

# The use of mixed methods to advance positive psychology: A methodological review

Rachael S. Clark · Vicki L. Plano Clark

**Abstract:** A call for diverse research approaches in positive psychology by the International Positive Psychology Association (2015) and the *Journal of Positive Psychology* (2017) challenged psychology researchers to consider methodology outside traditional quantitative methods. The purpose of this methodological review was to examine the use of mixed methods approaches in empirical studies in positive psychology. The review identified 56 positive psychology articles published between 2010 and 2019 that used a mixed methods approach. To our knowledge, this is the first review of mixed methods methodology in the field of positive psychology. The small number of published articles in that period indicate mixed methods is either not currently a widely used methodology in the field or it is being used without identifying terminology. Those studies using mixed methods often used positive psychology to inform an intervention in the quantitative strand and gathered interviews within the qualitative strand. Opportunities for growth for positive psychology researchers include interpreting data in mixed methods style and strengthening the identification of key features of the approach in the text.

**Keywords:** positive psychology, methodological review, mixed methods research, quantitative and qualitative

## 1. Introduction

A call for more methodological diversity in positive psychology research in the *Journal of Positive Psychology* (Hefferon et al., 2017) and by the International Positive Psychology Association (IPPA; Pawelski, 2015) challenged well-being researchers to expand traditional methodological approaches in the study of flourishing. Until the early 2000s, psychology relied primarily on quantitative methods to measure hope, optimism, happiness, and other positive psychological elements (Alise & Teddlie, 2010; Ivankova & Kawamura, 2010). The near exclusive reliance on quantitative approaches, however, may have limited the use and potential of qualitative and mixed methods approaches, thereby constraining the field's capacity to advance knowledge in the science of well-being (Alise & Teddlie, 2010; Donaldson et al., 2015; Hefferon et al., 2017; Ivankova & Kawamura, 2010).

Qualitative methods are used to explore experiences and perspectives that may either complement or digress from results of quantitative research (Braun & Clarke, 2014) and are well suited for exploratory research in which the participants' view is key to understanding a phenomenon (Denzin & Lincoln, 1994). Qualitative methods can be used to understand a variety of human experiences (Josselson, 2013) or to understand the process of participating in an intervention study, including uncovering aspects found most and least beneficial for participants (Akhtar & Boniwell, 2010). The aim of qualitative research is not to generalize, but to enhance,

explore, or deepen understanding (Yin, 2016). Because qualitative research produces in-depth, rich descriptions of a lived experience, qualitative research is highly relevant to the field of psychology (Povee & Roberts, 2014) given its focus on human behavior and mental processes. Positive psychology focuses broadly on attaining psychological well-being, or *living well*. Although living well (“the good life”) can be measured with numbers, the words and images of research participants best illustrate the human experience and may be used strategically to enhance understanding of what it means to flourish, the different ways that flourishing can be experienced, and the contexts that shape flourishing.

Furthermore, mixed methods research approaches involve the intentional combination of quantitative and qualitative strands in the design, data collection, and interpretation of a study or series of studies (Creswell & Plano Clark, 2018). Using both methods together has the potential to create a deeper understanding than using one or the other (Greene, 2007; Johnson & Onwuegbuzie, 2004; Morgan, 2014). Greene (2007) argued that mixed methods research approaches encourage diversity in thinking and discussion of differences, leading to rich understanding. These descriptions hint at the deep, multifaceted information that can emerge from using a mixed methods design. By combining quantitative measures of human traits and functioning with qualitative descriptions of meaning and experiences, mixed methods research approaches have much to offer psychology in terms of understanding behavior within a context, within-group differences, and cross-cultural variability (Plano Clark & Ivankova, 2016; Schrauf, 2017; von der Lippe, 2010). Positive psychology is well-suited as a sub-discipline of psychology to integrate multiple sources of information about optimal human functioning to create a synergistic examination of new knowledge (Plano Clark, 2017). Mixed methods addresses multiple types of questions at once and provides a mechanism for answering both *how* and *why*, *how much* and *in what ways*, and *if* and *why* flourishing occurs. This unique approach has the potential to move positive psychology forward more rapidly and efficiently, thereby creating new knowledge impacting innumerable individuals, communities, and workplaces.

Mixed methods and positive psychology are both emerging fields experiencing a great deal of growth in the past two decades (Donaldson et al., 2015; Ivankova & Kawamura, 2010). Several similarities and criticisms connect the disciplines. Mixed methods and positive psychology, as we understand them today, existed well before their entrance into the academy in 1989 and 1999, respectively (Greene et al., 1989; Linley et al., 2006; Maxwell & Loomis, 2003; Seligman, 1999). Greene et al.’s (1989) seminal article is frequently cited as the work that propelled the field of mixed methods into scholarly conversation. However, Maxwell and Loomis (2003) noted that researchers mixed quantitative and qualitative methods in the early 1900s, well before Greene et al.’s (1989) publication. Similarly, positive psychology is often cited as emerging as a distinct field in 1999 following Martin Seligman’s presidential address to the American Psychological Association (Seligman, 1999). However, positive psychology, in some form, existed in the philosophical teachings of Confucius, in Taoism, and religious traditions such as Buddhism and Hinduism in the distant past (see Dahlsgaard et al., 2005 for a review), and in Humanism and its focus on self-actualization more recently (Maslow, 1954). In the late 20<sup>th</sup> century, Diener (1984) reviewed and renewed the *subjective well-being* construct, Snyder et al. (1991) operationalized *hope*, and Diener and Tov (2009) advocated for a worldwide approach in the study of happiness. Since then, hundreds of scholars have extended this work and studied the factors that enable flourishing around the world and in diverse contexts.

Mixed methods research has been advanced as a methodology that may be used to diversify the approaches and enrich findings within psychology. In the last decade, calls for the inclusion of mixed methods have gone out in health psychology (Dures et al., 2010), music therapy research

(Bradt et al., 2013), suicide studies (Kral et al., 2012), and developmental science (Yoshikawa et al., 2013). Mixed methods research offers a valuable approach to positive psychology research due to the flexibility of the methodology given the unique contexts and perspectives of the study of well-being. Mixed methods research has also been proposed as a relevant approach to studying cross-cultural variability and as a means for moderating the Eurocentric perspective in psychological theory (Canales, 2012; Schrauf, 2017). Strengths mixed methods research brings to psychology research include perspectives aligned with the philosophy of pragmatism (i.e., rejecting either-or choice between quantitative and qualitative and developing useful solutions through research, Tashakkori et al., 2021), investigation of cultural factors, the importance of integrating multiple sources of information, and supporting theory (Bradt et al., 2013; Dures et al., 2010; Kral et al., 2012).

The entry of mixed methods approaches in psychology has not been without criticisms. Mixed methods research is critiqued by some due to contradictory epistemologies that simply cannot be combined, wherein epistemology refers to the nature of knowledge and how it is attained (Hatch, 2002); prioritizing methods over questions, and by limited methodological procedures (Toomela, 2011). Mixed methods research has been called a Trojan horse for positivism because it includes qualitative methods, but too often undervalues the potential contribution of these methods by focusing on objective uses of the methods associated with positivist stances to uncover a singular truth (Giddings & Grant, 2007). Toomela (2011) stated psychology should go back to the way things “used to be” before World War II and base itself on “structural-systemic methodology” (p. 44). Qualitative research in psychology is still relatively rare (Tashakkori & Teddlie, 2010; Donaldson et al., 2015; Hoyt & Bhati, 2007); however, the establishment of a new journal *Qualitative Psychology* in 2014 by the American Psychological Association and inclusion of reporting standards for qualitative and mixed methods research in the 7<sup>th</sup> edition of the APA Publication Manual (American Psychological Association [APA], 2020; Levitt et al., 2018) signaled a renewed interest in methods outside of quantitative.

One of the challenges inherent in conducting research in the field of positive psychology is the sheer number of concepts included in the constitution of the term. Early work in the field culminated with positive psychology being defined as the science of positive emotions, traits, and institutions (Seligman & Csikszentmihalyi, 2000). Seligman (2011) expanded the definition scope to include more comprehensive features of well-being including engagement, meaning, and accomplishment. The umbrella of positive psychology also includes the study of human strengths: optimism, zest, perseverance, spirituality, and hope according to one source (Peterson & Seligman, 2004) and love, empathy, commitment, self-respect, and friendship according to another (Bolt, 2004). Further, some textbooks include the philosophical underpinnings of the field with references to Humanism, Confucianism, Islam, and Athenian traditions (Lopez et al., 2016; Peterson, 2006). Considering the endless topics that could emerge from the study of any principle within the field of positive psychology creates a challenging task for creating inclusion criteria for a systematic or methodological review. Rusk and Waters’ (2013) systematic review of the reach and size of positive psychology resulted in 18,000 peer-reviewed articles from 700 PsycInfo journals. The review resulted in the identification of 233 key terms related to the study of positive psychology including self-efficacy, autonomy, self-determination, and compassion (Rusk & Waters, 2013). In another systematic review, Donaldson et al. (2015) found well-being, growth, and mindfulness among topics related to positive psychology.

