



# Optimism/ Hope

The Science of Resilience

✉ [rrc@dal.ca](mailto:rrc@dal.ca)

🌐 [www.resilienceresearch.org](http://www.resilienceresearch.org)

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and Training Institute

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## Definition

There are two common ways of defining optimism in the literature. Originally, Peterson and Seligman (1984) defined optimism as an explanatory style whereby more optimistic people attributed negative events to external or temporal/unstable factors and attributed positive events to internal, stable factors. By employing this optimistic explanatory style, negative situations faded away and positive situations became more significant in determining future cognition and behaviour. Scheier and Carver (1985) introduced the expectancy definition of optimism, whereby optimism is the general and global positive expectancy of the future. Their definition is similar to Snyder et al.'s (1991) conception of hope as a positive expectation that future goals are attainable. Snyder et al. (1991) see hope as a multidimensional cognitive state comprised of two dimensions: hope agency and hope pathways. Hope agency refers to an appraisal of one's capability to achieve a goal, while hope pathways involves the cognitive process of identifying viable routes to goals. Saleebey (2000) positions hope as a cognitive set essential to resilience and recovery, specifically through one's ability to think of one's self as an "agent, able to effect some change in one's life, having goals that not only have promise but also pathways to their accomplishment (p. 133, cited in Munoz et al., 2017). The cognitive expectancy definition of optimism is the one most commonly used in the literature today as it conceptualizes optimism as a cognitive construct that predicts engagement and effort across multiple contexts, including adversity (Nes & Segerstrom, 2006). Given the similarities between optimism and hope, we discuss them as one factor throughout this document.

There is disagreement in the literature over whether optimism and pessimism are opposite poles of the same psychological factor, or whether optimism and pessimism are two separate dimensions.

The research indicates that optimism is a fairly stable trait, with high test-retest rates (0.59 – 0.79) from a few weeks to 3 years, in populations ranging from young adults to middle aged adults. Conservative estimates put it at 25% heritable, while other evidence points to childhood environment, particularly the presence of resources such as parental warmth and financial security. Other evidence suggests that optimism is changeable during times of life transition, such as going to university (Carver et al., 2010). Social economic status (SES) as a child has been related to optimism as an adult, regardless of SES levels as an adult (Carver et al., 2010).

Some critiques of optimism in the literature are that it may be related to an increased tendency to gamble (Carver et al., 2010; Meevissen et al., 2011). As well, there is some conflicting evidence on optimists' likelihood to see only what they want to see and ignore threats; for example, Goodman, Chesney & Tipton (1995) found that girls at risk for HIV were less likely to be tested for HIV and to protect themselves if they were optimistic about their future. This finding is contradicted by the mass of evidence that optimists actively engage in

health promotion activities (Carver et al., 2010). Finally, the literature concurs that most of what is known about optimism comes from studies of North Americans or Europeans, and that there may be cultural differences in the value and definition of optimism (Carver et al., 2010).

## Relationship to Resilience

The expectancy definition of optimism stems from expectancy-value theory which assumes that behaviour reflects the pursuit of goals. The more important a given goal is to the person, the greater its value. Expectancy implies confidence that the goal can be attained. Carver et al. (2010) claim that people who are higher in optimism are confident that they will eventually reach their goal, and thus, persevere even in the face of great adversity. Optimism influences how people approach both stressors and opportunities; in times of adversity, optimism helps people cope, and in the absence of stress, it helps them build the resources that will be advantageous when dealing with stress. Optimism has been linked to many measures of wellbeing, and it is proposed that coping is the mechanism by which this relationship occurs (Carver et al., 2010).

