Award Number:  W81XWH-11-2-0120

TITLE:  Characterizing Resilience and Growth Among Soldiers:  
        A Trajectory Study

PRINCIPAL INVESTIGATOR:  Nansook Park

CONTRACTING ORGANIZATION:  University of Michigan, Ann Arbor, MI 48109

REPORT DATE:  October 2013

TYPE OF REPORT: Annual

PREPARED FOR:  U.S. Army Medical Research and Materiel Command  
                Fort Detrick, Maryland  21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;  
                        Distribution Unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.
Characterizing Resilience and Growth Among Soldiers: A Trajectory Study

Resilience, growth, Soldiers, well-being, longitudinal, Psychological and Social Assets
Table of Contents

Introduction.................................................................................................................. 4

Body.............................................................................................................................. 4

Key Research Accomplishments.................................................................................. 5

Reportable Outcomes................................................................................................... 5

Conclusion.................................................................................................................... 6

Appendices.................................................................................................................. 8
Introduction

Soldiers face ever-growing challenges due to repeated deployments to combat. While deployment-related stress may lead to problems, many Soldiers maintain relatively healthy functioning. It is critical to understand the factors related to healthy and unhealthy functioning.

This study is a continuation of an on-going longitudinal investigation of US Soldiers. More than 550 Soldiers in the 4th Infantry Division of the US Army completed surveys about psychosocial well-being before (Time 1: February, 2008), during (Time 2: July, 2008), and immediately after (Time 3: May, 2009) deployment to Iraq. Current grant funding supports for the fourth wave of data collection and data analyses of entire waves. It involves multiple waves of data collection and an assessment of both positive and negative functioning in various life domains using survey and interview methods.

The specific purpose of the study is to measure resilience and growth in terms of actual trajectories of psychological functioning over time and then to investigate the psychological, social, and organizational protective factors and assets that predict resilience (relatively rapid return to healthy functioning following adversity) as well as the factors that predict growth (improved psychological functioning following adversity). Resulting from this effort, which relies on quantitative and qualitative data, will be a comprehensive characterization of resilient Soldiers, as well as those who may grow following adversity. The important benefit of the characterizations that emerge will be the identification of specific intervention targets for resilience and growth training programs in the military that are conceptually-grounded and empirically-informed.

Body

On the second year of our project, our main tasks was the completion of follow-up data collections as it is described in our statement of work (SOW). However, there have been unexpected major challenges that have delayed the progress of the proposed project. As a result, we were only able to accomplish some of the tasks outlined in our proposed SOW.

The co-PI on this project, Dr. Chris Peterson, died suddenly from a heart failure on October 9th, 2012. Unfortunately, he did not have a will so all of his belongings both at home and in his office were locked down without any notification as a part of the legal procedure. It has been a lengthy legal process that involved probate court and the process is still on-going. So, for several months, we did not have any access to important information and this significantly interfered with the progress of the project. It was very challenging because it was hard to locate certain documents, relevant files and materials. But most of all, the sudden death of a key person in our project was an extremely traumatic event for all members of our research team. Some members of our team could not continue with the project due to a profound grief. Therefore, we needed to hire and train new team members. Although we were committed to completing this project as best as we could, the given conditions delayed the progress of our proposed project.

Furthermore, follow up data collection is extremely challenging. A large number of participants have left the military, been redeployed, or relocated and reassigned to different positions; much of our contact information was outdated. We have faced challenges tracking down each of our
potential participants and encouraging them to participate. We are currently calling Soldiers one by one to increase participation, which is extremely time consuming. Data collection is slow, but we are getting more participation, which is encouraging. At the end of 2nd year, we secured 65% (130) of our minimum target enrollments (200) for follow-up data collection. Due to these unforeseen circumstances, we will need to revise the overall project timeline, budget and statement of work. We plan to request an extension of the project ending date.

Details of the research accomplishments during the second year of the funding period are as follows: 1) secured IRB annual review approval from University of Michigan and HRPO (see Appendix), 2) secured follow-up survey data collection from 65% (130) of minimum target enrollments (200), 3) Re-organized and re-structured the study plan from a two PI system to one PI system due to the sudden death of Co-PI (Dr. Peterson), 4) Recruited and hired new research assistants and trained them, 5) upgraded database for contact information for participant follow-up data collection, 6) updated the online survey site using Qualtrics, 7) disseminated preliminary research findings from the first three waves at the various conferences and workshops.

We expect continuing challenges in further follow-up survey data collection and interviews due to outdated contact information and a major loss of one of our team members. We have faced challenges tracking down each of our potential participants and encouraging them to participate.

**Key Research Accomplishments**

Achievements during the second year of the project include:

- Securing IRB annual review approval
- Updating the online survey site
- Securing follow-up survey data collection from 65% (130) of minimum target enrollments (200)
- Upgrading database for contact information for participant follow-up data collection
- Re-organized our research team. Re-organized and re-structured the study plan from a two PI system to one PI system due to the sudden death of Dr. Peterson, a co-PI.
- Recruited and hired new research assistants
- Presented preliminary findings from the first three waves of data at 9 professional conferences and in two publications.

**Reportable Outcomes**

**Publications**


Presentations


Honors

- Nansook Park (PI) was promoted to the rank of Full Professor of Psychology at the University of Michigan (2012).
- Chris Peterson (Co-PI) received the Lifetime Achievement Award from the International Network on Personal Meaning, and the Toy Cladwell-Cobert Award for Distinguished Educator in Clinical Psychology from the American Psychological Association Division 12 (2012).