Another challenge in conducting a review of mixed methods in positive psychology is the absence of mixed methods terminology in published articles in psychology. Creamer and Reeping (2020) assert that psychology has combined quantitative and qualitative methodologies

for years; authors simply may not use identifying terms highlighting the mixed methods features in these articles due to continued concerns for paradigm incompatibility in psychology research.

With the unsettled nature of both mixed methods and positive psychology, a review of the pervasiveness and application of mixed methods in positive psychology was needed. To best promote the use of alternative methods within positive psychology, it is important to first understand the current usage of these methods. In addition, identifying examples of how positive psychology researchers are applying mixed methods approaches can serve as a guide to researchers considering the use of mixed methods within their own studies.

## 2. Study purpose

The purpose of this methodological review was to explore and describe the features of mixed methods articles in positive psychology research published from 2010-2019. This assessment of the status of mixed methods responds to the call for diversifying research approaches in the science of human flourishing. This review closely examines a range of features characteristic of mixed methods methodology as applied within published articles. To our knowledge this is the first methodological review of mixed methods in positive psychology. Our work expands upon and deepens Donaldson et al.'s (2015) systematic review of publications in the field by more closely examining mixed methods approaches in empirical studies published in positive psychology. Donaldson et al. (2015) found that 78% of 1336 published articles between 1999-2013 used quantitative methodology, and only 10% used mixed methods. This review also contributes to the growing literature of reviews of mixed methods research within psychology (e.g., Creamer & Reeping, 2020; Hanson et al., 2005; Plano Clark, 2010; Ponterotto et al., 2013).

## 3. Methods

The review procedures were informed by suggested practices for conducting methodological reviews of mixed methods research studies (Howell Smith & Shanahan Bazis, 2020; Molina-Azorín & Fetters, 2016). We next describe procedures for the literature search and coding process.

### 3.1 Literature search

We conducted a methodological review of mixed methods research in positive psychology over a 10-year period (January 2010 to December 2019) using the PsycInfo database. We selected PsycInfo due to its extensive journal coverage, which contains about 2500 journals from the 17<sup>th</sup> century - present (PsycInfo Facts Sheet, 2017). Coverage changes weekly as new journals are added and others removed. We selected the years of publication to reflect the recent use of mixed methods in the field of positive psychology.

Various terms are used by authors to identify mixed methods research, such as: multimethod, "survey AND interview" or mixed methodology (Creswell & Plano Clark, 2011, p. 15-16). In this review, we used specific search terms to determine the prevalence of the accepted language of both mixed methods and positive psychology as well as to enhance the replicability of our approach. The specific search terms were: ("mixed methods" OR (quantitative AND qualitative)) AND "positive psychology". Terms were required to appear in the title, abstract, or full text of the articles. The terms were chosen because they have been accepted by leaders in their respective fields, and because using these terms allows for tracking the explicit use of mixed methods methodology (Creswell & Plano Clark, 2018).

Articles selected for inclusion were required to be empirical studies in the field of positive psychology. Reviews of literature, meta-analyses, and systematic reviews were excluded. The



definition of mixed methods research by Creswell and Plano Clark (2018) was used to define the search term *mixed methods*. Studies needed to use mixed methods as a design feature and mix quantitative and qualitative approaches in data collection and analysis. This definition was chosen because it aligns with our understanding and practice of mixed methods methodology. We limited the results to publications from scholarly journals to evaluate recently published articles and received 140 hits.

The first author scanned the titles and abstracts of all 140 articles and eliminated false hits using our criteria for inclusion. Sixteen articles were immediately determined not to be empirical studies and were discarded, leaving 124 articles for a full review. After reading each article, even more articles (“false hits”) were excluded. A typical false hit was an article suggesting a mixed methods design for future research but did not reflect use of mixed methods in the current study. Sixty-eight additional articles were eliminated after this review, leaving 56 articles that qualified for inclusion and were available either through our university’s library or interlibrary loan.

### 3.2 Coding

As the search results began to take form, we constructed a set of categories to guide our systematic investigation of the articles included. We used an iterative process to create coding categories, and regularly discussed the relevance of emerging codes. These categories were meant to provide a framework for the kind of information we were looking for in this methodological review, which were entered into a spreadsheet to organize information extracted from each article. Although we extracted the following information, not all categories will be discussed in this paper due to space considerations. The data collection protocol in Supplemental Materials Table 1 includes the following information to capture features that highlight both the mixed methods and positive psychology aspects of the articles:

- (1) *Basic Information*: author, title, journal, year of publication, location, and discipline of first author
- (2) *Positive Psychology Information*: theoretical framework used, theory of positive psychology in sampling, flourishing piece, character strength studied, whether positive psychology was used as intervention
- (3) *Sampling Information*: population, quantitative sampling, qualitative sampling, perspectives used in sampling (positive psychology, mixed methods)
- (4) *Mixed Methods Design Features*: priority, timing, level of interaction, fixed/emergent, point of interface, named mixed methods design, value of mixed methods approach
- (5) *Methodology Features*: quantitative method, qualitative method, quantitative data source, qualitative data source
- (6) *Principles of Mixed Methods Research*: mixed methods title, rationale, research questions, purpose statement, interpretation of data

The first author read each article, coded the data, and entered it into a spreadsheet. As the 56 articles were coded, 10% of the articles were randomly selected and coded independently by the second author, and any discrepancies in coding resolved through discussion.

## 4. Results

In this section, we describe the results of our methodological review, organized according to the major features of our coding categories. We first describe the results in broad terms, then discuss

specific mixed methods features associated with writing in the field, and finally highlight a few of the positive psychology features of the studies.

#### 4.1 Overview of the sample

Of the 56 mixed methods articles identified, 36 different journals were represented, including many disciplines other than psychology. A list of the journals represented in the sample and study topics are presented in Table 1.

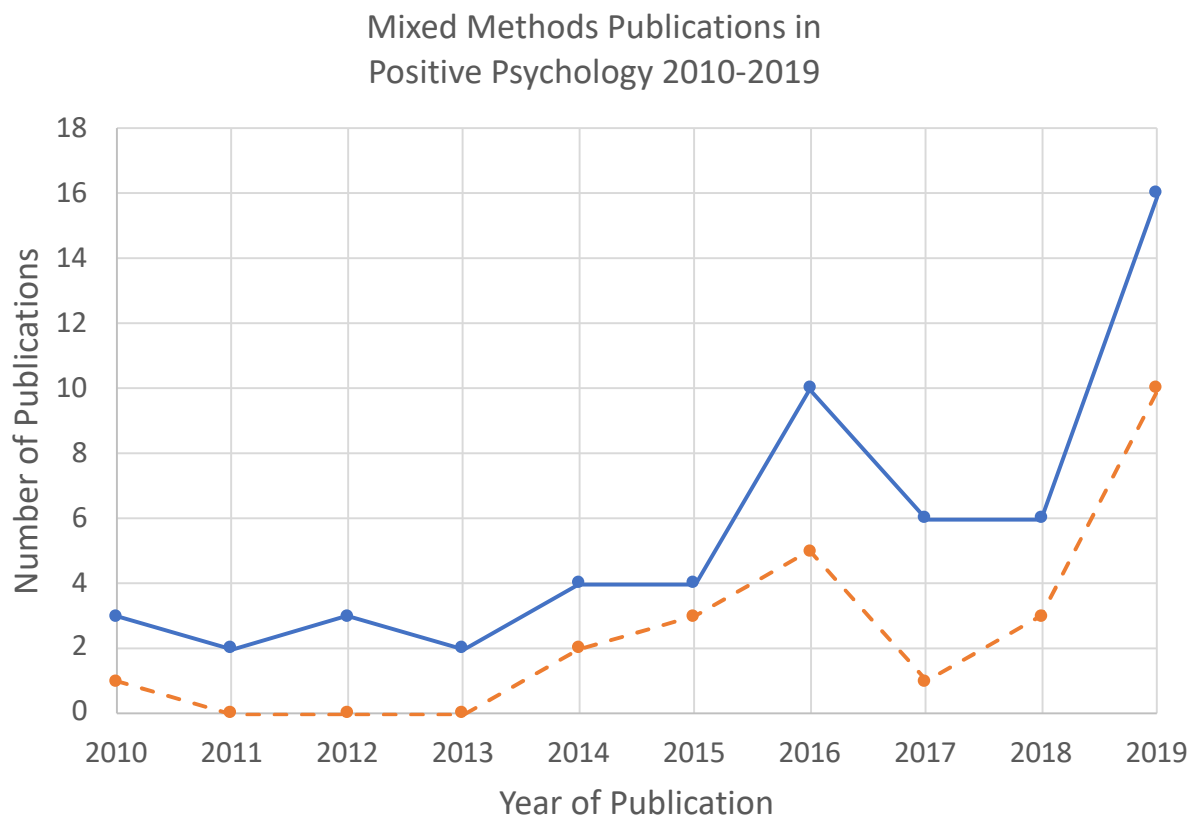
**Table 1.** Journal representation: Methodological review PsycINFO 2010-2019.