Nes and Segerstrom (2006) conducted a meta-analysis of the relationship between optimism and coping. They found that optimism correlated with approach coping, or engaging coping strategies in which the goal is to reduce, eliminate, or manage the internal or external demands of a stressor. In contrast, optimism negatively correlated with avoidance coping which is characterized by ignoring, avoiding, or withdrawing from the stressor or its emotional consequences (Nes & Segerstrom, 2006). Coping strategies have also been categorized into problem-focused coping, seeking to change or eliminate the stressor itself, or emotion-focused coping, seeking to reduce or manage the emotional consequences of the stressor (Nes & Segerstrom, 2006). Nes and Stegerstrom (2006) found that optimism predicts different coping strategies in different situations. While optimism was always positively associated with approach coping, it was associated with problem-focused coping when the stressor was something that could be controlled, and with emotion-focused coping when the stressor was uncontrollable, resulting in better adjustment in both situations. For example, when coping with traumas, optimism was more highly correlated with emotion-focused coping, which was adaptive as it has been shown that problem-focused coping approaches to trauma may actually be harmful as the stressor is in the past and therefore cannot be changed or eliminated (Nes & Segerstrom, 2006). In other situations, such as when coping with academic stressors, optimism was more highly correlated with problem-focused coping; in these situations, the stressor can be changed and thus, problem-focused coping is most useful.

Successful coping strategies may be the mechanism by which optimism leads to better wellbeing in times of adversity. In a study on coronary artery bypass surgery, optimists more than pessimists reported making plans for their future and setting goals for their recovery. They also focused less on the negative aspects of the experience such as distress and symptoms

(Scheier et al., 1989). After surgery, they were more likely to seek out information from their physician. In a study of cancer patients, optimism was related to accepting the situation and even trying to see it in as positive a light as possible. These coping methods mediated the relationship between optimism and decreased distress (Carver et al., 1993). In a recent paediatric health study, Cousins et al. (2014) applied a risk-resilience model to youth with chronic pain and found that optimism acted as a resilience factor whereby it positively correlated with quality of life by way of decreasing pain-related fear and catastrophizing. These coping mechanisms may explain the common finding in health studies that optimism correlates with higher quality of life before and after treatment and predicts better mood regardless of the outcome of the surgery (Carver et al., 2010). It may also explain why illness burden promotes greater anxiety among people low in optimism (Carver et al., 2014).

Another way in which optimism may lead to increased resilience in times of adversity is through increasing social resources. A study of individuals starting their first semester of college found that optimists experienced greater increases in their social networks (Brissette et al., 2002). Women with breast cancer who are optimistic are less likely to withdraw from social activities (Carver et al., 2003). Furthermore, optimists had higher relationship satisfaction and perceived more support from their relationships (Srivastava et al., 2006). Social networks and optimism may have mutually reinforcing effects as Segerstrom (2007) found that developing larger social networks over a 10-year period was related to increases in optimism. Social resources are another mechanism by which optimism leads to greater wellbeing in times of adversity. Duffy et al. (2013) found that in times of extended unemployment, optimists maintained higher life satisfaction, partially mediated by perceptions of family support.

A proposed pathway from hope to resilience and wellbeing is attention. Building on Snyder's theory of hope and the literature on PTSD and attention control, Munoz et al. (2018) propose that more hopeful individuals can regularly focus their attention on their goals and the pathways to those goals. They use Snyder's (1994) idea of "attention robbers," defined as things which distract the individual and cause them to spend less time contemplating future goal attainment, and which can refer to everyday distractions or the traumatic, intrusive memories associated with PTSD that detract from an individual's hope and wellbeing. Munoz et al. (2018) describe the hopeful people as being, "not easily distracted by attention robbers, and instead focuses greater attention on task completion" and "effective at distancing themselves from past negative outcomes by limiting the degree of attention paid to the memories of negative experiences" (p. 211). Their study found that PTSD did predict greater anxiety and lower hope as traumatic memories were "attention robbers" that took one's focus away from developing pathways towards future goals. For Munoz et al. (2018), hopeful thinking "involves centring attention on steps to achieve one's goals, which results in increased motivation and positive affect" (p. 211).

Hope uniquely predicted life satisfaction, over and above self-efficacy, in a group of women recovering from intimate partner violence (Munoz et al., 2017). The authors conclude

that hope is different than self-efficacy and contributes to overall wellbeing along unique pathways. While hope does contain an element of personal agency, similar to self-efficacy, it also involved perceptions of the presence of external agents capable of bringing about desired goals. That is, in situations where the desired outcome is largely not under an individual's control and where an overreliance on personal agency can increase anxiety and depression, hope or optimism can be protective by encouraging individuals to turn to family, friends, or beliefs in God or other metaphysical beings (Munoz et al., 2017).