Conclusions

During the second year, our project faced some unexpected major challenges. The co-PI on this project, Dr. Chris Peterson, died suddenly from a heart failure on October 9th, 2012. We lost not only a key contributor to our project, but a close colleague and a friend. It was an extremely traumatic event for all members of our research team. Although we were committed to completing this project as best as we could under the given conditions, our profound grief and the loss of an important contributor to our research delayed the progress of our proposed project. Now, we re-structured and re-organized the research team with new members. Due to these unforeseen circumstances, we will need to revise the overall project timeline, budget and statement of work. We plan to request a project extension to accommodate this situation.
The important benefit of the characterizations of Soldier resilience and growth that emerge from this project will be to provide specific intervention targets for resilience and growth training and educational programs in the military that are conceptually-grounded and empirically-informed. The current study will further contribute to the research field by providing empirical evidence of natural processes of resilience and growth following adversity and how and why such individual differences occur.
Appendices

1. IRB continuing review approval

2. A copy of Presentation:

3. Publications:
To: Nansook Park

From: Richard Redman

Cc: Jennifer Sun, Nansook Park, Christopher Peterson

Subject: Scheduled Continuing Review [CR00031408] Approved for [HUM00052542]

SUBMISSION INFORMATION:
Study Title: Resilience Among Soldiers - Followup
Full Study Title (if applicable): Characterizing Resilience and Growth Among Soldiers: A Trajectory Study - Followup
Study eResearch ID: HUM00052542
SCR eResearch ID: CR00031408
SCR Title: HUM00052542_Continuing Review - Tue Dec 4 09:55:18 EST 2012
Date of this Notification from IRB: 12/20/2012
Date Approval for this SCR: 12/20/2012
Current IRB Approval Period: 12/20/2012 - 12/19/2013
Expiration Date: Approval for this expires at 11:59 p.m. on 12/19/2013
UM Federalwide Assurance: FWA00004969 expiring on 6/13/2014
OHRP IRB Registration Number(s): IRB00000245

Approved Risk Level(s) as of this Continuing Report:

<table>
<thead>
<tr>
<th>Name</th>
<th>Risk Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM00052542</td>
<td>No more than minimal risk</td>
</tr>
</tbody>
</table>

NOTICE OF IRB APPROVAL AND CONDITIONS:
The IRB HSBS has reviewed and approved the scheduled continuing review (SCR) submitted for the study referenced above. The IRB determined that the proposed research continues to conform with applicable guidelines, State and federal regulations, and the University of Michigan's Federalwide Assurance (FWA) with the Department of Health and Human Services (HHS). You must conduct this study in accordance with the description and information provided in the approved application and associated documents.

APPROVAL PERIOD AND EXPIRATION DATE:
The updated approval period for this study is listed above. Please note the expiration date. If the approval lapses, you may not conduct work on this study until appropriate approval has been re-established, except as necessary to eliminate apparent immediate hazards to research subjects or others. Should the latter occur, you must notify the IRB Office as soon as possible.

IMPORTANT REMINDERS AND ADDITIONAL INFORMATION FOR INVESTIGATORS

APPROVED STUDY DOCUMENTS:
You must use any date-stamped versions of recruitment materials and informed consent documents available in the eResearch workspace (referenced above). Date-stamped materials are available in the “Currently Approved Documents” section on the “Documents” tab.

In accordance with 45 CFR 46.111 and IRB practice, consent document(s) and process are considered as part of Continuing Review to ensure accuracy and completeness. The dates on the consent documents, if applicable, have been updated to reflect the date of Continuing Review approval.

RENEWAL/TERMINATION:
At least two months prior to the expiration date, you should submit a continuing review application either to renew or terminate the study. Failure to allow sufficient time for IRB review may result in a lapse of approval that may also affect any funding associated with the study.

AMENDMENTS:
All proposed changes to the study (e.g., personnel, procedures, or documents), must be approved in advance by the IRB through the amendment process, except as necessary to eliminate apparent immediate hazards to research subjects or others. Should the latter occur, you must notify the IRB Office as soon as possible.

AEs/ORIOs:
You must continue to inform the IRB of all unanticipated events, adverse events (AEs), and other reportable information and occurrences (ORIOs). These include but are not limited to events and/or information that may have physical, psychological, social, legal, or economic impact on the research subjects or others.

Investigators and research staff are responsible for reporting information concerning the approved research to the IRB in a timely fashion, understanding and adhering to the reporting guidance (http://www.med.umich.edu/irbmed/ae_orio/index.htm), and not implementing any changes to the research without IRB approval of the change via an amendment submission. When changes are necessary to eliminate apparent immediate hazards to the subject, implement the change and report via an ORIO and/or amendment submission within 7 days after the action is taken. This includes all information with the potential to impact the risk or benefit assessments of the research.
SUBMITTING VIA eRESEARCH:
You can access the online forms for continuing review, amendments, and AE/ORIO reporting in the eResearch workspace for this approved study, referenced above.

MORE INFORMATION:
You can find additional information about UM’s Human Research Protection Program (HRPP) in the Operations Manual and other documents available at: www.research.umich.edu/hrpp.

Richard Redman
Chair, IRB HSBS
Characterizing Resilience and Growth among Soldiers: A Trajectory Study

PI: Nansook Park, Ph.D.
University of Michigan

Award Number: 10257006
Award Dates: 3/15/2011 – 10/14/2013
Award Amount: $544,784 (DC)
Contract Officer Representative: Tom White
Project Officer: Kathryn Dewitt
Co-PI and Acknowledgments

- Co-PI: Christopher Peterson
- Acknowledgments:
  - Patrick Sweeney, COL (Georgia Gwinnett College)
  - Michael Matthews (United States Military Academy)
  - Sean Hannah, COL (Wake Forest University)
  - Jennifer Sun (University of Michigan)
Study Background/Rationale

- Having our Soldiers be at their very best is essential for successful completion of the various Army missions and for successful lives of Soldiers when they leave the service.
- Today’s Soldiers face ever-growing challenges due to repeated deployments to combat. While deployment-related stress may lead to problems, many Soldiers show relatively healthy functioning.
- Only a few studies have examined resilience and potential growth experiences among Soldiers. We know little about the phenomena of resilience and growth among Soldiers.
- If our ultimate goal is to build and sustain healthy and productive Soldiers beyond simply reducing or preventing problems, it is critical to understand the factors related to healthy as well as unhealthy functioning in the aftermath of adversity and how and why such individual differences occur.
- The specific purpose of the study is to measure resilience (relatively rapid return to healthy functioning following adversity) and growth (improved psychological functioning) in terms of actual trajectories of psychological functioning over time and then to investigate the psychological, social, and organizational protective factors and assets that predict how Soldiers fare following adversity.
- Results from this effort will contribute to the United States Army as it develops resilience and growth training programs that are conceptually-grounded and empirically-informed.
Research Questions

- **Objective 1:** To identify different developmental trajectories of psychological functioning among Soldiers after adversity
  - Q1: What are the actual trajectories—e.g., resilience, recovery, growth, disorder—that emerge?
  - Q2: What are the relative frequencies of different trajectories?
  - Q3: Do different trajectories occur at different rates?