Journal	Study Topics	No. of Articles	Year(s) of Publication
<i>Emotional and Behavioural Difficulties</i>	Positive affect	1	2019
<i>Frontiers in Behavioral Neuroscience</i>	Gratitude	1	2019
<i>PLoS ONE</i>	Positive affect, optimism, gratitude	2	2019 2017
<i>Contemporary School Psychology</i>	Well-being	1	2019
<i>Current Psychology</i>	PsyCap, workplace happiness	1	2019
<i>Frontiers in Psychology</i>	Emotional intelligence, happiness, VIA strengths	2	2019
<i>Frontiers in Psychiatry</i>	Connectedness	1	2019
<i>Public Health</i>	Flourishing, zest for life, well-being	1	2019
<i>International Journal for the Advancement of Counselling</i>	Life satisfaction	1	2019
<i>Journal of Positive Psychology</i>	Meaning in life, happiness in adolescents, purpose in life, hope and physical well-being, love, life satisfaction, awe, gratitude, prosocial behavior, wisdom, leisure activity, calling, positive affect, connectedness	15	2019 2016 2013 2012 2010
<i>Mental Health and Physical Activity</i>	Positive affect	1	2018
<i>Children and Youth Services Review</i>	Self-esteem, well-being, life satisfaction	1	2018
<i>Child Youth Care Forum</i>	Positive development	1	2018
<i>Translational Issues in Psychological Science</i>	Positive affect	1	2018
<i>Educational Psychology in Practice</i>	Resilience	1	2017
<i>Journal of Child &amp; Family Studies</i>	Gratitude, flow, happiness, savoring	1	2017

<i>Psychology of Music</i>	Impact of music festivals on well-being; adaptive functions of music listening	2	2016 2011
<i>Journal of Psychology in Africa</i>	Meaning in life, well-being	2	2015 2014
<i>Alcoholism Treatment Quarterly</i>	Positive psychology interventions in addictions treatment	1	2016
<i>Human Relations</i>	Psychological empowerment in change processes	1	2016
<i>Journal of Environmental Psychology</i>	Residential experiences of people with disabilities	1	2016
<i>Journal of Family Psychology</i>	Family intervention to improve family communication, well-being, and happiness	1	2016
<i>Journal of Happiness Studies</i>	Positive psychology intervention for patients with acute coronary syndrome; work engagement, positive psychological resources	2	2019 2016
<i>Leisure Sciences</i>	Activating character strengths through charity sports events	1	2016
<i>Perspectives in Psychiatric Care</i>	Benefit finding in chronic mental illness	1	2016
<i>Journal of Spirituality in Mental Health</i>	Character strengths in recovery	1	2015
<i>Primary Health Care Research &amp; Development</i>	Happiness as intervention	1	2015
<i>Archives of Psychiatric Nursing</i>	Group psychotherapy in Korean adolescents	1	2015
<i>International Journal of Evidence Based Coaching and Mentoring</i>	Systems coaching	1	2014
<i>Journal of Medical Internet Research</i>	Web-based applications of positive psychology	1	2014
<i>Australasian Journal of Disaster and Trauma Studies</i>	Post-traumatic growth	1	2014
<i>Journal of Pediatric Oncology Nursing</i>	Benefit finding in fathers of childhood cancer survivors	1	2013
<i>Educational &amp; Child Psychology</i>	Effects of positive psychology on efficacy beliefs	1	2012
<i>Journal of Affective Disorders</i>	Re-experiencing a mood disorder	1	2012
<i>Applied Psychology: Health and Well-Being</i>	Positive psychology in individuals with achondroplasia	1	2011
<i>Psychology of Religion and Spirituality</i>	Virtue among Cambodian American Buddhists and Christians	1	2010
<i>Revista de psicologia</i>	Mindfulness	1	2010

The journals listed in Table 1 demonstrate the diversity and broad appeal of positive psychology and mixed methods. Results show that neither positive psychology nor mixed methods in the discipline is confined to a single journal. Psychology represented the majority of first authors' discipline ( $n = 30$ ); however, a wide variety of additional disciplines were represented as well. Select non-psychology disciplines included music ( $n = 2$ ), alcoholism treatment ( $n = 1$ ), and public health ( $n = 4$ ). Our data suggest an upward trend in the number of published mixed methods studies in positive psychology. Published articles increased from three in 2010 to 16 in 2019. See Figure 1 for a plot illustrating the trend in publication from 2010-2019 (solid blue line).

**Figure 1.** Graph depicting the number of empirical publications: Mixed methods in positive psychology 2010-2019.



Note. Blue solid line = total sample ( $N = 56$ ); Orange dashed line = subsample with a positive psychology-informed intervention and experiment ( $n = 25$ ).

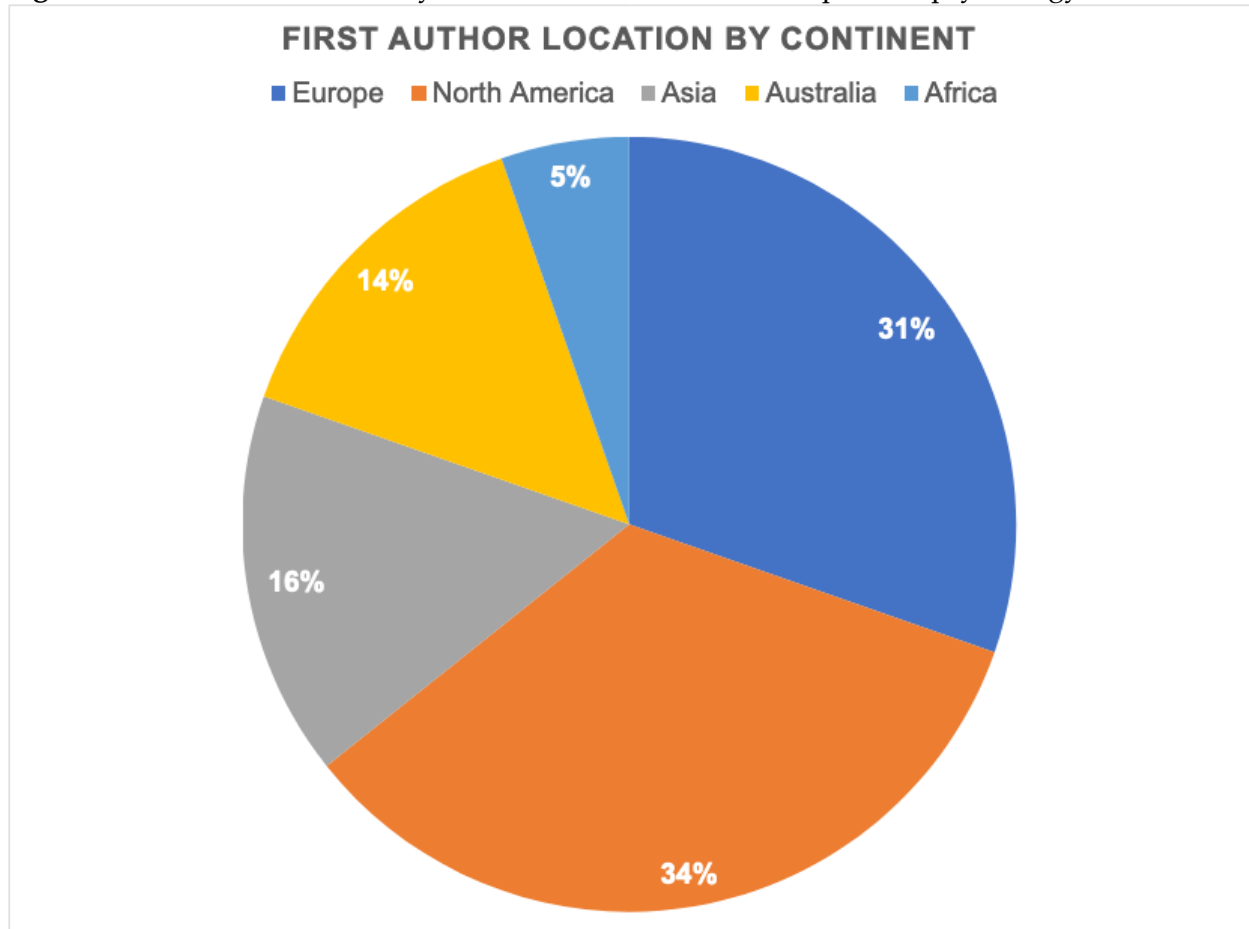
Geographic location of first authors was evenly distributed throughout the world, indicating a diverse appeal of the study of positive psychology in many cultures. Figure 2 (below) indicates the continent on which first authors resided at the time of publication. First authors from North America were most prevalent ( $n = 19$ ), closely followed by Europe ( $n = 17$ ), Asia ( $n = 9$ ), Australia ( $n = 8$ ), and Africa ( $n = 3$ ).