## Interventions

### The Best Possible Self (BPS) Intervention

King (2001) first studied the Best Possible Self (BPS) intervention in a sample of 81 psychology undergraduate students, aged 18 to 42 ( $M = 21.04$ ,  $SD = 3.15$ ; 69 women, 14 men, 2 not reporting) from a Southern Methodists University. Participants were largely European American (87%; 7% were Hispanic, 3% were African American and 3% were Asian. The Best Possible Self (BPS) condition was given the following instructions: "Think about your life in the future. Imagine that everything has gone as well as it possibly could. You have worked hard and succeeded at accomplishing all of your life goals. Think of this as the realization of all of your life dreams. Now, write about what you imagined" (p. 801). They wrote for 20 minutes each day for 4 consecutive days. King (2001) used the Satisfaction with Life Scale (SWLS) and Life Orientation Test (LOT) to measure wellbeing and reported that the BPS group were higher in wellbeing at the end of the intervention than other groups; however, she does not report the specific effect on optimism or their LOT scores. Those in the BPS condition judged the task as difficult, emotional, and important. King (2001) suggests that for the intervention to be effective, the task must be perceived as meaningful and engaging. King (2001) notes a limitation of her study is that it was conducted with university students – this is a limitation throughout the literature – thus, it is difficult to say whether the intervention would benefit youth or older adults.

Lybomirsky et al. (2011) conducted the BPS intervention with a sample of 355 undergraduate students (aged 18-46 (mean = 19.66,  $SD = 2.91$ ), 248 women and 107 men; 40% were of Asian descent, 20% Hispanic, 17% Caucasian, 5% African American, 5% Hawaiian/Pacific Islander, 6% indicated more than one ethnicity, and 7% reported as 'other'). For the intervention, participants were instructed to spend 15 minutes a week writing about an imagined future self. "The instructions for the first week of the intervention prompted participants to "think about [their] romantic life in the future (say in 10 years)," to "imagine that everything has gone as well as it possibly could," and then to "write about what [they] imagined." In addition to writing about their best possible future romantic life, students were prompted during weeks 2 through 8, respectively, to write about their best possible future educational attainment, hobbies or personal interests, family life, career situation, social life, community involvement, and physical/mental health" (p. 395). Participants who self-selected

themselves into what they believed was a “happiness” intervention showed improved optimism, but those who did not self-select into the happiness intervention but completed the same BPS intervention, did not show an improvement.

Meevissen et al. (2011) investigated the BPS intervention in a sample of 54 native Dutch-speaking participants (aged 18-43,  $M = 23.5$ ,  $SD = 6.39$ ), there were 50 women and 4 men, the majority were university students. They note a limitation in the generalizability of the study and that participants were predominantly well educated, and thus may perceive more opportunities in life. Meevissen et al. (2011) conducted a blind study where participants were told it was a study to measure the “power of visualization,” thus there was no self-selection (cf. Lybomirsky et al., 2011). All participants received an instruction manual and instructions on their respective conditions. Participants in the experimental conditions were told to think of and write down all aspects that their future best possible self (BPS) should encompass. Three broad domains were provided: person, relational, and professional. Participants were instructed to formulate their BPS by starting each sentence with “in the future I will ...” In the control condition, participants were asked to think of and write down all the activities that had taken place during the last 24 hours and to reflect on their thoughts and mood during those activities. Both conditions then wrote a personal story in which they put their earlier statements in a detailed and coherent story; then they performed a 5 minutes imagery exercise in which they imagined their previously written story. Participants were instructed to repeat this 5-minute exercise daily over the next two weeks. The BPS intervention increased optimism, independent of changes in positive affect. As well, people who were already high in optimism profited from the intervention to the same extent as participants low in optimism.

