on hope (see McDermott & Snyder, 1999) are only valuable to the extent that they can be tailored into workable and measurable interventions that contribute to psychological health in general. In psychological wellness and specifically hope, there is an unquestionable need for the development and evaluation of programmes that can help build the qualities that help all individuals not just to endure and survive, but also to flourish (Seligman & Csikszentmihalyi, 2000).

In view of the above, the research question was whether a programme designed to enhance hope in adults would be effective.

Objectives

The primary objective was to design and evaluate the effectiveness of a programme to enhance hope in adults.

The secondary objective was to investigate whether hope enhancement also influences general psychological well-being.

Hypothesis

The primary hypothesis was that the hope enhancement programme would be effective in increasing hope in programme participants.

The secondary hypothesis was that hope enhancement would also influence general psychological well-being.

Method

Design

A three-group design with pre and post-testing was used (Bless & Higson-Smith, 1995).

Participants

Three availability samples were drawn from the Potchefstroom area including North-West University, Potchefstroom Campus. Recruitment was done through advertisement on campus and in the local newspaper. The interested participants were divided randomly into three groups with eight members each. The first group, being the experimental group, was to partake in the hope enhancement programme. This group consisted of four participants between the ages of 19 and 24; two aged 25 to 29 years and two aged 30 and older. The group was divided equally between males and females. The first control group (three male, five female) was to undergo no

intervention. It consisted of four participants aged between 19 and 24 years; three between ages 25 and 29 years and one aged above 30. The second control (three male, five female) was to form a 'chat' group and consisted of five participants aged between 19 and 24; one aged between 25 and 29 years and two aged 30 years and above. The total sample consisted of 13 students still semi-dependant on their parents; five working, unmarried adults; five married or previously married working adults and one unemployed unmarried adult. All 24 participants were White Afrikaans speaking adults. The only inclusion criterion was that participants would be relatively free of overt psychological pathology. For this purpose, screening interviews were conducted to exclude individuals who had recently suffered trauma or displayed overt signs of psychological pathology. During the one-on-one interviews, the researcher asked open-ended questions regarding the individuals' current state of mind. Questions included for example: "Have you suffered any significant losses recently which you are still dealing with?" and "Do you consider yourself to be an unhappy person? Explain". Through the interview the researcher attempted to determine whether the individuals' participation was solely an attempt to manage unresolved trauma or specific issues.

Procedure

The three groups were submitted to pre-testing a day prior to commencement of the enhancement programme and the 'chat' group. The hope enhancement programme (discussed below) which the experimental group followed, consisted of six two-hour sessions spread over five days. The 'chat' group also completed 12 hours spread over six days. Within this group, of which the researcher was also a member, participants were free to talk about any topics they chose. The purpose of the 'chat' group was to exclude the systematic input and focus on hope facilitation by the researcher as the

only factor contributing to changes that may occur within the experimental group. Post-testing was conducted with all the groups three weeks subsequent to conclusion of the 'chat' group and hope enhancement programme. The experimental group was interviewed after post-testing to provide insight into their experience of the programme.

Measures

Adult Dispositional Hope Scale (Hope Scale) (Snyder et al., 1991)

Hope was measured by the Adult Dispositional Hope Scale (Hope Scale) developed by Snyder *et al.* (1991) to assess dispositional agentic (goal-directed determination) and pathways (planning of ways to attain goals) thinking. The self-report measure comprises 12 items: four agency (e.g. "I energetically pursue my goals"), four pathways (e.g. "I can think of many ways to get out of a jam") and four additional items as distracters (e.g. "I worry about my health"). Respondents rate the extent to which statements apply to them on a 4-point scale in which 1 = *definitely false* and 4 = *definitely true*. The Hope scale can be used as a total score or as two separate subscales. Total Hope Scale scores range from a low of 8 to a high of 32. Lopez *et al.* (2000) report average Hope Scale scores of 24 for college and non-college student samples. The test-retest reliability was examined in various normal samples and found to be .85 over a three-week period to .82 over a ten-week period (Snyder *et al.*, 1991). The internal consistency of the whole scale was reported at .74 to .84 by its authors and subsequently in the same range by Curry, Snyder, Cook, Ruby and Rehm (1997).