- **Objective 2:** To determine psychological and social factors of Soldiers that predict resilient and growth trajectories
  - Q4: What are psychosocial predictors of a resilient trajectory?
  - Q5: Similarly, what are psychosocial predictors of a growth trajectory?
Trajectories Following Adversity
Design and Method

- Long-term followup data collection for an in-progress prospective longitudinal investigation of 550+ Soldiers from 4th ID before, during, and after deployment to Iraq using quantitative (survey) and qualitative (interview) methods.
- Waves One (February, 2008), Two (July, 2008), and Three (May, 2009) completed.
- Followup data collection in progress.
**Methods:** Surveys (online and mail-in survey methods) and following in-depth interviews of selected individuals from resilience and growth groups.

**Sample:** Soldiers and veterans who have participated in previous waves of data collection and have given permission to be contacted.

**Data collection procedure:**
- Individual Soldiers will be contacted to ask participation by e-mail first, followed by letter if e-mail contacts do not work.
- Interested individuals will be referred to a password-protected Qualtrics website hosted at the University of Michigan to complete a 30-minute survey, or a survey package will be mailed to participants’ preferred address with a prepaid stamped return envelope addressed to the researchers.
- Follow-up interview is planned with 40 selected individuals, who show patterns of resilience or growth based on their survey responses to psychological well-being for a one hour in-depth interview. The purpose of the interview is to better understand challenges and strengths and the roles they play in resilience and growth after adversity. The resilience group will be determined based on a relatively rapid return to healthy psychological functioning following adversity, and the growth group will be determined by improved psychological functioning following adversity trajectory. Psychological functioning composite scores are calculated by normalizing and then life satisfaction, depression (reversed), and post-traumatic stress disorder (reversed) scores.
Measures

- **Demographics**
- **Lifetime combat exposure**
- **Psychological Measures**
  - Overall satisfaction with life, family, relationship
  - Satisfaction with Life Scale: SWLS
  - Positive Affect and Negative Affect Schedule (PANAS)
  - Post-Traumatic Stress Disorder: Mississippi Short Version
  - Depression: CES-D
  - Post-Traumatic Growth Inventory: PTGI
  - Family Satisfaction
  - Partner and Relationship Satisfaction
Measures (continued)

- **Attitudes, Behaviors, and Beliefs**
  - Mattering
  - Social support
  - Social connectedness
  - Optimism
  - Emotion regulation
  - Strategies for coping with stress
  - Flexibility
  - Spirituality
  - Orientation to Happiness
  - Life meaning and purpose
  - Meaning making
  - Generosity
  - Engagement at work
  - Interests and hobbies
  - Community involvement
Measures (continued)

- *Physical Health* (self-rated health, alcohol consumption, smoking)
- *Stressful Live Events* (event checklist, intrusive rumination, deliberate reflection)
- *Open-Ended Questions*
- *Interview*

**Data analyses:**
- Quantitative data: Group-based trajectory modeling, path analyses, multivariate analyses
- Qualitative data: Content analyses
Study Progress

- We accomplished all tasks outlined in our approved SOW.

**Key Achievements :**
- IRB approvals (UM and HRPO) were secured.
- Survey packages were developed.
- Password-protected Internet site for online survey administration created and pilot tested.
- Contact information database for participant follow-up data collection was created and upgraded.
- All quantitative and qualitative data collected so far has been entered and cleaned.
- Preliminary data analyses of existing three waves of data to inform follow-up data collection were completed.
- Data collection through online and mail-in survey methods started.
- Follow-up surveys from a total of 120 participants secured.
- Interview protocol for semi-structured follow up interviews are created.
- All participants in our original database has been contacted through regular mails, e-mails, and/or phone calls to encourage participation for followup survey.
Publications


Presentations


Next Steps/future directions

▪ Continuing survey data collection (target 200)

▪ Identify resilience and growth group and contact them for interview

▪ Interview data collection

▪ Data analyses and write up
Preliminary Findings (Waves 1-3)

- During deployment, Soldiers’ mental health was decreased on average.
- Evidence of resilience: immediately post-deployment, Soldiers on average had similar levels of psychological well-being as before deployment.
- The most important contributor for Soldier well-being, immediately after deployment was well-being before deployment.
- Factors predicting relative well-being immediately following deployment included:
  - *psychological fitness* (e.g., positive affect, optimism, flexibility)
  - *social fitness* (e.g., unit cohesion and trust, social support)
  - *family fitness* (e.g., family support)
  - *spiritual fitness* (e.g., orientation to meaning, meaning-making).
- These same factors also predicted reports of growth following deployment, although usually less robustly.
- Predicting reported growth following deployment was good leadership.
Current and Anticipated Challenges

- **Data collection challenges:**
  - A number of factors contribute to this challenge.
  - IRB approval at the University of Michigan and HRPO took significantly longer than originally expected. As a result, the start of data collection was delayed. The project ending date has not been changed. To accommodate these changes, we submitted a revised SOW, and it was approved by the Army Contracting Officer Representative. The resulting changes we have made in our revised SOW include the starting and finishing dates for data collections and other associated activities in each study period.
  - There has been a significant time lag since we collected the last wave of data in 2009, which left more than 2 years of lost contact with participants. Furthermore, there has been a substantial change in the status of participants in the study. Since the last data collection in 2009, a large number of participants have left the military, been redeployed, or relocated and reassigned to different positions. As a result, much of our contact information was outdated. We have faced challenges tracking down each of our potential participants and encouraging them to participate. We are utilizing all possible way of contact participants including e-mail, regular mail, and phone calls. To date, we have followup data from 120 participants, short of our target of 200.
  - We also expect challenges for recruiting participants for interviews.