Peters et al., 2010 looked at the BPS intervention in a sample of 82 students from a Swedish university (79 were Swedish nationals, 51 women and 31 men, aged 21-50,  $M = 29.6$ ). The intervention was performed in the classroom (9-19 students per class, first- and fourth-year university). The instructions for the intervention were: “The exercise you will do is to think about your best possible self for one minute and then write down your thoughts. ‘Think about your best possible self’ means that you imagine yourself in the future, after everything has gone as well as it possibly could. You have worked hard and succeeded at accomplishing all the goals of your life. Think of this as the realization of your dreams, and that you have reached your full potential. Thus, you identify the best possible way that things might turn out in your life. Please, start thinking of your best possible self. I will tell you when it is time to start writing down your thoughts. After a silence period of 1 min, the instructions continued: Now, I will ask you to write about your best possible self/a typical day in your life for 15 minutes. The only rule we have about writing is that you write continuously for the entire time. If you run out of things to say, just repeat what you have already written. Don’t worry about grammar, spelling or sentence structure. Don’t worry about erasing or crossing things out. Just write. The things you

write are only for yourself and do not have to be handed in afterwards. If you need to repeat the instructions for the exercise, you can read them at the top of the paper in front of you. I will tell you when it is time to stop writing. Please start writing. Finally, after 15 min of writing, the instructions for the imagery part were given: Please, finish your sentences. The time for writing is over. Now, I want you to imagine as vividly as possible the things you have been writing about. Think about your best possible self/a typical day in your life for 5 minutes. Imagine your ideal future life/your typical day with as much detail as you can. I will tell you when it is time to stop. Please, start thinking” (pp. 205-206). The BPS intervention influenced mood and increased optimism. As in Meevissen et al.’s (2011) study, the effects of the intervention on optimism were independent of its effect on positive mood. However, the decrease in expectation of negative outcomes did depend on the increase in positive mood. The intervention was equally effective for participants scoring high or low on dispositional optimism and extraversion; however, high neurotic participants seemed to have benefited more from the reduction in negative future thinking.

### Cognitive-behavioural Therapy: Positive Imagery Training

Cognitive-behavioural therapies have also been proposed as a way of changing cognitions and future expectancies; however, the current course of CBT is aimed at reducing negative thoughts and not at enhancing positive thoughts. This would work with a bipolar dimensional conception of optimism, where less pessimism becomes more optimism, however, there is no evidence supporting this conception. Thus, while the cognitive-changing focus of CBT may be useful, the intervention as used in clinical settings has not yet been shown to be effective at increasing optimism.

One intervention that uses elements of CTB is positive imagery training, as it also attempts to target participant’s cognitions, but by way of positive imagery. Murphy et al. (2015) evaluated the intervention in a sample of 81 healthy older adults, aged 60-80, from the U.K. The intervention consisted of positive imagery training for 12 session over 4-weeks. Six sessions were auditory, where participants listened to short descriptions of everyday scenarios and participants were instructed to imagine themselves in the scenario; the outcome of each scenario was initially ambiguous but later resolved positively. The other 6 sessions were in a picture-word format, where participants were shown ambiguous photos of everyday scenes paired with a few words that resolved the scene in a positive way; participants were asked to generate a mental image incorporating the picture and the words. In both sessions, participants were asked to rate ‘how vividly could you imagine the described scenario?’ from 1 (not at all vivid) to 5 (extremely vivid). Each session consisted of 8 blocks of 8 trials with self-paced breaks in between, stimuli were not repeated. Compliance was high at 96%. Mood improved over time, with both groups reporting a decrease in negative affect and trait anxiety, as well as an increase in optimism. The treatment group did experience an increase in vividness of prospective positive imagery, which has been associated with mood and optimism, and a

predictor of future behaviour. However, the intervention group did not show significantly greater mood or optimism improvement than the control group.