Hunter Opinions and Personal Expectations Scale (HOPES) (Nunn et al., 1996)

Nunn *et al.* (1996) designed the Hunter Opinions and Personal Expectations Scale (HOPES) as a measure to probe the perceived future directly. It comprises 20 items that quantify both positive (the Hopefulness subscale, HS) and negative (the Despair subscale, DS) expectations, and identify a global personal hopefulness score (GPH). Respondents indicate the extent to which each item describes them measured on a 5-point scale on which 0 = *not at all* and 4 = *extremely well*. Total scores for both the HS and DS range between 0 and 40, whereas GPH total scores range between 0 and 80. High total scores are reflective of high global personal hopefulness (GPH; Steed, 2002). Nunn *et al.* (1996) reported test-retest reliabilities of .66, .58 and .71 for the Hopefulness subscale, Despair subscale and GPH scale respectively, over an average of a 15-month period. Cronbach alphas for various populations ranged from .87 to .88 for the Hopefulness subscale, from .80 to .88 for the Despair subscale and .90 to .92 for the overall GPH (Nunn *et al.*, 1996)

Sense of Coherence Scale (SOC-29) (Antonovsky, 1987,1993)

Antonovsky (1987, 1993) explains *sense of coherence* (SOC) as a dispositional orientation that is presumed to engender, sustain and enhance health as well as strengths at other endpoints. The SOC-29 measures the three components of the sense of coherence construct, namely manageability (10 items, e.g. 'Do you think that there will always be people whom you'll be able to count on in the future?'), comprehensibility (11 items, e.g. 'Do you have the feeling that you are in an unfamiliar situation and don't know what to do?') and meaningfulness (8 items, e.g. 'Life is: . . . 1: full of interest . . . 7: completely routine'), although these components should according to Antonovsky (1993) not be considered as subscales. Globally, it expresses the extent to which one feels that the resources at one's disposal are

adequate for coping with life events and meeting challenges; to which individuals make cognitive sense of their world and to which one's life is seen as challenging and worthy of personal investment and makes emotional sense. Total scores can range between 29 and 203.

Average Cronbach alphas for the scale have been reported in various studies at between .85 and .91, while means vary across samples at between 117 and 152.6 (Antonovsky, 1993; Bowman, 1996). Wissing *et al.* (1999) substantiate the applicability of the scale in the South African context.

Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985)

Life satisfaction can be defined as a global evaluation by a person of his or her life. The Satisfaction with Life Scale (SWLS; Diener *et al.*, 1985) is a five-item self-report questionnaire. Each item can be answered on a seven point continuum ranging between *strongly disagree* = 1 and *strongly agree* = 7. It was developed as a measure of the judgemental component of subjective well-being. The scores on the questionnaire range from 5 (low satisfaction) to 35 (high satisfaction). High scores are thus indicative of a person with high satisfaction with his or her life. Diener *et al.* (1985) have shown the SWLS to have good internal consistency and reliability. Wissing *et al.* (1999) have found the scale to be valid and reliable for use in the African context.

Hope Enhancement Programme

The programme is based on hope theory as conceptualised by Snyder *et al.* (1991). According to this conceptualisation, hope is cognitive in nature and, therefore, intervention would imply assisting individuals in conceptualising clearer goals, producing assorted pathways to attainment, gathering the needed mental energy to

maintain the goal pursuit and surmounting obstacles through reframing them as challenges (Lopez *et al.*, 2000). Since the current study focuses on individuals relatively free of psychological pathology, it was reasonable to assume that participants would already possess a degree of hopeful thinking, allowing the researcher to build on existing hopeful faculties.

The workshop-format hope enhancement programme was designed by the researcher through incorporating suggestions from *The Psychology of Hope* (Snyder, 1994), *Making Hope Happen* (McDermott & Snyder, 1999), *Handbook of Hope* (Snyder Ed., 2002) and *Hope for the Journey* (Snyder, McDermott, Cook, & Rapoff, 1997) along with some health psychological and positive psychology principles.

Six two-hour group sessions were spread out over five days with each session focusing on a particular dimension of hope. Sessions were only partially structured to allow ample time for group discussion and reflection after each exercise, providing opportunity for group members to learn from one another. Corey (2001) attests to the effectivity of groups to help people change by offering corrective influences from within a social framework.

Session one aimed to firstly probe into existing ideas about hope, its functions, origins and changeability and secondly, to provide a brief introduction to hope as defined for the purposes of the study. Goals, pathways and agency were briefly explicated after the group was allowed to explore current ideas regarding hope. The Life Domain Questionnaire and Domain Specific Questionnaires (see McDermott & Snyder, 1999) were filled in to allow participants to gauge their particular levels of satisfaction with and hope for different life arenas, e.g. family, leisure, academic, personal growth, health/fitness, romantic, social relationships, spiritual and work domains. Participants were prompted to write short self-narratives regarding their

findings, including the prioritising of domains or identifying those that have potential for improvement. Reflection followed.