#### 4.2 Mixed methods features

We were interested in whether the reviewed articles included the major features of mixed methods methodology discussed in the literature. Next we describe the methodological labels or terminology that identify a study as mixed methods.



**Figure 2.** First author location by continent: Mixed methods in positive psychology 2010-2019.



#### 4.2.1 Title

By providing an article with a title that indicates a mixed methods approach, an author makes her work more easily accessible to a mixed methods audience. A mixed methods title also advances the field of mixed methods by making the overall approach of the research design explicit (APA, 2020; Creswell & Plano Clark, 2011; Fetters & Freshwater, 2015; Levitt et al., 2018). Of the 56 articles included in this review, only eight had a title that indicated a mixed methods approach, all published since 2016. “Counselors’ perspectives of positive psychology for the treatment of addiction: A mixed methods pilot study” (Krentzman & Barker, 2016) is an example of a title that contains the topic, participants, and overall research design. A researcher may quickly scan the title and determine that the study used a mixed methods approach.

#### 4.2.2 Rationale

The rationale of a mixed methods study is the reason the researcher provides for mixing qualitative and quantitative approaches in a research study (Creswell & Plano Clark, 2011). By providing a rationale for conducting a mixed methods study, authors clarify reasoning behind the methodological approach chosen for a project. When a rationale for conducting a mixed methods study is explicit, other researchers can reflect on the thinking behind the choice of a mixed approach as well as consider the approach in future projects.

Although no article in this review explicitly stated a rationale using mixed methods terminology, nearly all ( $n = 55$ ) of the reviewed articles implied a rationale for choosing a mixed methods approach. We inferred the reasoning behind the methodological choice based on

authors' comments. For example, Bar and St.-Rosh-Ha' Ayin (2014) stated "the mixed-methods design and findings from the data can shed new light that broaden and deepen the understanding of the influences of personal systems coaching on the participants" (p. 59), indicating that *complementarity* was a likely rationale for using mixed methods. Complementarity is a common rationale for mixing methods, and its purpose is to enhance findings from one method with a second method (Greene, 2007). Chaplin et al. (2010) used a mixed methods approach for both *enhancement* and *triangulation*. Interviews were conducted: (1) to gain a "better understanding of why certain labels were chosen over others" (p. 347) and (2) in the Results section, qualitative findings were described as providing additional support for hypotheses, which is a common use of mixed methods that triangulates evidence for support of research assumptions.

#### 4.2.3 Mixed methods purpose statements and research questions

Prominent authors in the mixed methods field suggest crafting mixed methods purposes and research questions when conducting mixed methods research. A mixed methods purpose statement includes elements from quantitative and qualitative purpose statements and conveys the intent of the mixed methods study (Creswell & Plano Clark, 2018). About two-thirds of the reviewed articles ( $n = 36$ ) provided a mixed methods purpose statement, either implicitly or explicitly. Sometimes the article was part of a larger mixed methods study, as in Selvan's (2015) research using character strengths to facilitate recovery from alcohol misuse. Although the article only conveyed the qualitative findings of the case study, the author referenced the quantitative phase of the study and the results that led to the selection of case study participants.

A mixed methods research question addresses the integration of quantitative and qualitative data (Creswell & Plano Clark, 2018). This type of question will typically be separate from the quantitative and qualitative research questions. Of the 56 articles in this review, 33 of the articles contained inferred mixed methods research questions. The inferred mixed methods research questions required the reader to extrapolate from the aims of the study or the hypothesis statement that the study intent was aligned with using mixed methods. Twenty-three articles had no mixed methods research question and either provided quantitative and qualitative questions only, or questions used a single methodology because the article conveyed only some of the results from a larger mixed methods study.

#### 4.2.4 Priority

Priority reflects the emphasis placed on the quantitative or qualitative strand within the mixed methods design for answering research questions (Creswell & Plano Clark, 2018). None of the reviewed articles explicitly identified the priority of administration of the strands. Therefore, we inferred the priority of each empirical study by reviewing the research questions, aims, hypotheses, and purpose for each. Then we determined the relative weight of each strand in the study in terms of addressing the research questions. Given the dominance of quantitative research approaches in psychology (Donaldson et al. 2015), we expected articles with quantitative priority to outnumber studies with qualitative priority and studies with equal priority between quantitative and qualitative methodologies. However, qualitative priority studies ( $n = 15$ ) together with studies of equal priority ( $n = 19$ ) outnumbered quantitative priority studies ( $n = 22$ ).

#### 4.2.5 Timing

In mixed methods research, the temporal relationship between the quantitative and qualitative strands in a study is referred to as *timing* (Creswell & Plano Clark, 2018). We made judgments

about the timing of the strands based on when data were collected and analyzed in relation to each other. Twenty-five of the studies indicated sequential timing, which involves administration of a quantitative phase followed by a qualitative phase, or vice versa. Twenty-five studies administered the quantitative and qualitative strands concurrently, indicating that quantitative and qualitative data were collected simultaneously. For example, Krentzman and Barker (2016) wrote, "the study paired a written questionnaire with an in-depth, semi-structured individual interview," (p. 372) indicating a concurrent design with quantitative and qualitative strands administered together. Only six studies used multiphase timing, which is an advanced mixed methods design that reflects an overall mixed methods methodology but includes multiple quantitative and qualitative phases (Creswell & Plano Clark, 2011).

#### 4.2.6 Value of mixed methods design

Value refers to the authors' discussion of the enriched findings in the content area discovered by using a mixed methods design (Creswell & Plano Clark, 2011). Boniwell et al. (2016) found challenges with the delivery of an intervention in a school setting, which they would not have been aware of had the qualitative strand not been administered alongside the quantitative examination. Noteworthy challenges in the intervention included philosophical differences in the way parents and teachers thought about the purpose of education. The knowledge generated by the qualitative strand could be used to improve and guide future research in school settings. Tümlü and Akdoğan (2019) used qualitative data from focus groups to create an intervention aimed at reducing hindrances to life satisfaction in mothers with disabled children.

Other authors found value in mixed methods design from triangulating data. In one study, Li and Xu (2019) noted that the convergence of quantitative and qualitative data "confirm[ed] significant relationships" (p. 9) and qualitative data "supported the efficacy of emotional intelligence with rich details" (p. 12). In a study of positive education with high school students in Australia, Halliday et al. (2019) found value in a mixed methods design which allowed them to understand practical factors impacting a positive psychology intervention. In this study, the researchers implemented a well-being intervention, partially in online format, for 9<sup>th</sup> grade students. The intervention did not demonstrate a significant effect on mood even though the program had been shown to be effective in prior work. Because Halliday et al. used qualitative methods along with quantitative measures of mood, they discovered the students greatly disliked the online learning modules. Further, the subject matter in the modules (characterized as "ill-being prevention") was upsetting to some and caused more distress. Teachers at the school remarked that students were engaged right up until the online modules began. Without feedback from students and teachers about the intervention, the researchers would not have identified the online learning modules as problematic in this study. The insight gained from the qualitative phase provided an efficient mechanism for identifying possible reasons the intervention did not demonstrate statistical significance. This insight can provide a more efficient research design for future researchers who may select in-person interventions rather than online modules.

#### 4.2.7 Interpretation in mixed methods style

If the researcher(s) interpreted the data in mixed methods style, they completed several steps that should be reflected in the manuscript. First, they would apply the analytic processes typically followed in quantitative and qualitative research. After both types of data have been analyzed, either at one or multiple time points, they would review both the quantitative and qualitative results and address how the integrated results and findings inform the mixed methods questions in the study (Creswell & Plano Clark, 2011). Twenty-seven of the 56 articles reviewed interpreted

the data in at least somewhat in mixed methods style. A minimal data interpretation would typically address mostly one method or the other without integrating the findings to address mixed methods research questions.

#### *4.3 Positive psychology features*

We were interested in how the reviewed mixed methods studies demonstrated aspects aligned with the principles of positive psychology. Next, we discuss some of the major features of positive psychological research within the mixed methods context.

##### *4.3.1 Theoretical frameworks*

Mixed methods practice is complex, and researchers often benefit from applying theoretical frameworks to inform the study design decisions (Plano Clark & Ivankova, 2016). A theoretical framework provides a guide as perspectives shift from objective to subjective throughout the study (Evans et al., 2011), and may facilitate the integration of quantitative and qualitative data (Fetters & Freshwater, 2015). Most reviewed articles ( $n = 53$ ) relied on a theoretical framework to guide implementation of the study. Of those using a framework, the principles of positive psychology were used either explicitly or implicitly in 42 studies (e.g., White et al., 2018; Passmore & Holder, 2017, Selvam, 2015) Even when authors did not cite a specific theoretical framework, the use of a guiding concept or approach was common. For example, Delle Fave et al. (2013) used Wong's four-level model to structure the investigation of meaning in life in individuals from seven different Western countries. More common was the use of multiple guiding frameworks to reflect the psychological constructs being studied. Bar and St. Rosh-Ha'Ayin (2014) used motivation theories, self-determination theory, goal achievement theory, and systems thinking theories to frame a study of the impact of personal systems coaching on self-efficacy and well-being in Israeli single mothers.