## Assessment

### **The Life Orientation Test (LOT; Scheier & Carver, 1985; Appendix A)**

- 12-item measure (4 are filler questions)
- Originally piloted with 69 undergraduate women at an American university.
- Cronbach's alpha = 0.76
- Has a two-factor structure, composed of the positively worded items (optimism) and the negatively worded items (pessimism)

### **The Life Orientation Test – Revised (LOT-R; Scheier et al., 1994; Appendix B)**

- Re-examined the LOT and removed two items which seemed to measure positive coping approaches more so than optimism as expectancies of good versus bad outcomes.
- Validated with a sample of 2,055 undergraduates (622 women, 1394 men, and 39 who did not indicate gender) from an American university.
- 10-item measure (4 are filler questions)
- Cronbach's alpha = 0.78; test-retest reliability at 28 months = 0.79
- Has a one-factor structure (but can also be analyzed as a two-factor structure)
- Most used measure in the literature

### **The Subjective Probability Task (SPT; MacLeod, 1996)**

- First validated with a sample of 251 students at the Royal Holloway University of London (156 female, 87 male, 8 not reported), aged 17 to 50 (M = 21)
- 30-item measure composed of 20 negative items and 10 positive items (Appendix C; this seems to be the version used in the literature)
  - Used in Meevissen et al.'s (2011) study and Peters et al.'s (2010) study.
- Cronbach's alpha for the negative items was 0.90 and for the positive items, 0.86
- The measure was validated again with 166 female and 71 male students, aged 17 to 28 (M = 19), from the same university
- Negative items reduced to 16 and positive items increased to 14
- Cronbach's alpha: 0.86 for positive items, 0.90 for negative

### **The Youth Life Orientation Test (YLOT; Ey et al., 2005; Appendix D)**

- 12-item measure based on the LOT-R
- Piloted at the start of the school year and 7 months later with a sample of 3<sup>rd</sup>-6<sup>th</sup> grade students in a public elementary school (n = 204, 95 boys and 109 girls, 50% were Caucasian and 50% were African American).

- Validated 3 years later in the same school, with 3<sup>rd</sup>-6<sup>th</sup> graders (n = 156, 61 boys, 95 girls. 49% were Caucasian and 49% were African American).
- Designed to yield three scores: an optimism score, a pessimism score, and a total optimism score. Cronbach's alpha: optimism = 0.79; pessimism = 0.78; total optimism = 0.83
- Used in Cousin's et al. (2014) study of youth aged 8-17 with chronic pain.

### **The Adult Hope Scale (AHS; Snyder et al., 1991; Appendix E)**

- A 12-item scale consisting of 4 items measuring hope agency, 4 measuring hope pathways, and 4 acting as filler.
- Total scores range from 8 to 32, with higher scores indicating greater hope
- Used in:
  - Munoz et al.'s (2017) study of women recovering from intimate partner violence in an emergency shelter. They found a reliability coefficient of .891
  - Munoz et al.'s (2018) study of homeless individuals with adverse childhood experiences and posttraumatic stress. They found a Cronbach's alpha of .86

## Other Notes

Lyubomirsky et al. (2011) studied how self-selection (motivation) and continued effortful practice affected an optimism intervention of imaging one's best possible self (BPS) that was web-delivered. The sample was 355 undergraduate students, aged 18 to 46. They found that individuals who selected themselves into the happiness intervention reported the greatest improvement in wellbeing. The amount of effort put into the activities was directly related to improvements in wellbeing. However, the treatment condition overall (including both those who self-selected and those who did not) did not report reliable increases in wellbeing relative to the control group. Thus, self-selection and effort played a necessary role in improving optimism.

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## Appendix A: The Life Orientation Test

Scheier & Carver (1985)

Respondents are asked to indicate the extent to which they agree with each of the items, using the following response format:

4 = strongly agree    3 = agree    2 = neutral    1 = disagree    0 = strongly disagree

1. In uncertain times, I usually expect the best
2. It is easy for me to relax (Filler item)
3. If something can go wrong for me, it will\*
4. I always look on the bright side of things
5. I'm always optimistic about my future
6. I enjoy my friends a lot (Filler)
7. It's important to me to keep busy (Filler)
8. I hardly every expect things to go may way\*
9. Things never work out the way I want them to\*
10. I don't get upset too easily (Filler)
11. I'm a believer in the idea that "every clod has a silver lining"
12. I rarely count on good things happening to me\*

\*These items are reverse scored

## Appendix B: The Life Orientation Test – Revised

Scheier et al. (1994)

Instruction: Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

1 = I agree a lot

2 = I agree a little

3 = I neither agree nor disagree

4 = I disagree a little

5 = I disagree a lot

1. In uncertain times, I usually expect the best.
2. It's easy for me to relax. (Filler item)
3. If something can go wrong for me, it will.
4. I'm always optimistic about my future.
5. I enjoy my friends a lot. (Filler)
6. It's important for me to keep busy. (Filler)
7. I hardly ever expect things to go my way.\*
8. I don't get upset too easily. (Filler)
9. I rarely count on good things happening to me.\*
10. Overall, I expect more good things to happen to me than bad.