In sessions two and three, the focus was on setting feasible goals and finding pathways towards their attainment. With guidance from the researcher, the members were allowed to explore with one another specific goals and pathways towards those goals, keeping in mind the selected domains identified earlier. Members paired up randomly to allow for different inputs from the rest of the group and diagrams had to be drawn to provide a visual element to the goal setting and attainment process. Once specific goals and the outcome values of these goal pursuits were identified, goal attainment techniques were discussed, e.g. breaking up goals into workable segments. Role-plays were utilised, wherein members played out the goal attainment process with certain members creating obstacles and others suggesting alternative routes.

Sessions four and five focused on the willpower dimension of hope and followed a holistic approach, since hope has been positively implicated in, for example, physical health and social support (Snyder, Rand, & Sigmon, 2002). For this reason the biological, spiritual, psychological and social dimensions of willpower were identified. From the biological side, health and diet were explored with input from a dietician, whilst sleep and exercise were also emphasised. A master's theology student provided insight into e.g. devotion, faith and forgiveness as spiritual factors influencing willpower. Coping, stress management and problem solving were psychological elements discussed and practised through role-plays, whilst social support, communication and conflict resolution were elaborated upon and practised by the group, to complete the social dimension. Finally, self-talk was identified as a powerful factor influencing willpower. Role-plays were again employed to help members identify their negative patterns of self-talk and to replace them with the positive.

In the final session, all that was learnt was revised and integrated and each member was again allowed to run through his or her present process of goal attainment and possibilities for future attainment, whilst other members provided input and praise.

Statistical methods used

The STATISTICA (version 6) computer programme (Statsoft Inc., 2003) was used for statistical data analysis. Although the sample size was small, parametric statistical tests were used because of their sensitivity to differences and also as a basis for comparison to the findings yielded by the non-parametric statistical tests.

Hypotheses were tested by means of descriptive statistics including the Student's t-test for dependent groups (Steyn, Smit, & du Toit, 1998) and practical significance as measured through effect-size ($d = \frac{\bar{x}_{diff}}{s_{diff}}$; Ellis & Steyn, 2003). Descriptive statistics

were primarily used to describe the data obtained from the three groups. Measures of central tendency such as the mean and standard deviation were used to describe the respective groups' performance on the various scales. It is noted that the mean in particular is influenced by extreme scores and thus its interpretation in terms of the underlying variable being measured assumes some confidence in the interval properties of the data (Howell, 1992). Therefore, the mean and standard deviation for each group were determined for reference purposes and are reported in table form. The statistical methods used allow for comparison of differences within the groups and between the groups.

The Student's t-test for dependent groups and the non-parametric Wilcoxon rank sum test (Steyn, Smit, & du Toit, 1998) were used to compare the pre and post-test results of the experimental, control and 'chat' groups. The 5% level of probability was

used to reject the null hypothesis. Effect sizes were used to determine whether the statistical differences were also practically significant. Ellis and Steyn (2003) provide some guidelines for interpreting effect-size. For the effect-size d it is suggested that 0.8 is large (meaning that the difference between the groups is of practical significance), 0.5 is moderate (meaning that the difference between the groups may be of practical significance) and 0.2 is small (meaning the difference between the groups is not practically significant).

The Kruskal-Wallis was used for the comparison among the three groups on the various scales. Since the sample size was relatively small, consisting of 8 participants per group respectively, this non-parametric statistical test was considered appropriate to analyse the data. Non-parametric tests, also known as distribution-free tests, is a class of tests that does not rely on a parameter estimation and/or distribution assumptions (Howell, 1992). The major advantage attributed to these tests is that they do not rely on any seriously restrictive assumptions concerning the shape of the sampled populations and thus accommodate small samples as in the case of this study.

The reliability for all the scales was completed. Based on Nunnally and Bernstein (1994), Cronbach alpha must be equal to or higher than 0.7 to assert reliability. Reliability is expressed as an internal consistency because the reliability is actually estimated from the consistency of all items in the sum scales.

Ethical Considerations

Participants were asked to sign consent forms prior to participation in the study, including permission for the researcher to publish study findings anonymously. Confidentiality certificates were issued, providing assurance of confidentiality, voluntary participation in or withdrawal from the study and selected information about the purpose of the study. Participants were made aware that referral to a

psychologist would be possible in the event of anyone experiencing emotional upheaval during the course of the study. Individuals from both the control and chat groups were furthermore assured that they may also participate in a hope enhancement programme at a later stage, if interest was sufficient. The research methodology was assessed and approved by the ethical committee of the North-West University, Potchefstroom Campus.

Results

Reliability indices and descriptive statistics

As Table 1 indicates, the scales utilised all displayed acceptable reliabilities in this study and correlate well with studies performed with bigger samples (Wissing & van Eeden, 1999; Nunn *et al.*, 1996; Curry *et al.*, 1997; Snyder, 1995).