Dissemination Plan

- Final reports to Army
- Scientific publications
- Conference presentations
- Website for veterans and military community
ADVERSITY, RESILIENCE, AND THRIVING: A POSITIVE PSYCHOLOGY PERSPECTIVE ON RESEARCH AND PRACTICES

Nansook Park

University of Michigan

The things that go right in our lives do predict future successes
and the things that go wrong do not damn us forever.

- J. Kirk Felsman and George E. Vaillant (1987)

Throughout life, bad things happen to people that range from minor hassles to catastrophic occurrences. Adversities can take a toll on the health and well-being of individuals and families (Van der Kolk, McFarlane, & Weisaeth, 1996). Even in the United States (US)—an affluent and relatively safe country—general population surveys estimate that as many as 40% of people (> 120 million individuals) experience during their lifetime one or more of the events that can lead to post-traumatic stress disorder (PTSD): loss, abuse, assault, rape, accident, natural disaster, combat, and so on (e.g., Breslau, Chilcoat, Kessler, & Davis, 1999; Peterson, Park, Pole, D’Andrea, & Seligman, 2008). The risk of adversity is even higher in some segments of the population, for instance, those in dangerous jobs which expose them to potential danger on an ongoing basis, such as military and law enforcement personnel, correctional officers, firefighters, and emergency responders.

The experience of adversity is virtually inevitable, but suffering in its wake need not be. Interventions to prevent and treat difficulties in the wake of adversity have proliferated (Foa, Keane, Friedman, & Cohen, 2009). These interventions are of course well-intended and in some cases successful in their aims. But, for the most part, they are incomplete because they do not grapple with an important fact: Most people exposed to adverse events do not develop chronic problems (Bonanno, 2004).

For example, even the most liberal estimates of the frequency of PTSD among today’s
US Soldiers rarely exceed 30% (Milliken, Auchterlonie, & Hoge, 2007; Seal, Bertenthal, Miner, Saunak, & Marmar, 2007). The same conclusion follows from studies of civilians experiencing adverse events (e.g., Bonanno, 2004; Masten, 2001). Following adversity, people of course are distressed, but most return to the state of relatively healthy functioning they showed before the adversity, and some even grow from it (Tedeschi & Calhoun, 1995). Said another way, although few people are invulnerable, most are resilient.

Despite this growing appreciation that resilience is the typical response to adversity, traditional approaches largely focus on identifying problems and reducing them. The ultimate goal for anyone, even someone who has been traumatized, is to live a happy and fulfilling life, which entails more than relief from suffering or the absence of symptoms. Such a life requires additional skills and conditions. What is needed is a new kind of science and practice that expands and complements existing problem-focused approaches.

Studying human resilience and conditions for thriving is important because doing so provides a better vantage on adversity and its aftermath. Rather than seeing interventions as attempts to rebuild broken individuals, we should see them as attempts to capitalize on people’s strengths and assets to speed their recovery and to build a thriving life. The new perspective of positive psychology makes exactly this argument and moreover provides an overall point of view about how people deal with adversity and how they can be helped after difficult life experiences.

The present chapter provides an overview of positive psychology, its background, main concepts, current research findings, and practical implications for working with people who have been exposed to adversities.

What is Positive Psychology?

*Positive psychology* is a newly christened approach within psychology that takes
seriously as a subject matter those things that make life most worth living. It is the study of what
goes right in life, from birth to death (Seligman & Csikszentmihalyi, 2000). It studies optimal
experience, people being and doing their best. It expands existing problem-focused approaches.
Research findings from positive psychology are intended to contribute to a more complete and
balanced scientific understanding of human experience and to teach valuable lessons about how
to build a fulfilling life.

Everyone’s life has peaks and valleys, and positive psychology does not deny the low
points. Its signature premise is more nuanced: What is good about life is as genuine as what is
bad and therefore deserves equal attention from psychologists (Peterson & Park, 2003). Positive
psychology assumes that life entails more than avoiding or undoing problems and that
explanations of the good life must do more than reverse accounts of problems.

Psychology since World War II had focused much of its efforts on human problems and
how to remedy them. While the yield of this focus on pathology has been considerable, there has
been a cost. Much of scientific psychology has neglected the study of what can go right with
people and often has little to say about the psychological good life. More subtly, the underlying
assumptions of psychology have shifted to embrace a disease model of human nature. People are
seen as flawed and fragile, casualties of cruel environments or bad genetics.

Positive psychology challenges the assumptions of the disease model. It calls for as much
focus on strength as on weakness, as much interest in building the best things in life as in
repairing the worst, and as much attention to fulfilling the lives of healthy people as to healing
the wounds of the distressed. Psychologists interested in promoting human potential need to start
with different assumptions and to pose different questions from their peers who assume only a
disease model (Park & Peterson, 2006). The most basic assumption that positive psychology
urges is that human goodness and excellence are as authentic as disease, disorder, and distress. Positive psychologists argue that these topics are not secondary, derivative, or otherwise suspect.

The framework of positive psychology provides a comprehensive scheme for describing and understanding the good life. The field can be divided into four related topics:

- positive subjective experiences (happiness, gratification, fulfillment, flow)
- positive individual traits (strengths of character, talents, interests, values)
- positive interpersonal relationships (friendship, marriage, colleagueship)
- positive institutions (families, schools, businesses, communities)

A theory is implied here: Positive institutions enable the development of positive relationships, which facilitate the display of positive traits, which in turn facilitate positive subjective experiences (Park & Peterson, 2003). The word “enable” avoids strict causal language. It is possible for people to be happy or content even in the absence of good character, and good character can operate against the interpersonal and institutional grain. But people are at their best when institutions, relationships, traits, and experiences are in alignment. Doing well in life represents a coming together of all four domains.