\*Reverse scored items

## Appendix C: The Subjective Probability Task

MacLeod (1996)

Instruction: Please estimate how likely you think each item is to happen to you in the future using a 7-point scale, where 1 = not at all likely to occur, to 7 = extremely likely to occur

1. You will have a serious disagreement with a good friend
2. People will admire you\*
3. You will have health problems
4. You will make a decision you regret
5. You will feel misunderstood
6. You will have lots of energy and enthusiasm\*
7. You will do well on your course\*
8. You will get the blame for things going wrong
9. You will achieve the things you set out to do\*
10. You will be a victim of crime
11. Someone close to you will reject you
12. Things won't work out as you had hoped
13. People will dislike you
14. You will be very fit and healthy\*
15. People will find you dull and boring
16. You will have lots of good times with friends\*
17. You will be able to cope easily with pressure\*
18. People will think you're a failure
19. Your mind will be very alert and "on the ball"\*
20. You will be excluded by friends
21. You will be involved in an accident
22. You will make a lot of mistakes
23. You will fall badly behind in your work
24. You will be unable to confide in anyone
25. You will become tired and lethargic
26. You will make good and lasting friendships\*
27. People will make fun of you
28. You will let someone close to you down
29. People you meet will like you\*
30. You will be unable to cope with your responsibilities

\*Positive items

## Appendix D: The Youth Life Orientation Test

Ey et al. (2005)

0 = not true for me

1 = sort of not true for me

2 = sort of true for me

3 = true for me

1. It's easy for me to have fun (Filler item)
2. I like to be active (Filler)
3. Things usually go wrong for me\*
4. When I am not sure what will happen next, I usually expect it to be something good
5. Usually, I don't expect good things to happen to me\*
6. I am a lucky person
7. If something nice happens, chances are it won't be to me\*
8. Each day I look forward to having a lot of fun
9. When things are good, I expect something to go wrong\*
10. I usually expect to have a good day
11. No matter what I try, I do not believe anything is going to work\*
12. Overall, I expect more good things to happen to me than bad things
13. Each day I expect bad things to happen\*
14. When things are bad, I expect them to get better

\*Reverse scored items

## Appendix E: The Adult Hope Scale

Snyder et al. (1991)

Directions: Read each item carefully. Using the scale shown below, please select the number that best describes YOU and put that number in the blank provided.

1 = Definitely False

2 = Mostly False

3 = Mostly True

4 = Definitely True

1. I can think of many ways to get out of a jam. (Pathways)
2. I energetically pursue my goals. (Agency)
3. I feel tired most of the time. (Filler)
4. There are lots of ways around any problem. (Pathways)
5. I am easily downed in an argument. (Filler)
6. I can think of many ways to get the things in life that are most important to me. (Pathways)
7. I worry about my health. (Filler)
8. Even when others get discouraged, I know I can find a way to solve the problem. (Pathways)
9. My past experiences have prepared me well for my future. (Agency)
10. I've been pretty successful in life. (Agency)
11. I usually find myself worrying about something. (Filler)
12. I meet the goals that I set for myself. (Agency)



For more information about R2 or to discover how you can bring the program to your organization, business or educational setting, please contact us.

**Paul McGuinness**

Operations Manager

✉ [rrc@dal.ca](mailto:rrc@dal.ca)

☎ (902) 494-8482

**Michael Ungar, PhD**

Director

✉ [michael.ungar@dal.ca](mailto:michael.ungar@dal.ca)

☎ (902) 229-0434



RRC - Evaluation  
and Training Institute