(Insert Table 1 about here)

Table 2 summarises some psychometric properties of the scales used in the current study.

(Insert Table 2 about here)

The means and standard deviations of the scales used fall within the average ranges found in previous studies (Antonovsky, 1993; Bowman, 1996; Pavot, Diener, Colvin, & Sandvik, 1991; Snyder, 1995; Nunn *et al.*, 1996). With an average mean of 24.75 (SD = 3.08) across the three groups, the samples in the current study score considerably higher on the total Hope Scale compared to a group of veterans suffering from PTSD (M = 17.6, SD = 3.9; Irving, Telfer, & Blake, 1997), stress centre

outpatients (M = 22.6, SD = 4.4; Irving, Larson, & Leibnitz, 1995), a group of major depressives (M = 20.5 - 22.8, SD = ± 6.2 - 9.4; Klausner *et al.*, 1998) and state hospital inpatients (M = 23.1, SD = 4.5; Snyder *et al.*, 1991). These findings, together with the average scores on the rest of the scales, suggest a study sample relatively free of psychological pathology. Apart from the SWLS (0.6), the inter item correlations for all the scales fall within the acceptable range of 0.2 to 0.4 as suggested by Piedmon and Hyland (1993).

An absence of significant differences (all p-values > 0.05) was found between the groups prior to intervention, as indicated by Table 3. The absence of differences among the groups during pre-testing suggests homogeneity. This indicates that the random selection of the three groups was successful in relation to the dimensions measured.

(Insert Table 3 about here)

Hypothesis testing

Table 4 shows the means of the scales used for the experimental, control and 'chat' groups pre and post-testing. Only the experimental group displayed noteworthy increases in scores for all the measures used, except for the Despair subscale of the HOPES, which changed only marginally. The post-test means reveal above average to high scores for most of the measures as compared to previous studies (Antonovsky, 1993; Bowman, 1996; Pavot, Diener, Colvin, & Sandvik, 1991; Snyder, 1995; Nunn *et al.*, 1996). The means for both the control and 'chat' groups remained comparatively unchanged, although the control and 'chat' groups displayed some mean increase in satisfaction with life.

(Insert Table 4 about here)

Tables 5, 6, and 7 respectively show the differences within the experimental, control and 'chat' groups between the pre and post-testing. Based on the experimental group, the Hope Scale total, Hope Scale pathways, HOPES Hopefulness subscale and SOC-29 recorded statistically significant changes ($p < 0.05$). The practical significance (d) for these scales was of large effect. The SWLS and Hope Scale agency displayed no significant changes. The HOPES Despair subscale also displayed no increase and consequently also limited the change in the HOPES Global Personal Hopefulness. Neither the control nor 'chat' groups displayed any significant changes.

(Insert Table 5 about here)

(Insert Table 6 about here)

(Insert Table 7 about here)

As indicated by Table 8, Kruskal-Wallis results revealed no significant differences ($p < 0.05$) among the three groups in terms of the SWLS, the Hope Scale agency, the HOPES Global Personal Hopefulness and the HOPES Despair subscale. Significant differences were elicited for the Hope Scale total, the Hope Scale pathways, the HOPES Hopefulness subscale and the SOC-29. The practical significance (d) for these scales was of large effect. No differences were found between the control group and the 'chat' group.

From the Student's t-test, Wilcoxon rank sum test and Kruskal-Wallis results it is clear that significant positive growth occurred within the experimental group. This growth was substantial enough to also elicit significant differences between the groups post-testing.

(Insert Table 8 about here)

Directly subsequent to post-testing, participants in the hope enhancement programme were asked to reflect on their experience of the programme. All expressed positive feedback regarding their participation. Most prominent was that the group members felt more in charge of the routes their lives will take, indicating that pathways thinking improved. A sense of eagerness regarding goal achievement may denote that agency was also positively influenced. Most participants revealed that they believe the future to be less uncertain, since they sensed that obstacles in their lives can and will be overcome. As for the researcher, he never considered himself to be a low hope person, but through the programme and group process, experienced also a swell in his own hope. To him, hope appears to be something that everyone needs and wants, but should work at proactively to attain and nourish.

In hindsight, the content and procedures of the programme appeared to be appropriate and effective considering the purpose of the research. Sufficient theoretical knowledge was combined well with practical exercises and discussions to keep participants interested and motivated in the group process. Although the programme was a relatively brief intervention, it appeared to have a lasting effect, suggesting that the time allocated and spread of sessions over five days were adequate for positive results.

Discussion

From a fortigenic point of departure the current study attempted to incorporate individuals without overt psychological pathology to investigate the impact of a hope enhancement programme. Such participants were selected in order to shift away from

the pathogenic paradigm, which is essential if wellness intervention is to become preventative rather than curative.