##### *4.3.2 Positive psychology perspectives in sampling*

Sampling is a critical component in mixed methods research (Collins et al., 2007), but can also be guided by a positive psychology approach through strengths-based methods. A strengths-based approach in sampling indicates that flourishing individuals were intentionally recruited in the sample. Researchers who use a strengths-based approach in sampling would select individuals illustrating the highest level in a construct measurement (i.e., those with the highest score on a happiness scale), such as exceptional results from an intervention to reduce drinking behavior, as in Selvam (2015). In Selvam's (2015) study, individuals were selected for inclusion in the qualitative phase based on results of the quantitative phase. The two selected individuals experienced "extreme recovery" from the intervention that aimed to reduce drinking through a contemplative practice and an exploration of how character strengths were experienced in the context of their recovery (p. 198). The only other studies using a positive psychology perspective in sampling were Cook et al.'s (2010) study of Cambodian American first-generation immigrants who exemplified the greatest embodiment of virtue as judged by community religious leaders and Mohamed and Thomas' (2017) study which included refugee children and young people who exhibited strong adjustment and resilience, as nominated by staff at schools in London.

##### *4.3.3 Flourishing concepts*

For the purpose of this review, we considered flourishing broadly as the experience of reaching one's potential and we expected the concept to be present within all the reviewed mixed methods

studies because it represents optimal human functioning; the aim of the field according to some of the early proponents of positive psychology (Peterson & Seligman, 2004; Seligman, 2011). Defined in several ways (see Maslow, 1954; Ryff & Singer, 1998; Seligman, 2011), we identified the flourishing element of articles as *any evidence of reaching optimal human functioning*. Seventy-four different words and phrases were used by authors in the reviewed articles to illustrate flourishing. These words and phrases were placed into a word cloud, with a larger font indicating a greater frequency of usage. Well-being was the phrase used most often in the reviewed articles, indicating that flourishing was often represented by this phrase in the studies. See Supplemental Materials Figure 1 for a word cloud of the flourishing concepts in the review.

#### 4.3.4 Character strength focus

Character strengths have been called the backbone of positive psychology (Peterson & Seligman, 2004), and various frameworks and measures exist to support character strengths as the heart of positive psychology research. The VIA (Peterson & Seligman, 2004) and the Clifton Strengths Finder (Rath, 2007) models are widely known and used in the field. We found that only six of the 56 reviewed mixed methods studies used a specific character strengths framework. One example included a study aimed to increase work engagement and job performance using the VIA character strengths framework and micro-coaching (Peláez et al., 2019). Coghlan and Filo (2016) used the original character strengths framework designed by Park et al. (2004) to explore whether leisure activities activated participants' character strengths and to understand the conditions under which those strengths were activated. The other 50 studies either did not explicitly use a framework or used pieces of frameworks such as a post-traumatic growth approach, bounded by hope, gratitude, and spirituality (Subandi et al., 2014).

#### 4.3.5 Positive psychology-informed interventions

Finally, we were interested in whether studies including either an experimental or quasi-experimental component used intervention strategies informed by positive psychology principles. Positive psychology-based interventions were noteworthy to us because as the field began to grow in the early 2000s, researchers questioned whether positive interventions could create happiness and even prevent depression and anxiety (Seligman et al., 2005). We found that of the 25 experiments in this review, all 25 used aspects of positive psychology as interventions. Experimental design represented a growing trend in positive psychology research using mixed methods between 2010 and 2019. We included a trend line illustrating the subset of mixed methods positively psychology articles published each year that used an experimental method in the quantitative strand (see Figure 1, orange dashed line).

Figure 1 demonstrates an upward trend in experimental mixed methods research in positive psychology in recent years. We suspect this upward trend is a result of increasing acceptability of mixed methods in experimental designs. One example of a mixed methods experiment was Huffman et al.'s (2016) implementation of exercises designed to improve healthy behavior in low-adherence patients following an Acute Coronary Syndrome. Each week, patients completed positive psychological exercises and answered questions about the usefulness and challenge of those exercises. The qualitative data supplemented quantitative depression scales, positive affect scales, and life satisfaction scales participants completed concurrently.



## 5. Conclusion

The results of our methodological review show that mixed methods design is present in positive psychology, although considering the number of publications in the field, the methodology is still used infrequently. Qualitative research in psychology is rare, and that may have impacted these findings, especially within the representation of journals. Given that we restricted our literature search to a prevalent database within psychology, it seems reasonable to think that had we expanded our search outside of this database, we would have identified additional disciplines.

Several findings stood out in this methodological review as noteworthy. First, of the 56 articles we reviewed, 36 different journals were represented. The breadth of coverage is an illustration of the strength of mixed methods as a research approach spanning numerous disciplines. Next, 55 reviewed articles provided at least an implied rationale for using a mixed methods approach. By providing a rationale for the chosen methodology, readers can apply such reasoning to their own research agenda and expand promising approaches in their work.

Several articles stood out as exemplary uses of mixed methods methodology and positive psychology. The following examples may be especially useful for researchers trained primarily in quantitative methodology due to the emphasis placed on the rationale for selecting a mixed methods design. Nell's (2014) use of an exploratory mixed methods design provided clear integration of the quantitative and qualitative phases in an investigation of sources of life meaning among South African university students, and Nell et al.'s (2015) study of well-being in the Nduomo community in South Africa demonstrated clear, well-supported justification for the mixed methods approach in an explanatory design. Selvam's (2015) use of positive psychological interventions in facilitating recovery from alcohol misuse illustrated the leverage of positive psychology perspectives in sampling within mixed methods research.

An intriguing finding uncovered in this review was that about half ( $n = 25$ ) of the reviewed articles used positive psychology as interventions in experimental or quasi-experimental studies. Positive psychology interventions (PPIs) offer a means to directly engage in the science of well-being. When combined with a mixed methods research approach, researchers can both explain and explore the mechanisms behind human flourishing. The combination of mixed methods within positive psychology offers internally valid information along with in-depth understanding of the aspects of interventions participants found most meaningful. Harnessing the power of participants' perspectives in experiments may uncover knowledge that resides at the intersection of mixed methods and positive psychology.

Since mixed methods and positive psychology are growing, both disciplines have room for improvement to retain the quality and strength of previous research. Although 52 articles implicitly identified the timing between the quantitative and qualitative strands, only four did so explicitly. Clearly indicating the temporal relationship between the methodologies helps readers understand the rationale for mixing as well as how the data interact with each other.

Twenty-nine of 56 reviewed articles did not integrate the quantitative and qualitative data. The studies that interpreted data in mixed methods style did so minimally. To gain the greatest benefit from mixed methods approaches, more studies that integrate at various parts of the research process are needed. The research questions themselves could be integrated and mixing at every stage of the research process would produce in-depth findings at every step. All 56 reviewed articles used text data for the qualitative strand using open-ended questions or interviews. Psychology lends itself to a variety of qualitative research methods beyond focus groups and interviews. Researchers can expand their qualitative methods to include diverse

techniques like document/photograph analysis, action research, or participant journaling (Hatch, 2002) to elicit nuanced, in-depth understandings of complex phenomena.

Given that mixed methods research can be complex, we expected a strong representation of well-documented approaches in the references sections of the published articles. Although we did not create a coding category for *mixed methods references* in our data collection protocol, we noticed in our “general reflections” column that just in the articles published in 2019 over half of 16 articles ( $n = 9$ ) did not include any mixed methods references to support the inclusion of the approach, which often included omitting definitions and rationale for using mixed methods as well. This finding aligns with Creamer and Reeping’s (2020) review of reviews of mixed methods approaches in psychology, in which they suggest the paradigm incompatibility issue is still present in the field. It is possible that psychology researchers quietly include qualitative strands and phases in order to hide this aspect of their work.

Creamer and Reeping’s (2020) review led us to ponder the question of *why* psychology researchers disregard qualitative and mixed methods research as unimportant. We suspect the reason is due to persistent negative perceptions about the quality and rigor of both methodologies. Povee and Roberts’ (2014) findings from a study of perceptions of Australian psychology graduate students and faculty support our views. Participants perceived qualitative research in psychology as disrespected, unimportant, and not published as often as quantitative research. Notably, many participants stated that qualitative research was not a legitimate form of inquiry. Rubin et al. (2018) showed similar results and findings in a mixed methods study of qualitative research methods in U.S. psychology graduate programs. Only 13% of participants reported their graduate program requiring a qualitative research methods course, and only 17% offered one as an elective. Seventy-one percent of respondents rated the value of qualitative research methods in the psychology department as either unimportant or neutral.

The first author has experienced numerous challenges attempting to publish mixed methods studies in psychology journals. Often, rejection feedback included the suggestions of adding quantitative datasets to the study or increasing the sample size in qualitative phases. When combined with the lack of representation of qualitative methods in undergraduate programs, and the late addition of reporting conventions for the methodologies in the APA Publication Manual (2020), it is easy to see why mixed methods and qualitative methods continue to be seldom used in psychology research.