Positive psychology is criticized in some quarters for a relentless emphasis on being positive—happy and cheerful (Coyne & Tennen, 2009; Ehrenreich, 2009). This criticism of the field reflects a misunderstanding, because positive psychologists merely propose that what is positive about life is worth studying, in addition to what is negative. Happiness is but one of many topics of interest to positive psychology. Topics that are also studied include character strengths like gratitude and optimism, resilience, meaning and purpose, engagement, and good relationships.

Positive psychologists do not deny the problems that people experience. Positive
psychologists do not ignore the negative such as stresses and adversities in their attempts to understanding what it means to live well (Park & Peterson, 2009). Indeed, what is most challenging in life can set the stage for what is most fulfilling. Consider that complex emotional experiences often blend the positive and negative; that optimism is most apparent when people confront setbacks and failures; that crisis reveals strengths of character; that ongoing challenge is a prerequisite to experience flow in the moment and to achieve something important in a lifetime (Peterson, 2006). Along these lines, identifying and using what one does well can be an effective way to address and resolve psychological problems by leveraging one’s strengths and assets (cf. Saleebey, 1992).

In sum, positive psychology is not intended to replace business-as-usual psychology, but rather to complement it by expanding the topics of legitimate study to yield a full and balanced description of the human condition.

**Research Findings**

Positive psychology research is accumulating that illustrate the importance of explicit attention to the positive and good. Here are some research findings that provide some insight into ways to build a resilient and thriving life in the face of adversity.

**Positive Emotions and Life Satisfaction**

In contrast to the common notion that happiness is the result of good things in life, studies show that positive emotions such as happiness and general life satisfaction lead to better mental and physical health, well-being, and resilience (see Lyubomirsky, King, & Diener, 2005, for a review).

Evidence suggests that happiness is causal, not epiphenomenal. People who are healthy, successful, and have what they consider a good life are happy. But the less obvious finding from
experimental and longitudinal research is that happiness actually leads to better academic and vocational success, better marriages, good relationships, physical health, and longevity (Lyubomirsky, King, & Diener, 2005).

Positive emotions broaden and build people’s psychological, social and behavioral repertoires. Although both negative and positive emotions have important roles in our life, they have different functions. When one experiences a negative emotion (e.g., fear, anxiety, anger) that alerts people to danger, response options narrow, and the person acts with haste to avoid, escape, or undo whatever danger is signaled. In contrast, positive emotions signal safety, and the inherent response to them is not to narrow options but to broaden and build lasting resources (Fredrickson, 2001). It is advantageous to experience positive emotions because they lead people to build so-called psychological resources.

Positive emotions are related to the ability to bounce back from adversity. For example, people who experienced higher levels of positive emotions before the 9/11 attacks recovered faster from the traumatic effects of the events (Fredrickson, Tugade, Waugh, & Larkin, 2003). The habitual experience of positive emotions is not only largely independent of the habitual experience of negative emotions, but has its own consequences above-and-beyond effects of low negative emotions (Fredrickson, 2001). While negative emotions contribute to our survival and safety, positive emotions contribute to resilience and thriving. We need to take happiness and life satisfaction seriously if our goal is to build and sustain a resilient and thriving life.

There have been on-going studies to understand factors that contribute to happiness. Findings today suggest that frequent experiences of happiness matter more than intensity (Diener, Sandvik & Pavot, 1991). Having good relationships with others, being engaged in what one does, having meaning and purpose, feeling competent by using skills and talents, being able
to find humor in everyday life, savoring good things, letting go of grudges, feeling grateful, and expressing gratitude build happiness (Peterson, 2006). Indeed, it is not the acquisition and possession of material things that make us happy, but rather engagement in activities and relationships that matter. Although people who are so poor that they cannot meet their basic needs are unhappy, above the poverty line, increased income makes an ever-diminishing contribution to happiness (Diener, 2008).

Optimism and Positive Thinking

Optimism is the global expectation that more good things will happen than bad events. In everyday language, optimism means positive thinking. Positive thinking has connotations of wishfulness and naiveté, but research shows numerous benefits of positive thinking. Optimism has been studied extensively by psychologists, under several different rubrics: dispositional optimism by Carver and Scheier (1981), hope by Snyder (2000), and explanatory style by Peterson and Seligman (1984). In all of these research traditions, it is found that optimism-positive thinking- is associated with better mood; higher life satisfaction; success in school, work, and athletics; good health; and longer life (Peterson, 2000). Those who think positively are also less likely to experience traumatic “accidents” (Peterson et al., 2001).

Studies show that optimism buffers against the debilitating effects of negative events (see Peterson, 2000, for a review). Optimism is beneficial in large part because it is associated with active problem-solving. The success of cognitive therapy for depression depends on the ability of treatment to change a patient’s thinking from negative to positive (Seligman et al., 1988). Prevention programs that encourage more optimistic thinking by cognitive-behavioral strategies make subsequent depression less likely (Gillham, Reivich, Jaycox, & Seligman, 1995).

A positive view of matters is associated with physical, psychological, and social well-
being (Peterson, 2000). Data showing that positive illusions are beneficial stand in sharp contrast to theoretical arguments mounted by business-as-usual clinical psychologists that realism and accuracy are the hallmarks of health (Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000).

The effects that each event have on us are not simply due to the event itself but to how we perceive and interpret it. Positive thinking involves positive reframing. Positive attitudes may motivate us to engage in constructive action. When people think that good things will happen to them, they are more likely to try harder because they feel that what they do will make a difference in bringing about a good outcome.

Positive expectations drive analgesic placebo effects through physiological pathways. Specifically, dopamine—implicated in the experience of positive emotions—triggers the release of endorphins (Scott et al., 2007). Optimism and hope are not just in one’s head but also in one’s nervous system.