All the measurement instruments utilised initially produced average to high-average mean scores across the three samples, suggesting that participants in the study could be considered to be generally psychologically healthy.

As indicated by significant increases in Hope Scale total and HOPES Hopefulness subscale scores, the principal finding of the study was that the hope enhancement programme was effective in increasing the levels of hope in a group of adults relatively free of psychological pathology. In addition to an increase in total Hope Scale scores, the Pathways subscale yielded a significant increase within the experimental group. Participants, therefore, experienced a surge in their ability to find paths to goal achievement. Whilst the increase in agency was not statistically significant on the 5% level of probability, the increase within the group still suggests to some extent that pathways and agency appear to be functionally inseparable, implying that a change in the one would result in a change in the other. This in a way supports Irving, Snyder and Crowson's (1998) contention that both agentic and pathways thinking are necessary to reach desired objectives. As well as being able to set clear and feasible goals, participants in the programme improved, particularly in their abilities to conceive routes to goals and also increased to an extent their motivation and confidence to pursue these goals in spite of obstacles that inevitably appear along these routes.

Both Satisfaction with Life and Sense of Coherence have been proposed as specific or micro-level constructs for the conceptualisation of the essence of psychological well-being (Wissing & van Eeden, 2002). Although no significant difference was found in Satisfaction with Life scores between the groups post intervention, these scores did improve to some extent for the experimental group,

supporting in some measure the findings of Chang (1998) that pathways and agency predicted a significant amount of variance in interpersonal and academic life satisfaction. When looking at Sense of Coherence, participants in the intervention programme experienced a positive influence in their sense of manageability, comprehensibility and meaningfulness, implying that these individuals would view the world as highly coherent. Considering the positive changes in the experimental group on both these scales, it can be put forward that higher hope is associated with better well-being, as also suggested by Snyder *et al.* (1991) and Snyder, Irving and Anderson (1991).

The studies of Klausner *et al.* (1998) and Irving *et al.* (1997), where the tenets of hope theory were also employed, revealed increased hope levels for patients with pre-existing psychological problems, while the current study found similar increases in psychologically healthier individuals. From this it may be argued that hope intervention need not only be undertaken with those most in need of help, but is likely to be effective also with those objectively functioning 'normally'.

Conclusion and Recommendations

The purpose of the hope enhancement programme was to tap into the already existing hope faculties of adults relatively free of any obvious psychological pathology, enhancing these strengths and enabling individuals to use their hope to attain various endpoints important to them. Clearly, hope enhancement can be effective with a diversity of groups and need not only focus on patients in clinical settings. In other words, one need not be at a low point in one's life to benefit from a little hope. Hope, apart from playing a curative role, appears also to be essential in enhancing psychological well-being and in so doing, plays a preventative role through strengthening safeguards against psychopathology. Accordingly, it is recommended

that prospective wellness intervention not be solely curative in nature, but should also be amenable to prevention of pathology within the 'healthy' population.

Obvious limitations to the study were firstly the small size of the samples and secondly, the homogeneity of participants in terms of race and language. Future studies should ideally incorporate bigger samples with more racial and cultural diversity. Although participants could reflect on their experience of the programme, a third limitation was the fact that they were not asked to assess the content and procedures of the programme itself to aid in programme evaluation. This should be done in future studies.

References

- Antonovsky, A. (1979). *Health, stress and coping*. Jossey-Bass: San Francisco.
- Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.
- Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social Science and Medicine*, 36(6), 725-733.
- Averill, J. R., Catlin, G., & Chon, K. K. (1990). *Rules of hope*. New York: Springer-Verlag.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147).
- Bless, C. & Higson-Smith, C. (1995). *The fundamentals of social research methods: An African perspective (2nd ed.)*. Kenwin: Juta & Co.
- Bowman, B.J. (1996). Cross-cultural validation of Antonovsky's sense of coherence scale. *Journal of Clinical Psychology*, 52, 547-549.
- Chang, E.C. (1998). Hope, problem-solving ability, and coping in a college student population: Some implications for theory and practise. *Journal of clinical psychology*, 54, 953-962.
- Corey, G. (2001). *Theory and practise of counseling and psychotherapy (6th ed.)*. USA: Wadsworth.
- Curry, L.A., Snyder, C.R., Cook, D.L., Ruby, B.C., & Rehm, M. (1997). Role of hope in academic and sport achievement. *Journal of Personality and Social Psychology*, 73(6), 1257-1267.
- Diener, E., Emmons, R., Larsen, R.J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49(1), 71-75.