The combination of positive psychology and mixed methods is an innovative mixture with great future potential. Both fields have exploded with increasingly more studies published each year, indicating that researchers are receptive to both the discipline and the methodology. Since qualitative research especially has not been prominent in psychology, the door is wide open for researchers to become part of the establishment of the models on which future research will be based.

### **Conflict of interest statement**

The authors report no conflicts of interest.

### **Funding**

This work was supported by a Graduate Student and Faculty Mentoring Grant from the University of Cincinnati College of Education, Criminal Justice and Human Services Research and Development Professional Practice Board. The Development Professional Practice Board was not involved in study design, data collection, data analysis and interpretation, report writing, or submission of manuscript for publication.

## Authors

Rachael S. Clark  
Northern Kentucky University  
clarkr7@nku.edu

Vicki L. Plano Clark  
University of Cincinnati

## Publishing Timeline

Received 8 November 2021  
Revised version received 7 May 2022  
Accepted 12 May 2022  
Published 1 October 2022

## References

- Akhtar, M., & Boniwell, I. (2010). Applying positive psychology to alcohol-misusing adolescents: A group intervention. *Groupwork, 20*(3), 6-31.
- Alise, M., & Teddlie, C. (2010). A continuation of the paradigm wars? Prevalence rates of methodological approaches across the social/behavioral sciences. *Journal of Mixed Methods Research, 4*(2), 103-126.
- \*Atkinson, G., & Rowley, J. (2019). Pupils' views on mainstream reintegration from alternative provision: A Q methodological study. *Emotional and Behavioural Difficulties, 24*(4), 339-356.  
<https://doi.org/10.1080/1362752.2019.1625245>
- American Psychological Association. (2020). Publication manual of the American Psychological Association (7<sup>th</sup> ed.). <https://doi.org/10.1037/0000165-000>
- \*Bar, S. G. (2014). How personal systems coaching increases self-efficacy and well-being for Israeli single mothers. *International Journal of Evidence Based Coaching and Mentoring, 12*(2), 59-74.
- \*Baumsteiger, R., Mangan, S., Bronk, K. C., & Bono, G. (2019). An integrative intervention for cultivating gratitude among adolescents and young adults. *Journal of Positive Psychology, 14*(6), 807-819.  
<https://doi.org/10.1080/17439760.2019.1579356>
- \*Bernabé-Valero, G., Blasco-Magraner, J. S., & Moret-Tatay, C. (2019). Testing motivational theories in music education: The role of effort and gratitude. *Frontiers in Behavioral Neuroscience, 13*, 1-9.  
<https://doi.org/10.3389/fnbeh.2019.00172>
- Bolt, M. (2004). *Pursuing human strengths: A positive psychology guide*. Worth Publishers.
- \*Boniwell, I., Osin, E. N., & Martinez, C. (2016). Teaching happiness at school: Non-randomised controlled mixed-methods feasibility study on the effectiveness of Personal Well-Being Lessons. *Journal of Positive Psychology, 11*(1), 85-98.
- Bradt, J., Burns, D. S., & Creswell, J. W. (2013). Mixed methods research in music therapy research. *Journal of Music Therapy, 50*(2), 123-148.
- Braun, V., & Clarke, V. (2014). What can "thematic analysis" offer health and wellbeing researchers? *International Journal of Qualitative Studies on Health and Well-being, 9*, 1-2.  
<https://doi.org/10.3402/qhw.v9.26152>
- \*Bronk, K.C., Leontopoulou, S., & McConchie, J. (2019). Youth purpose during the great recession: A mixed-methods study. *Journal of Positive Psychology, 14*(4), 405-416.  
<https://doi.org/10.1080/17439760.2018.1484942>
- Canales, G. (2012). Transformative, mixed methods checklist for psychological research with Mexican Americans. *Journal of Mixed Methods Research, 7*(1), 6-21. <https://doi.org/10.1177/1558689812446022>
- \*Carillo, A., Martínez-Sanchis, M., Etchemendy, E., & Baños, R. M. (2019). Qualitative analysis of the Best Possible Self intervention: Underlying mechanisms that influence its efficacy. *PLoS ONE, 14*(5), e0216896. <https://doi.org/10.1371/journal.pone.0216896>
- \*Chaplin, L. N., Bastos, W., & Lowrey, T. M. (2010) Beyond brands: Happy adolescents see the good in people. *Journal of Positive Psychology, 5*(5), 342-354. <https://doi.org/10.1080/17439760.2010.507471>

- \*Chiba, R., Miyamoto, Y., & Harada, N. (2016). Psychological transformation by an intervention to facilitate benefit finding among people with Chronic Mental Illness in Japan. *Perspectives in Psychiatric Care*, 52(2), 139-144.
- \*Coghlan, A., & Filo, K. (2016). Bringing personal character strengths into the production of the leisure experience. *Leisure Sciences*, 38(2), 100-117.
- Collins, K. M. T., Onwuegbuzie, A. J., & Jiao, Q. G. (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of Mixed Methods Research*, 1(3), 267-294. <https://doi.org/10.1177/1558689807299526>
- \*Cook, K., Sandage, S., Hill, P., & Strawn, B. (2010). Folk conceptions of virtue among Cambodian American Buddhists and Christians: A hermeneutic analysis. *Psychology of Religion and Spirituality*, 2(2), 83-103.
- \*Cooley, S. J., Quinton, M. L., Holland, M. J. G., Parry, B. J., & Cumming, J. (2019). The experiences of homeless youth when using strengths profiling to identify their character strengths. *Frontiers in Psychology*, 10, 1-16. <https://doi.org/10.3389/fpsyg.2019.02036>
- \*Cores-Bilbao, E., Fernández-Corbacho, A., Machancoses, F. H., & Fonseca-Mora, M. C. (2019). A music-mediated language learning experience: Students' awareness of their socio-emotional skills. *Frontiers in Psychology*, 10, 1-10. <https://doi.org/10.3389/fpsyg.2019.02238>
- \*Cortinovis, I., Luraschi, E., Intini, S., Sessa, M., & Delle Fave, A. (2011). The daily experience of people with acondroplasia. *Applied Psychology: Health and Well-Being*, 3(2), 207-227.
- \*Coulombe, S., Jutras, S., Labbé, D., & Jutras, D. (2016). Residential experience of people with disabilities: A positive psychology perspective. *Journal of Environmental Psychology*, 46(3), 42-54.
- Creamer, E. G., & Reeping, D. (2020). Advancing mixed methods in psychological research. *Methods in Psychology*, <https://doi.org/10.1016/j.metip.2020.10035>
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2<sup>nd</sup> ed.). SAGE Publications.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3<sup>rd</sup> ed.). SAGE Publications.
- \*Critchley, H., & Gibbs, S. (2012). The effects of positive psychology on the efficacy beliefs of school staff. *Educational & Child Psychology*, 29(4), 64-76.
- Dahlsgaard, K., Peterson, C., & Seligman, M. E. P. (2005). Shared virtue: The convergence of valued human strengths across culture and history. *Review of General Psychology*, 9(3), 203-213. <https://doi.org/10.1037/1089-2680.9.3.203>
- \*Davis, E. B., Kimball, C. N., Aten, J. D., Andrews, B., Van Tongeren, D. R., Hook, J. N., Davis, D. E., Granqvist, P., & Park, C. L. (2019). Religious meaning making and attachment in a disaster context: A longitudinal qualitative study of flood survivors. *Journal of Positive Psychology*, 14(5), 659-671. <https://doi.org/10.1080/17439760.2018.1519592>
- \*Delle Fave, A., Brdar, I., Wissing, M., & Vella-Brodrick, D. (2013). Sources and motives for personal meaning in adulthood. *Journal of Positive Psychology*, 8(6), 517-529.
- Denzin, N. K., & Lincoln, Y. S. (1994). *Handbook of qualitative research*. SAGE Publications.
- Diener, E. (1984). Subjective Well-Being. *Psychological Bulletin*, 95(3), 542-575.
- Diener, E., & Tov, W. (2009). Well-Being on planet Earth. *Psychological Topics*, 2, 213-219.
- Donaldson, S. I., Dollwet, M., & Rao, M. A. (2015). Happiness, excellence, and optimal human functioning revisited: Examining the peer-reviewed literature linked to positive psychology. *Journal of Positive Psychology*, 10(3), 1-11.
- \*Drescher, C. F., Johnson, L. R., Kurz, A. S., Scales, P. C., & Kiliho, R. P. (2018). A developmental assets approach in East Africa: Can Swahili measures capture adolescent strengths and supports? *Child Youth Care Forum*, 47, 23-43. <https://doi.org/10.1007/s10566-017-9415-0>
- \*Duffy, R. D., Torrey, C. L., England, J., & Tebbe, E. A. (2017). Calling in retirement: A mixed methods study. *Journal of Positive Psychology*, 12(4), 399-413. <https://doi.org/10.1080/17439760.2016.1187201>
- Dures, E., Rumsey, N., Morris, M., & Gleeson, K. (2010). Mixed methods in health psychology. *Journal of Health Psychology*, 16(2), 332-341.