**Positive Traits**

Positive psychology has focused the attention of researchers and practitioners on strengths of character, such as hope, wisdom, kindness, and teamwork (Peterson & Seligman, 2004). Much of my own work over the past decade has involved identifying, defining, and measuring positive traits and investigating their correlates and consequences (Park, 2004b; Park & Peterson, 2006a, 2006b, 2006c, 2008, 2010; Park, Peterson, & Seligman, 2006; Peterson & Park, 2009a). Our project focuses on what is right about people and more specifically about the strengths of character that contribute to optimal development across the lifespan. We approach character strengths as a multidimensional construct, a family of positive dispositions. We identified 24 widely-valued character strengths organized under 6 virtues and developed ways to measure them.
Virtue may be its own reward, but it also has demonstrable benefits in many domains of life. Although all strengths of character contribute to fulfillment—happiness, broadly construed—certain positive traits are more robustly associated with fulfillment than others (Park, Peterson, & Seligman, 2004). These strengths of character are gratitude, hope, zest, curiosity, and perhaps most importantly, love, defined as the ability to sustain reciprocated close relationships with other people. We have discovered that these five traits are robustly associated with well-being among youth as well as adults. Even among children as young as three years of age, those described as zestful, hopeful, and loving were also described by their parents as happy (Park & Peterson, 2006a). Thus, for a good life, individuals need to cultivate in particular these five strengths.

Work satisfaction is strongly associated with the character strength of zest (Peterson, Park, Hall, & Seligman, 2009). School success is predicted by perseverance—which is not surprising—but also by such socially-oriented strengths as gratitude and love (Park & Peterson, 2006b).

Less is known about the origins of character strengths than their consequences, but there are some interesting results suggesting that experience with difficult events may actually increase people’s positive traits. For example, Peterson and Seligman (2003) studied the character strengths of US adults before and after the September 11 attacks. Elevations in the so-called theological virtues—faith (religiousness), hope, and love—were evident after the September 11 attacks. Along these lines, Peterson, Park, and Seligman (2006) found that experience with physical illness was linked with elevated levels of appreciation of beauty, bravery, curiosity, fairness, forgiveness, gratitude, humor, kindness, love of learning, and religiousness, if recovery had occurred. Finally, Peterson, Park, Pole, D’Andrea, and Seligman (2008) studied character
strengths as a function of trauma history—life-threatening accidents, assaults, illnesses, and natural disasters—and found elevations in such strengths as kindness, love, curiosity, creativity, love of learning, appreciation of beauty, gratitude, zest, bravery, honesty, perseverance, and religiousness, precisely the components of post-traumatic growth discussed by Tedeschi and Calhoun (1995). Taken together, these results suggest that potentially traumatic events may trigger the growth of certain positive traits, which in turn can be used as leverage in subsequent interventions with traumatized individuals.

Positive Relationships

Perhaps the most consistent finding in positive psychology is that good relationships with other people—friends, family members, and colleagues at work—are the single most important contributor to the psychological good life. The strongest correlates of happiness are social in nature: e.g., extraversion, social support, number of friends, leisure activities, marriage, employment (but not income) (Peterson, 2006). Perceived social support is also related to resilience in the wake of adversity (Bonnano, Galea, Bucciareli, & Vlahov, 2007). Good relationships provide both emotional and instrumental support during stress and challenge, but also provide a sense of connectedness and the opportunity to celebrate good things in life (Bryant & Veroff, 2006).

Positive psychology research sheds some light on how to build good and lasting relationships. Research has found that responding to the good news relayed by one’s romantic partner in an active and constructive way marks a good relationship (Gable, Reis, Impett, & Asher, 2004). This finding is important because so much of couples counseling focuses on resolving conflicts, fighting fairly, and being assertive. Active-constructive responding is enthusiastic, engaged, and positive. For example, when one person says, "I got a promotion at
work," the other person can respond by saying, "That's great. You deserve it. Tell me all about it. What did your boss say? I want to know all the details." The findings can also be applied to any type of relationship. More generally, a good relationship is one in which positive communication considerably outweighs negative communication (Fredrickson & Losada, 2005; Gottman, Coan, Carrere, & Swanson, 1998).

**Life Meaning and Purpose**

We define a meaningful life as one in which people feel connected to something larger than themselves (Peterson, Park, & Seligman, 2005). “Meaning” is usually assessed by interviews or self-report surveys, under the assumption that a meaningful life is best understood from the vantage of the individual who is living it. Sometimes the search for meaning is distinguished from the presence of meaning (Steger, Frazier, & Oishi, 2006).

Research consistently links the presence of meaning to well-being (Park, Park, & Peterson, 2010). Individuals with a sense of purpose and meaning report greater life satisfaction, more positive affect, higher levels of optimism, and better self-esteem. They are less likely to have psychological problems. However, the search for meaning is related to lower life satisfaction. It seems that although having meaning and purpose is beneficial, the process of finding life meaning may entail challenge and confusion.

Research shows that a life framed by meaning is more satisfying than a life centered on pleasure. The age-old debate within philosophy between eudaimonia (living a life of meaning in accordance with inner virtue) and hedonism (seeking pleasure) has an empirical resolution. Eudaimonia trumps hedonism (Peterson, Park & Seligman, 2005; Waterman, 1993).

Research is lacking on how finding life meaning and purpose originate and develop. When we experience tragic events, we often ask existential question and try to make sense of
what has happened to us (Frankl, 2006). The topic of meaning and purpose is even more relevant in the aftermath of adversity. Although it is not clear how people make sense of traumatic experiences, it is plausible that having meaning and purpose could play an important role in fostering resilience and the recovery process. In any case, professionals should not force or hurry their clients in the process of finding meaning, no matter how good the outcomes are. Instead, there needs to be caution and support for people when they do not have meaning but are searching for it.

**Kindness and Generosity to Others**

I have already discussed the importance of good social relationships, and a special case of such relationships entails people helping and giving to others. Studies consistently show that doing volunteer work, helping and giving are associated with high life satisfaction and good health (see Post, 2005, for a review). Indeed, giving may be more beneficial to the giver than the receiver (Brown, Nesse, Vinokur, & Smith, 2003).

The implication of these findings is that encouraging people who have experienced difficult events to turn their attention to others might be beneficial. Doing so changes how the givers think about themselves, in positive ways that make them happier and healthier (Schwartz & Sendor, 2009).