- Ellis, S.M. & Steyn, H.S. (2003). Practical significance (effect sizes) versus or in combination with statistical significance (p-values). *Management Dynamics*, 12(4), 51-53.
- Fredrickson, B.L. (2002). Positive Emotions. In C.R. Snyder & S.J. Lopez, (Eds), *Handbook of positive psychology* (pp. 120-134). Oxford: University Press.
- Howell, D.C. (1992). *Statistical methods for psychology* (3rd ed.). Belmont: Duxbury Press.
- Irving, L.M., Snyder, C.R., & Crowson, J.J. (1998). Hope and coping with cancer by college women. *Journal of psychology*, 66(2), 195-214.
- Irving, L. M., Larson, L., & Leibnitz, G. (1995, March). *Validation of the Regulation of Emotional Distress Scale (REDS)*. Poster presented at the annual meeting of the Society of Behavioral Medicine, San Diego, CA.
- Irving, L. M., Snyder, C.R., Gravel, L., Hanke, J., Hilberg, P., & Nelson, N. (1997, April). *Hope and effectiveness of a pre-therapy orientation group for community mental health centre clients*. Paper presented at the Western Psychological Association Convention: Seattle. In C.R. Snyder. (Ed.) *Coping: The psychology of what works*. New York: Oxford.
- Irving, L.M., Telfer, L., & Blake, D.D. (1997). Hope, coping, and social support in combat-related posttraumatic stress disorder. *Journal of traumatic stress*, 10(3), 465-479.
- Kahneman, D., Diener, E., & Schwarz, N. (Eds) (1999). *Well-being: The foundations of hedonic psychology*. New York: Sage.
- Klausner, E.J., Clarkin, J.F., Spielman, L., Pupo, C., Abrams, R., & Alexapoulas, G. (1998). Late life depression and functional disability: The role of *goal focused group psychotherapy*. *International journal of geriatric psychiatry*, 13, 707-716.

- Kümpher, K.L. (1999). Factors and process contributing to resilience: The resilience framework. In M. Glantz & J. Johnson (Eds), *Resilience and development: Positive life adaptations* (pp. 179-219). New York: Academic.
- Lazarus, R.S. (1999). Hope: An emotion and a vital coping resource against despair. *Social Research*, 66, 653 -679.
- Lopez, S.J., Floyd, K., Ulven, J.C., & Snyder, C.R. (2000). Hope therapy: Helping clients build a house of hope. In C.R. Snyder (Ed.), *Handbook of hope: Theory, measures, and applications* (pp.123-150). California: Academic.
- Margaletta, P.R. & Oliver, J.M. (1999). The hope construct, will, and ways: Their relations with self-efficacy, optimism, and general well-being. *Journal of Clinical Psychology*, 55, 539-551.
- McDermott, D. & Snyder, C.R. (1999). *Making hope happen: A workbook for turning possibilities into reality*. USA: New Harbinger Publications.
- Myers, D.G. (2001). *Towards a more positive psychology*. Retrieved January 7, 2004 from the World Wide Web:
<http://www.davidmyers.ag/happiness/positive.html>
- Nunn, K.P., Lewin, T.J., Walton, J.M., & Carr, V.J. (1996). The construction and characteristics of an instrument to measure personal hopefulness. *Psychological Medicine*, 26, 531-545.
- Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric Theory* (3rd ed.). New York: McGraw-Hill.
- Pavot, W., Diener, E., Colvin, C.R., & Sandvik, E. (1991). Further validation of the satisfaction with life scale: Evidence for the cross-method convergence of well-being measures. *Journal of personality assessment*, 57, 149-161.

- Piedmon, R.L. & Hyland, M.E. (1993). Inter-item correlation frequency distribution analysis: A method for evaluation scale dimensions. *Educational and Psychological Measurement, 53*(2), 369-378.
- Scheier, M.F. & Carver, C.S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.
- Scheier, M.F. & Carver, C.S. (1992). Effects of optimism on psychological and physical well-being: Theoretical and empirical update. *Cognitive therapy and research, 16*, 201-228.
- Seligman, E.P. (2002). Positive psychology, positive prevention, and positive therapy. In C.R. Snyder, & S.J. Lopez. (Eds), *Handbook of positive psychology* (pp. 1-9). Oxford: University Press.
- Seligman, E.P. & Csikszentmihalyi, M. (2000). Positive Psychology: An Introduction. *American Psychologist, 55*, 5-14.
- Snyder, C.R. (1994). *The psychology of hope: You can get there from here*. New York: Free Press.
- Snyder, C.R. (1995). Conceptualizing, measuring, and nurturing hope. *Journal of Counseling & Development, 73*(3), 355-360.
- Snyder, C.R. (2000). Hypothesis: There is hope. In C.R. Snyder (Ed.), *Handbook of hope: Theory, measures, and applications* (pp. 3-21). California: Academic.
- Snyder, C.R., Cheavens, J., & Michael, S.T. (1999). Hoping. In C.R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 205-251). New York: Oxford.
- Snyder, C.R. *et al.* (1991). The will and the ways: Development and validation of an individual differences measure of hope. *Journal of Personality and Social Psychology, 60*, 570-585.