- Evans, B. C., Coon, D. W., & Ume, E. (2011). Use of theoretical frameworks as a pragmatic guide for mixed methods studies: A methodological necessity? *Journal of Mixed Methods Research, 5*(4), 276-292. <https://doi.org/10.1177/1558689811412972>
- Fetters, M. D., & Freshwater, D. (2015). Publishing a methodological mixed methods research article. *Journal of Mixed Methods Research, 9*(3), 203-213.
- \*Freire, T., Lima, I., Teixeira, A., Araújo, M. R., & Machado, A. (2018). Challenge to be +. A group intervention program to promote the positive development of adolescents. *Children and Youth Services Review, 87*, 173-185. <https://doi.org/10.1016/j.childyouth.2018.02.035>.
- Giddings, L., & Grant, B. (2007). A Trojan Horse for positivism? A critique of mixed methods research. *Advances in Nursing Science, 30*(1), 52-60.
- \*Graziosi, M., & Yaden, D. (2019). Interpersonal awe, Exploring the social domain of awe elicitors. *Journal of Positive Psychology, 16*(2), 263-271. <https://doi.org/10.1080/17439760.2019.1689422>
- Greene, J. (2007). *Mixed methods in social inquiry*. Jossey-Bass.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.
- \*Groarke, J. M., & Hogan, M. J. (2016). Enhancing wellbeing: An emerging model of the adaptive functions of music listening. *Psychology of Music, 44*(4), 769-791.
- \*Halliday, A. J., Kern, M. L., Garrett, D. K., & Turnbull, D. A. (2019). Understanding factors affecting positive education in practice: An Australian case study. *Contemporary School Psychology, 24*, 128-145. <https://doi.org/10.1007/s40688-019-00229-0>
- Hanson, W. E., Creswell, J. W., Plano Clark, V. L., Petska, K. S., & Creswell, D. J. (2005). Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology, 52*(2), 224-235.
- Hatch, J. A. (2002). *Doing qualitative research in education settings*. State University of New York Press.
- Hefferon, K., Ashfield, A., Waters, L., & Synard, J. (2017). Understanding optimal human functioning – the ‘call for qual’ in exploring human flourishing and well-being. *Journal of Positive Psychology, 12*(3), 211-219.
- \*Hensler, M., Katz, E., Wiener, L., Berkow, R., & Madan-Swain, A. (2013). Benefit finding in fathers of childhood cancer survivors: A retrospective pilot study. *Journal of Pediatric Oncology Nursing, 30*(3), 161-168.
- \*Ho, H. C. Y., Mui, M., Wan, A., Stewart, S. M., Yew, C., Lam, T. H., & Chan, S. S. (2017). Happy Family Kitchen: Behavioral outcomes of a brief community-based family intervention in Hong Kong. *Journal of Child and Family Studies, 26*, 2852-2864. <https://doi.org/10.1007/s10826-017-0788-3>
- \*Ho, H. C., Mui, M., Wan, A., Ng, Y. L., Stewart, S. M., Yew, C., Lam, T. H., ... Chan, S. S. (2016). Happy Family Kitchen: A community-based research for enhancing family communication and well-being in Hong Kong. *Journal of Family Psychology, 30*(6), 752-762.
- \*Hoeppner, B. B., Hoeppner, S. S., Kelly, K., Schick, M., & Kelly, J. F. (2017). Smiling instead of smoking: Development of a positive psychology smoking cessation smartphone app for non-daily smokers. *International Journal of Behavioral Medicine, 24*(5), 683-693. <https://doi.org/10.1007/s12529-017-9640-9>
- Howell Smith, M. C., & Shanahan Bazis, P. (2020). Conducting mixed methods research systematic methodological reviews: A review of practice and recommendations. *Journal of Mixed Methods Research, 15*(4), 546-566. <https://doi.org/10.1177/1558689820967626>
- Hoyt, W. T., & Bhati, K. S. (2007). Principles and practices: An empirical examination of qualitative research in the Journal of Counseling Psychology. *Journal of Counseling Psychology, 54*(2), 201-210. <https://doi.org/10.1037/0022-0167.54.2.201>
- Huffman, J. C., Millstein, R. A., Mastromauro, C. A., Moore, S. V., Celano, C. M., Bedoya, C. A., Suarez, L., ... Januzzi, J. L. (2016). A positive psychology intervention for patients with an Acute Coronary Syndrome: Treatment development and proof-of-concept trial. *Journal of Happiness Studies, 17*(5), 1985-2006.
- Ivankova, N., & Kawamura, Y. (2010). Emerging trends in the utilization of integrated designs in the social, behavioral, and health sciences. In A. Tashakkori, & C. Teddlie (Eds.), *SAGE handbook of mixed methods in social & behavioral sciences* (pp. 581-611). SAGE Publications.



- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.
- Josselson, R. (Ed.). (2013). Editor's introduction. *Qualitative Psychology*, 1(S), 1-2.  
<https://doi.org/10.1037/h0094986>
- \*Khramtsova, I., & Glascock, P. (2010). Outcomes of an integrated journaling and mindfulness program on a U.S. university campus. *Revista de psihologie*, 56(3-4), 208-218.
- Kral, M. J., Links, P. S., & Bergmans, Y. (2012). Suicide studies and the need for mixed methods research. *Journal of Mixed Methods Research*, 6(3), 236-249.
- \*Krentzman, A. R., & Barker, S. L. (2016). Counselors' perspectives of positive psychology for the treatment of addiction: A mixed methods pilot study. *Alcoholism Treatment Quarterly*, 34(4), 370-385.
- \*Kun, A., & Gadanecz, P. (2019). Workplace happiness, well-being and their relationship with psychological capital: A study of Hungarian teachers. *Current Psychology*,  
<https://doi.org/10.1007/s12144-019-00550-0>
- \*Lai, A. Y., Stewart, S. M., Wan, A., Fok, H., Lai, H. Y. W., Lam, T., & Chan, S. S. (2017). Development and evaluation of a training workshop for lay health promoters to implement a community-based intervention program in a public low rent housing estate: The Learning Families Project in Hong Kong. *PLoS ONE*, 12(8), e018636. <https://doi.org/10.1371/journal.pone.018636>
- \*Lambert, D. L. T., Moliver, N., & Thompson, D. (2015). Happiness intervention decreases pain and depression, boosts happiness among primary care patients. *Primary Health Care Research & Development*, 16(2), 114-126.
- \*Lee, E. J. (2015). The effect of positive group psychotherapy on self-esteem and state anger among adolescents at Korean immigrant churches. *Archives of Psychiatric Nursing*, 29(2), 108-113.
- Levitt, H. M., Bamberg, M., Creswell, J. W., Frost, D. M., Josselson, R., & Suarez-Orozco, C. (2018). Journal article reporting standards for qualitative primary, qualitative meta-analytic, and mixed methods research in psychology: The APA Publications and Communications Board Task Force Report. *American Psychologist*, 73(1), 26-46. <https://doi.org/10.1037/amp0000151>
- \*Li, C., & Xu, J. (2019). Trait emotional intelligence and classroom emotions: A positive psychology investigation and intervention among Chinese EFL learners. *Frontiers in Psychology*.  
<https://doi.org/10.3389/fpsyg.2019.02453>
- \*Li, P. F. J., Wong, J., McDermott, R. C., Cheng, H.-L., & Ruser, J. B. (2019). U. S. college students' lay beliefs about hope: A mixed-methods study. *Journal of Positive Psychology*, 16(2), 249-262.  
<https://doi.org/10.1080/17439760.2019.1689420>
- \*Lim, M. H., Rodebaugh, T. L., Eres, R., Long, K. M., Penn, D. L., & Gleeson, J. F. M. (2019). A pilot digital intervention targeting loneliness in youth mental health. *Frontiers in Psychiatry*.  
<https://doi.org/10.3389/fpsyg.2019.00604>
- Linley, P. A., Joseph, S., Harrington, S., & Wood, A. M. (2006). Positive psychology: Past, present, and (possible) future. *Journal of Positive Psychology*, 1(1), <https://doi.org/10.1080/17439760500372796>
- Lopez, S. J., Pedrotti, J. T., & Snyder, C. R. (2016). *Positive psychology: The scientific and practical explorations of human strengths* (3<sup>rd</sup> ed.). SAGE Publications.
- \*Loveday, P. M., Lovell, G. P., & Jones, C. M. (2018). The importance of leisure and the psychological mechanisms involved in living a good life: A content analysis of best-possible-selves texts. *Journal of Positive Psychology*, 13(1), 18-28. <https://doi.org/10.1080/17439760.2017.1374441>
- \*Lucas, H., Csikszentmihalyi, M., & Nakamura, J. (2019). Beyond-personal love – Experiencing love beyond the person. *Journal of Positive Psychology*, 14(6), 789-798.  
<https://doi.org/10.1080/17439760.2019.1579354>
- \*Macaskill, A. (2012). A feasibility study of psychological strengths and well-being assessment in individuals living with recurrent depression. *Journal of Positive Psychology*, 7(5), 372-386.
- \*Manicavasagar, V., Horswood, D., Burckhardt, R., Lum, A., Hadzi-Pavlovic, D., & Parker, G. (2014). Feasibility and effectiveness of a web-based positive psychology program for youth mental health: Randomized controlled trial. *Journal of Medical Internet Research*, 16(6), e140.
- Maslow, A. H. (1954). *Motivation and personality*. Harper & Row.