Perhaps encouraging people to engage in prosocial or service activities would empower them and increase their sense of self-worthiness. The activities do not need to be organized volunteer activities. Even simple acts of kindness in the community, followed by reflection on them, as through journaling, could have therapeutic effectiveness. For example, in a study with Japanese college students, merely asking them to count the kind acts they performed during the day led to increased happiness and more kind behaviors (Otake, Shimai, Tanaka-Matsumi, Otsui
Implications for Clinical Practice

Positive psychologists are increasingly turning their attention to application, including interventions in a therapeutic context deliberately intended to improve an individual’s quality of life. Positive psychology intervention studies to date have not specifically focused on individuals who have experienced potentially traumatic events. However, previous investigations have implicated a number of factors that buffer against harmful effects of potentially traumatic events and building resilience including optimism, positive emotion, life meaning and purpose, and social support (e.g., Bonanno, 2004; Bonanno, Galea, Bucciareli, & Vlahov, 2007), and these provide promising targets for deliberate interventions from a positive psychology perspective. Positive psychology can be especially useful in trauma work because it approaches individuals in terms of their assets as well as their difficulties, and the use of identified personal, social, and cultural assets is an excellent way to surmount difficulties (Park, 2011).

Goals and Assessment

The goals of intervention based on positive psychology principles are not to move people from -5 to zero—the presumed goal of business-as-usual psychology—but from -5 to +2 or beyond. The therapeutic goals include not only relieving problems but also helping people with or without problems to lead a fulfilling life. Positive psychology’s vision of psychological health entails experiencing more positive feelings than negative feelings, satisfaction with life, identification and use of talents and strengths, engagement in activities, positive relationships, contributions to a social community, having meaning and purpose, and being healthy and safe.

When asked how they could tell that treatment has been effective, individuals with DSM diagnoses of depressive disorder described their own view of “remission” in positive psychology
language, spontaneously mentioning that would be more optimistic, have more energy and that they would function well (Zimmerman et al., 2006). They did not mention simply the reduction of their symptoms or change in their diagnostic status.

Psychological assessment has often been tilted toward identifying weaknesses, deficiencies, and problems. The positive psychology perspective is that problem-focused assessment should be expanded to include strengths, assets, and competencies (Peterson, Park, & Castro, 2011). For example, low life satisfaction can occur in the absence of psychopathology, and it is nonetheless related to psychological and social problems (Greenspoon & Saklofske, 2001). Conversely, high life satisfaction is linked to good functioning even in the presence of symptoms (Furr & Funder, 1998; Park, 2004a). Absence of problems is not equal to health. Problems and strengths can co-exist.

Whatever the presenting complaints, people also bring into therapy assets and strengths that can be used to resolve their problems. A crucial task of any treatment is therefore to identify a client’s resources and encourage their use, not just to solve problems but more generally achieve healthy and flourishing life. Such a balanced approach should build rapport and bolster client confidence.

Positive psychologists have already developed an impressive set of measurement instruments that allow someone doing assessment to break through the zero point of deficiency measures. For example, the healthiest that one can score on a typical measure of depression is zero, but this lumps together people who are blasé with those who are filled with zest and joy. The distinction seems well worth making, and the self-report surveys and interviews developed by positive psychologists allow it.

Most of the existing positive psychology measures were developed for research purposes,
and they are most valid when aggregated to yield conclusions about groups of people. They can also be used ipsatively, to describe the psychological characteristics of an individual and how they stay the same or change over time, but the cautious use of these descriptions is as a point of discussion and departure in treatment. None is a strong diagnostic test, and none should be treated as if it were. Such prudence is appropriate for all psychological assessment, but it is worth emphasizing in the special case of positive psychology measures.

One example of positive psychology assessment is the *Values in Action (VIA) Inventory of Strengths* (Park & Peterson, 2006c). This measure assesses an individual’s character strengths: twenty-four positive traits, including curiosity, social intelligence, hope, kindness, zest and teamwork. The information drawn from this measure identifies an individual’s strengths and can be used by both the individual and the therapist in devising interventions following experience with adverse events.

More descriptions of positive psychology measures can be found in Peterson and Seligman (2004) and Peterson (2006). Many of the popular positive self-report surveys are also available on-line [www.authentichappiness.org](http://www.authentichappiness.org) at no cost. Upon completion of a survey, individual feedback is provided that could be used for intervention.

**Intervention Techniques Informed by Positive Psychology**

Positive psychologists have shown that a variety of brief interventions can, in the short term, increase well-being and reduce problems such as depression (Seligman, Steen, Park, & Peterson, 2005; Sin & Lyubomirsky, 2009). These interventions have an obvious role not only in remedying distress following experience with adversity but also in building resources that blunt the negative effects of adversity in the first place. Described below are some of promising positive psychology intervention techniques of potential value in prevention, promotion, and/or
treatment interventions for people exposed to adversity.

Savoring

Savoring is our awareness of pleasure and our deliberate attempt to make it last. One way to cultivate positive emotion is to maximize when good things happen in our life. Bryant and Veroff (2006) examined the effects of savoring good events, finding that people who do so are more satisfied. They also identified simple strategies for savoring, such as sharing good events with others, either in the moment or after-the-fact; building memories of the good events (e.g., photographs, diaries, souvenirs); congratulating oneself when good things happen; sharpening perceptions during the experience of good events; and becoming fully absorbed in pleasure and not thinking about other matters. Professionals could also help their clients to use more of these strategies to maximize even simple and routine life experiences, such as eating or walking. People who habitually savor are happier and more optimistic, and less depressed than those who do not savor.

Counting Blessings

Across the lifespan, people who are grateful have higher life satisfaction (Park, Peterson, & Seligman, 2005). Gratitude can be added to someone’s repertoire by deliberate intervention, and a number of studies by different research groups have shown the effectiveness of so doing for both children and adults by increasing life satisfaction, optimism and reducing depression (Emmons & McCoullough, 2003; Froh, Kashdan, Ozimkowski, & Miller, 2009). Participants are usually asked to write down at the end of the day things that went well during the day and for which they are grateful. Details of this intervention may vary across the number of things listed and the frequency of listing them. This exercise can be modified depending on client age and situation. To avoid making this exercise burdensome to some people, especially children, it could
be a few times a week and count 1 or 2 blessings instead of three blessings. Although more evidence is needed for the effect of different frequencies and amount of blessings on the outcome across different age groups, a study reported the negative effect when this exercise becomes excessive and as a result a burden (e.g., Sheldon & Lyubomirsky, 2006).