- Snyder, C.R., Irving, L.M., & Anderson, J.R. (1991). Hope and health: Measuring the will and the ways. In C.R. Snyder & D.R. Forsyth (Eds), *Handbook of social and clinical psychology: The health perspective* (pp. 285-305). New York: Pergamon.
- Snyder, C.R., McDermott, D., Cook, W., & Rapoff, M.A. (1997). *Hope for the journey: Helping children through good times and bad*. Boulder, CO: Westview Press.
- Snyder, C.R. (2002). Target article: Hope theory: Rainbows in the mind. *Psychological Inquirer, 13*(4), 249-276.
- Snyder, C.R., Rand, K.L., & Sigmon, D.R. (2002). Hope theory: A member of the positive psychology family. In C.R. Snyder & S.J. Lopez (Eds), *Handbook of positive psychology* (pp. 257-276). Oxford: University Press.
- StatSoft, Inc. (2003). STATISTICA (data analysis software system), version 6. www.statsoft.com.
- Steed, L.G. (2002). A psychometric comparison of four measures of hope and optimism. *Educational and psychological measurement, 62*(3), 466-482.
- Stotland, E. (1969). *The psychology of hope*. San Francisco: Jossey-Bass.
- Strümpher, D.J.W. (1995). The origins of health and strength: From salutogenesis to fortigenesis. *South African Journal of Psychology, 25*, 81-89.
- Steyn, A.G.W., Smit, C.F., & Du Toit, S.H.C. (1998). *Moderne Statistiek vir die Praktyk*. Pretoria: J.L. van Schaik.
- Wissing, M.P. (2000, May). *Wellness: Construct clarification and a framework for future research and practice*. Paper presented at the 1st South African National Wellness conference: Port Elizabeth.
- Wissing, M.P. *et al.* (1999, July). The psychometric properties of scales measuring psychological well-being in an African group. Paper presented at the International Africa Psychology Congress: Durban, South Africa.

Wissing, M.P. & Van Eeden, C. (1997, September). *Psychological well-being: A fortigenic conceptualization and empirical clarification*. Paper presented at the 3rd Annual Congress of the Psychological Society of South Africa: Durban.

Wissing, M.P. & Van Eeden, C. (2002). Empirical clarification of the nature of psychological well-being. *South African Journal of Psychology*, 32(1), 32-44.

Table 1 Reliability Analysis

Scale	α
SWLS	0.874
Hope Tot	0.826
Hope P	0.724
Hope A	0.712
HOPES HS	0.848
SOC-29	0.864

Abbreviations: SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; HS, Hopefulness subscale; SOC-29, full length Sense of Coherence.

Table 2 Means and Standard deviations

Scale	<i>M</i>	SD	Inter-item Correlation
SWLS	23.333	5.530	0.6
Hope Tot	24.750	3.082	0.4
Hope P	12.583	1.558	0.4
Hope A	12.167	1.810	0.4
HOPES HS	32.667	4.914	0.4
HOPES DS	11.500	4.890	0.2
SOC-29	140.292	17.559	0.2

Abbreviations: SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; HS, Hopefulness subscale; DS, Despair subscale; SOC-29, full length Sense of Coherence.

Table 3 Initial differences between groups

Variable	F	p
SWLS	0.137	0.872
Hope Tot	0.624	0.546
Hope P	0.111	0.896
Hope A	1.175	0.328
HOPES GPH	0.634	0.540
HOPES HS	0.817	0.455
HOPES DS	0.757	0.481
SOC-29	2.231	0.132

Abbreviations: SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; GPH, Global Personal Hopefulness; HS, Hopefulness subscale; DS, Despair subscale; SOC-29, full length Sense of Coherence.

Table 4 Means Pre- and Post-testing

Scale	Pre			Post		
	Exp	Control	Chat	Exp	Control	Chat
SWLS	22.625	24.125	23.250	24.375	25.500	24.250
Hope Tot	24.750	25.625	23.875	27.750	24.875	23.625
Hope P	12.625	12.750	12.375	14.500	12.375	12.250
Hope A	12.125	12.875	11.500	13.250	12.625	11.375
HOPES GPH	60.500	63.875	59.125	63.875	63.000	56.000
HOPES HS	31.250	34.375	32.375	34.750	33.375	31.750
HOPES DS	10.750	10.500	13.250	10.875	10.375	15.750
SOC-29	140.250	149.125	131.500	151.500	149.000	132.375

Abbreviations: Exp, Experimental group; SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; GPH, Global Personal Hopefulness; HS, Hopefulness subscale; DS, Despair subscale; SOC-29, full length Sense of Coherence.

Table 5 Changes within groups – Experimental

Variable	N	M	Std Dev	t Value	Pr > t 	S Value	Pr > S 	Effect-size
SWLS	8	1.750	2.315	2.14	0.0698	12.00	0.125	-
Hope Tot	8	3.000	2.976	2.85	0.0246	12.50	0.047	1.01
Hope P	8	1.875	1.885	2.81	0.0260	12.50	0.047	0.99
Hope A	8	1.125	1.458	2.18	0.0654	8.50	0.125	-
HOPES GPH	8	3.375	7.210	1.32	0.2271	9.00	0.242	-
HOPES HS	8	3.500	3.381	2.93	0.0221	15.00	0.031	1.05
HOPES DS	8	0.125	5.592	0.06	0.9514	0.50	1.000	-
SOC-29	8	11.250	9.468	3.36	0.0121	18.00	0.008	1.19

Abbreviations: SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; GPH, Global Personal Hopefulness; HS, Hopefulness subscale; DS, Despair subscale; SOC-29, full length Sense of Coherence.

Table 6 Changes within groups - Control

Variable	N	Mean	Std Dev	t Value	Pr > t 	S Value	Pr > S 	Effect-size
SWLS	8	1.375	2.446	1.59	0.1558	8.00	0.219	-
Hope Tot	8	-0.750	1.165	-1.82	0.1114	-6.00	0.188	-
Hope P	8	-0.500	1.200	-1.18	0.2753	-5.00	0.406	-
Hope A	8	-0.250	0.707	-1.00	0.3506	-2.50	0.625	-
HOPES GPH	8	-0.875	5.515	-0.45	0.6671	0.00	1.000	-
HOPES HS	8	-1.000	2.777	-1.02	0.3424	-4.00	0.500	-
HOPES DS	8	-0.125	4.549	-0.08	0.9402	-1.50	0.883	-
SOC-29	8	-0.125	5.436	-0.07	0.9500	-2.00	0.828	-

Abbreviations: SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; GPH, Global Personal Hopefulness; HS, Hopefulness subscale; DS, Despair subscale; SOC-29, full length Sense of Coherence.

Table 7 Changes within groups - 'chat'

Variable	N	Mean	Std Dev	t Value	Pr > t 	S Value	Pr > S 	Effect-size
SWLS	8	1.000	1.690	1.67	0.1382	10.50	0.188	-
Hope Tot	8	-0.250	1.909	-0.37	0.7220	-2.50	0.797	-
Hope P	8	-0.125	0.835	-0.42	0.6845	-1.50	1.000	-
Hope A	8	-0.125	1.553	-0.23	0.8264	-1.00	1.000	-
HOPES GPH	8	-3.125	3.871	-2.28	0.0563	-13.00	0.070	-
HOPES HS	8	-0.625	1.923	-0.92	0.3884	-5.50	0.469	-
HOPES DS	8	2.500	4.243	1.67	0.1395	10.00	0.195	-
SOC-29	8	0.875	5.303	0.47	0.6549	3.00	0.734	-

Abbreviations: SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; GPH, Global Personal Hopefulness; HS, Hopefulness subscale; DS, Despair subscale; SOC-29, full length Sense of Coherence.

Table 8 Differences between groups

Measure	H	p	Effect-size Exp/ Con	Effect-size Exp/ Chat	Effect-size Con/Chat
SWLS	0.234	0.889	-	-	-
Hope Tot	7.453	0.024	1.74	1.51	-
Hope P	8.217	0.016	1.72	1.45	-
Hope A	4.471	0.107	-	-	-
HOPES GPH	4.257	0.119	-	-	-
HOPES HS	7.668	0.022	1.63	1.49	-
HOPES DS	1.477	0.478	-	-	-
SOC-29	10.047	0.007	1.62	1.73	-

Abbreviations: Exp, Experimental group; Con, Control group; SWLS, Satisfaction With Life Scale; Hope Tot, Hope Scale total; Hope P, Hope Scale - Pathways subscale; Hope A, Hope Scale - Agency subscale; HOPES, Hunter Opinions and Personal Expectations Scale; GPH, Global Personal Hopefulness; HS, Hopefulness subscale; DS, Despair subscale; SOC-29, full length Sense of Coherence.