- Maxwell, J. A., & Loomis, D. M. (2003). Mixed methods design: An alternative approach. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 241-271). SAGE Publications.
- \*McLaughlin, P. T., McMinn, M. R., Morse, M.-K., Neff, M. A., Johnson, B., Summerer, D. & Koskela, N. (2018). The effects of a wisdom intervention in a Christian congregation. *Journal of Positive Psychology, 13*(5), 502-511. <https://doi.org/10.1080/17439760.2017.1350739>
- \*Mohamed, S., & Thomas, M. (2017). The mental health and psychological well-being of refugee children and young people: An exploration of risk, resilience and protective factors. *Educational Psychology in Practice, 33*(3), 249-263. <https://doi.org/10.1080/02667363.2017.1300769>
- Molina-Azorín, J. F., Fetters, M. D. (2016). Mixed methods research prevalence studies: Field-specific studies on the state of the art of mixed methods research. *Journal of Mixed Methods Research, 10*(2), 123-128. <https://doi.org/10.1177/1558689816636707>
- Morgan, D. L. (2014). *Integrating qualitative and quantitative methods: A pragmatic approach*. SAGE Publications.
- \*Nell, W. (2014). Sources of life meaning among South African university students. *Journal of Psychology in Africa, 24*(1), 129-143.
- \*Nell, W., de Crom, E., Coetzee, H., & van Eeden, E. (2015). The psychosocial well-being of a "forgotten" South African community: The case of Nduomo, KwaZulu-Natal. *Journal of Psychology in Africa, 25*(3), 171-181.
- \*Packer, J., & Ballantyne, J. (2011). The impact of music festival attendance on young people's psychological and social well-being. *Psychology of Music, 39*(2), 164-181.
- \*Parker, G., Paterson, A., Fletcher, K., Blanch, B., Graham, R. (2012). The 'magic button question' for those with a mood disorder - Would they wish to re-live their condition? *Journal of Affective Disorders, 136*(3), 419-424.
- \*Passmore, H.-A., & Holder, M. D. (2017). Noticing nature: Individual and social benefits of a two-week intervention. *Journal of Positive Psychology, 12*(6), 537-546. <https://doi.org/10.1080/17439760.2016.1221126>
- Pawelski, J. (2015, June). Conference conclusion remarks. International Positive Psychology Association Fourth World Congress. Orlando, FL, United States.
- \*Peláez, M. J., Coo, C., & Salanova, M. (2019). Facilitating work engagement and performance through strengths-based micro-coaching: A controlled trial study. *Journal of Happiness Studies, 21*, 1265-1284. <https://doi.org/10.1007/s10902-019-00127-5>
- Peterson, C. (2006). *A primer in positive psychology*. Oxford University Press.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. American Psychological Association.
- Plano Clark, V. L. (2010). The adoption and practice of mixed methods: U.S. trends in federally funded health-related research. *Qualitative Inquiry, 16*(6), 428-440.
- Plano Clark, V. L. (2017). Mixed methods research [Commentary]. *Journal of Positive Psychology, 12*(3), 305-306. <https://doi.org/10.1080/17439760.2016.1262619>
- Plano Clark, V. L., & Ivankova, N. V. (2016). *Mixed methods research: A guide to the field*. Sage Publications.
- Ponterotto, J. G., Mathew, J. T., & Raughley, B. (2013). The value of mixed methods designs to social justice research in counseling and psychology. *Journal of Social Action in Counseling and Psychology, 5*(2), 42-68.
- Povee, K., & Roberts, L. D. (March 01, 2014). Qualitative research in psychology: Attitudes of psychology students and academic staff. *Australian Journal of Psychology, 66*, 1, 28-37.
- \*Prinsen, C. A. C., & Terwee, C. B. (2019). Measuring positive health: For now, a bridge too far. *Public Health, 170*, 70-77. <https://doi.org/10.1016/j.puhe.2019.02.024>
- PsycINFO Fact Sheet (2017). *PsycINFO at a glance*. APA PsycNET.
- Rath, T. (2007). *Strengths finder 2.0*. Gallup Press.
- Rubin, J. D., Bell, S., & McClelland, S. I. (2018). Graduate education in qualitative methods in U.S. psychology: Current trends and recommendations for the future. *Qualitative Research in Psychology, 15*(1), 29-50. <https://doi.org/10.1080/14780887.2017.1392668>

- Rusk, R. D., & Waters, L. E. (2013). Tracing the size, reach, impact, and breadth of positive psychology. *Journal of Positive Psychology, 8*(3), 207-221. <https://doi.org/10.1080/174397670.2013.777766>
- Ryff, C. D., & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry, 9*, 1, 1-28.
- Schrauf, R. W. (2018). Mixed methods designs for making cross-cultural comparisons. *Journal of Mixed Methods Research, 12*(4), 477-494. <https://doi.org/10.1177/1558689817743109>
- \*Scioli, A., Scioli-Salter, E. R., Sykes, K., Anderson, C., & Fedele, M. (2016). The positive contributions of hope to maintaining and restoring health: An integrative, mixed-method approach. *Journal of Positive Psychology, 11*(2), 135-148.
- Seligman, M. E. P. (1999). The president's address. *American Psychologist, 54*: 559-562
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5-14.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60*(5), 410-421. <https://doi.org/10.1037/0003-066X.60.5.410>
- \*Selvam, S. G. (2015). Character strengths in the context of Christian Contemplative Practice facilitating recovery from alcohol misuse: Two case studies. *Journal of Spirituality in Mental Health, 17*(3), 190-211.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60*(4), 570-585. <https://doi.org/10.1037/0022-3514.60.4.570>
- \*Subandi, M. A., Achmad, T., Kurniati, H., & Febri, R. (January 01, 2014). Spirituality, gratitude, hope and post-traumatic growth among the survivors of the 2010 eruption of Mount Merapi in Java, Indonesia. *Australasian Journal of Disaster and Trauma Studies, 18*(1), 19-26.
- Tashakkori, A., Johnson, R. B., & Teddlie, C. (2021). *Foundations of mixed methods research. Integrating quantitative and qualitative approaches in the social and behavioral sciences* (2nd ed.). Sage Publications.
- Tashakkori, A., & Teddlie, C. (2010). *SAGE handbook of mixed methods in social & behavioral research* (2nd ed.). SAGE Publications, Inc. <https://doi.org/10.4135/9781506335193>
- \*Titova, L., Wagstaff, A. E., & Parks, A. C. (2017). Disentangling the effects of gratitude and optimism: A cross-cultural investigation. *Journal of Cross-Cultural Psychology, 48*(5), 754-770. <https://doi.org/10.1177/0022022117699278>
- Toomela, A. (2011). Travel into a fairy land: A critique of modern qualitative and mixed methods psychologies. *Integrative Psychological and Behavioral Science, 45*(1), 21-47.
- \*Tümlü, C., & Akdoğan, R. (2019). Looking at life through a different window: Group counselling for the mothers of disabled children. *International Journal for the Advancement of Counselling, 41*, 252-271. <https://doi.org/10.1007/s10447-019-09373-x>
- von der Lippe, H. (2010). Motivation and selection processes in a biographical transition: A psychological mixed methods study on the transition into fatherhood. *Journal of Mixed Methods Research, 4*(3), 199-221. <https://doi.org/10.1177/1558689810365149>
- \*White, R. L., Olson, R., Parker, P. D., Astell-Burt, T., & Lonsdale, Ch. (2018). A qualitative investigation of the perceived influence of adolescents' motivation on relationships between domain-specific physical activity and positive and negative affect. *Mental Health and Physical Activity, 14*, 113-120. <https://doi.org/10.1016/j.mhpa.2018.03.002>
- Yin, R. K. (2016). *Qualitative research from start to finish* (2<sup>nd</sup> ed.). Guilford Press.
- Yoshikawa, H., Mistry, R., & Wang, Y. (2016). Advancing methods in research on Asian American children and youth. *Child Development, 87*(4), 1033-1050.
- \*Zhou, Q., Chan, S. S., Stewart, S. M., Leung, C. S., Wan, A., & Lam, T. H. (2016). The effectiveness of positive psychology interventions in enhancing positive behaviors and family relationships in Hong Kong: A community-based participatory research project. *Journal of Positive Psychology, 11*(1), 70-84.