In our own work, we have asked participants to write down why each good thing happened, encouraging them to be more mindful (Seligman, Steen, Park, & Peterson, 2005).

Every night for one week, set aside 10 minutes before you go to bed. Use that time to write down three things that went really well on that day and why they went well. You may use a journal or your computer to write about the events, but it is important that you have a physical record of what you wrote. It is not enough to do this exercise in your head. The three things you list can be relatively small in importance or relatively large in importance. Next to each positive event in your list, answer the question, “Why did this good thing happen?”

Participants, specifically those who continue to do this exercise, reported more happiness and less depression. The effect was maintained even in 6 months follow-up. The mechanisms for these effects have not been closely studied, but there are likely several of them. This exercise could help people to pay more attention to the positive aspects of ongoing life and appreciate life more and be more optimistic and experience more positive emotion. When people experience adversity, they could be too overwhelmed to appreciate good things in life. Intervention programs may consider helping clients to recognize, remember and celebrate the positive aspects of their life.

**Strengths-Based Approach: Identifying and Using Strengths of Character in Novel Ways**

Our multidimensional character strengths measures can be scored within the person (e.g.,
rank ordered)—to identify a client’s “signature strengths” relative to his or her other strengths. We believe that everybody has strengths regardless of where they may stand relative to others. This strength-based approach is particularly useful for working with people with a history of disability, low achievement or low self-esteem. They often have a hard time to find anything at which they are good. However, if we compare the 24 strengths within a person, we can identify those strengths that are stronger than others. And then, professionals can help them to use these strengths in their lives.

After clients identify top character strengths using on-line questionnaires, they are encouraged to use them in novel ways in their daily life (Seligman, Steen, Park, & Peterson, 2005). Our research found that this exercise reduces depression and increases happiness and that the effect is evident even at 6 month follow-up, so long as people continue to do the exercise.

Once individuals build their confidence by using their signature strengths, they can be taught how to use these strengths to work on weaknesses or less-developed strengths. If discussions and interventions start with the strengths of clients—things at which they are good—this can build rapport and increase motivation.

Research support is still accumulating. Enough outcome studies have been conducted to conclude that strengths-based approaches to change are more than just promising. Not known in most cases is how these expanded therapies fare in direct comparison to business-as-usual treatments for problems, and what are the mechanisms that are involved. I think that attention to both strengths and weaknesses is critical, and that no useful purpose is served by regarding these as mutually exclusive therapeutic goals.

Issues and Considerations
Some issues need to be considered if these techniques are used in clinical practice. First, they are not therapies per se but simply exercises to be deployed as part of an overall prevention, promotion, or treatment strategy. The professional must ascertain a client’s readiness to change in the particular ways requested in the exercise to improve its effectiveness.

Second, these techniques may be simple to learn and teach, but they are neither easy to implement as a way of life, nor do they cure like an antibiotic. For lasting effects, clients need to integrate them into their regular behavioral routines. Counting blessings for a week will make a person happier for that week, but only if the person becomes habitually grateful will there be a more enduring effect. According to our own research (Seligman, Steen, Park, & Peterson, 2005), people who got the most benefit from positive psychology exercises are those who continuously use them in their life. Living a good life can be taught and achieved, but it requires just as much hard work as all other intervention efforts. It involves systematic lifestyle change.

Third, little is known about the match of an exercise with individuals’ particular presenting problems, goals, or demographic characteristics (e.g., age, gender, social class, ethnicity). These exercises may not be equally useful for everybody, and they should not be considered as one-size-fits-all.

Fourth, all interventions run the risk of unintended harm. While positive psychologists tend to think that their techniques avoid iatrogenic effects, there are no empirical bases for this assertion. For example, although optimism is related to mental and physical health, it is simplistic to think that if clients think optimistically about everything that their problems will magically go away. What happens when the magic fails to occur? Clients may blame themselves, assuming too much responsibility for their well-being. Positive psychology interventions should be used to complement existing therapeutic strategies, not replace them. It requires caution and
sound professional judgment when, to whom, and how it would be used in practice.

Starting to appear are intervention strategies sometimes labeled as *positive psychotherapy* (e.g., Seligman, Rashid, & Parks, 2006). If this label simply means that the goal of therapy is not just symptom reduction or relief but also the enhancement of quality of life by building strengths and assets, then it makes sense. However, there is a danger in the label because it may give misleading impression that an altogether different approach to treatment has been created. Almost all treatments labeled as positive psychotherapy are derived from well-established cognitive-behavioral approaches. I prefer to describe these interventions as *informed* by positive psychology and to stress the continuity between them and existing approaches, and the lessons that have been learned from them.

**Conclusion**

Positive psychology is interested in promoting optimal lifelong development for all. Evidence is accumulating that positive constructs such as positive emotions, good relationships, meaning and purpose, character strengths, and services for others all play important roles in health and well-being, not only as broad-protective factors, preventing or mitigating pathology and problems, but also as enabling conditions that promote thriving and flourishing life. Positive psychology goes beyond a focus on problems and their absence to reflect healthy development.

Positive psychology focuses on identifying and capitalizing strengths and capacities.

Life is full of challenges, stresses and risks, both major and minor. No one goes through life without exposure to adversity. But all of us also have strengths and assets, and if we can use these to our advantage—especially in difficult times—we will not only survive, but thrive.

The ultimate goal of life is not merely surviving in the face of adversity but flourishing and thriving. Everyone deserves to live a happy, healthy and fulfilling life. The good life is
possible for all but requires the right strategies and hard work. Positive psychology provides a valuable perspective for building and maintaining the good life by expanding our view of psychological health beyond the absence of problems and by providing strategies for prevention, intervention, and promotion.

References


Fredrickson, B. L., Tugade, M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive


