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Facets of Well-Being Across the Age Spectrum in the American Population

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ABSTRACT
Well-being is a term of abstraction for most, yet the state of well-being is considered a reflection of happiness and health throughout life. Understanding and measuring the domains of well-being at different ages is a starting point to developing effective means of improving the well-being of a population. This large-scale study used Gallup-Healthways Well-Being Index (GHWBI) data collected from 375,334 Americans to assess the affect of age on well-being by comparing three age groups: young (18–43 years), mid-life (44–64 years), and senior (≥65 years). The well-being composite scores of these groups showed that overall well-being is lowest during the mid-life years and higher during the younger and senior age periods, thus resembling an U-shaped distribution but with well-being reaching its highest level during the senior years. Of the six measured well-being domains, emotional health, healthy behavior, work environment, and basic access scores demonstrated improvement with age. In contrast, life evaluation and physical health domains declined with age. These differential trends among the well-being domains help to clarify the mixed results of previous well-being studies by revealing that the underlying components of well-being are not uniform in their changes over time. The findings reported here indicate that programs aimed at improving well-being should be individualized because the factors that enhance or detract from well-being vary over the course of a lifetime.

INTRODUCTION

Numerous factors may influence the well-being of individuals throughout life. Although prior studies have suggested that certain demographic factors, such as age, may be correlated with an individual's overall well-being, the factors driving these relationships remains to be determined.[1-4] In an effort to further understand the impact of age on well-being, previous research efforts have focused on certain facets of well-being in specific age groups and have found potential links between health and well-being.[4-7] While these early findings have been informative, they offer a somewhat narrow interpretation of well-being since they do not incorporate a global measure of well-being.

Well-being research has often been limited to capturing well-being at the current time of assessment. For example, one study has shown that the aspects of emotion, affect, or mood can impact an individual's well-being at a particular moment in time, or daily experience.[8] However, this approach alone fails to incorporate past and future well-being perceptions, narrowing the potential conclusions from and applicability of the results. The use of a broader, global measure of well-being, such as the Cantril's Self-Anchoring Striving Scale, [9] is effective in assessing well-being that encompasses an individual's perception of cumulative life experiences. Together, these two types of well-being measures offer a more complete representation of well-being[10, 11] and are the foundations upon which the GHWBI was developed.[12]

Well-Being Across The Life Course

To date, mixed results regarding the association between positive or negative affect on well-being across the lifespan have been documented.[13-19] Some studies have found that measures of happiness or subjective well-being remain constant or increase slightly over the life course.[20-23] Alternatively, other research has shown facets of well-being to decline over the age span due to a decrease in physical health.[4] Additional studies have reported an U-shaped distribution between age and well-being measures, with the lowest well-being associated with middle-aged individuals and the highest well-being associated with young and older individuals.[24-46] In fact, a large-scale international study found that well-being adopts a U-shaped distribution across the lifespan for most nations, regardless of whether data was adjusted for specific demographic variables, including marital status and income.[47, 48]

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Different well-being patterns over the life course may suggest that underlying factors, some unique to certain age periods, are responsible for driving well-being at different points in time. For instance, older people experience positive affect less often than middle-aged and young adults.[19, 49, 50] However, all of these factors are not well understood nor is it clear how they differentially impact individuals of different ages.

In this study, we assessed a broad number of life factors that may contribute to subjective well-being using GHWBI survey data from three age populations to better understand the dynamic nature of well-being over the course of life and to identify those aspects of well-being that may represent important areas of focus in efforts to improve well-being.

METHODS

Survey Tool and Scoring

The GHWBI is a comprehensive assessment tool containing over 80 questions on evaluative and experienced measures of well-being, in alignment with previously published guidelines.[10, 11] The survey is scored as a whole (composite score) and for each survey domain in which questions are categorized: Life Evaluation Index, Emotional Health Index, Physical Health Index, Healthy Behavior Index, Work Environment Index, and Basic Access Index. A complete description of these domains, or sub-indexes, was previously published in other reports.[51, 52]

The composite score and sub-index scores were calculated using the methodology described in the GHWBI Methodology Report.[52] All sub-indexes are scored in a positive manner on a 0 to 100 scale such that a higher score was indicative of higher subjective well-being for each of the sub-indexes. At the individual level, composite scores were calculated as the un-weighted average of all sub-index scores.

Study Population

The study population was comprised of 349,461 Americans over age 18 who completed the GHWBI in 2008. The population was categorized into three age groups for analysis: young, 18–43 years (n = 98,487); mid-life, 44–64 years (n =152,298); and senior, ≥65 years (n = 98,676). An additional 5,873 respondents who did not provide an age were excluded from the study.

Statistical Analysis

We tested differences between mean group scores, such as the current and future life evaluation items, using Analysis of Variance (ANOVA) to determine if any differences existed between the groups. In cases where there were more than two groups being compared and the ANOVA proved significant, we followed this with Tukey's multiple comparison test. In addition, the two component items of life evaluation, current life evaluation and expectations for the future, were assessed individually before assessing them as a combined score and classifying them as Thriving, Struggling, or Suffering.

All analyses were performed using SAS software (SAS Institute Inc., Cary, NC). Although all reported data are weighted, reported sample sizes are un-weighted unless otherwise specified.

RESULTS

Composite Well-Being Scores

We found that the senior population had the highest composite well-being score of the three age groups whereas the mid-life group had the lowest score. Table 1 shows the composite well-being scores for each age group. The total population score for the full 2008 sample is also listed as a benchmark for comparison (Table 1).

The mean composite well-being score was significantly associated with age ($p < .0001$). Respondents in the senior age group had a significantly higher mean composite well-being score than either the young or mid-life age groups. In addition, younger individuals had significantly higher well-being compared with mid-life individuals.

Sub-Index Scores

All sub-index scores (Emotional Health, Physical Health, Healthy Behavior, Work Environment, Basic Access, Life Evaluation) were significantly associated with age ($p < .0001$). The mean Emotional Health, Healthy Behavior, Work Environment, and Basic Access Index scores were higher among senior respondents compared with young and mid-life respondents (Table 1). Compared with the young population, individuals in the mid-life population had higher mean scores in Emotional Health, Healthy Behavior, Work Environment, and Basic Access Indexes but lower mean scores compared with the senior population. Young respondents had a significantly higher mean Physical Health Index score compared with the other two populations.

TABLE 1: Average Composite and Sub-Index Well-Being Scores by Age Group

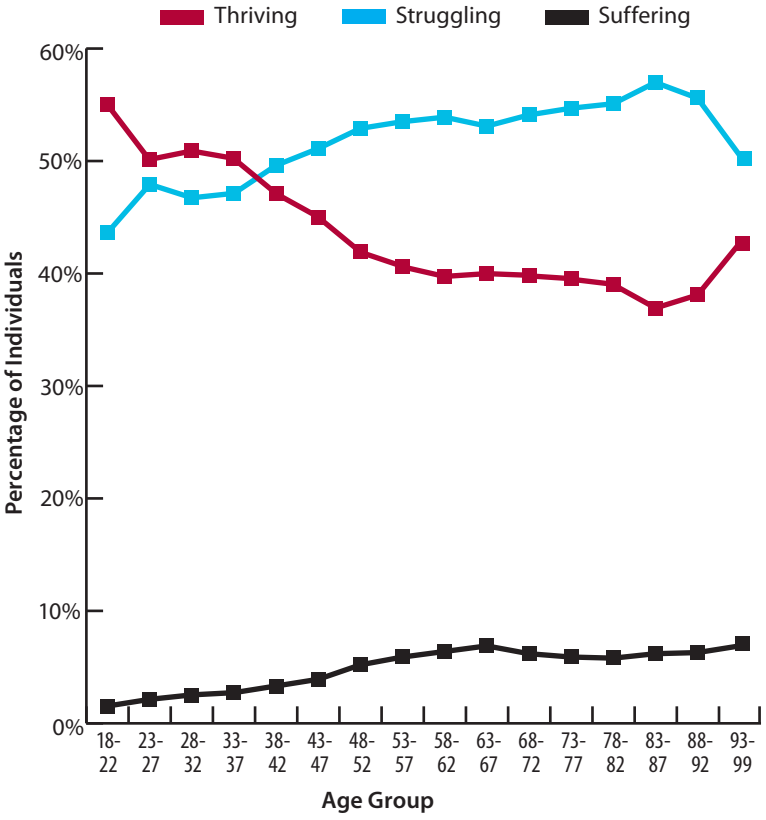
	Young	Mid-life	Senior	All
Composite Score	65.87	64.80	68.76	65.74
Life Evaluation Index	47.64	36.32	33.16	40.80
Emotional Health Index	77.92	78.05	83.84	79.07
Physical Health Index	80.39	74.35	74.10	76.90
Healthy Behavior Index	59.06	63.88	73.66	63.66
Work Environment Index	50.01	52.37	62.18	51.41
Basic Access Index	80.23	83.85	85.61	82.58

Individual mean scores (M) for the current life evaluation were significant between groups, with the highest score being reported in the senior age group ($M = 6.84$; $p < .0001$). However, young respondents had significantly higher mean future life evaluation scores than either mid-life or senior respondents ($p < .0001$).

Thriving, Struggling, and Suffering Individuals over the Life Course

The proportion of individuals classified into the Thriving, Struggling, and Suffering categories based on answers to the Life Evaluation Index was examined in 5-year age increments. Due to a low number of respondents in the older age groups, we combined the respondents at the highest end of the age span into one category, making the highest age category a 7-year span. A graph showing the proportion of individuals within each category and the shifting of proportions by age is shown in Figure 1. Based on the age spectrum ranging from 18 to 99 years, the majority of individuals were classified as either Thriving or Struggling. Overall, the percentage of Thriving individuals declined with age whereas the percentage of Struggling individuals increased with age. Suffering individuals (6.9%) were most prevalent among the senior population (Figure 1).

FIGURE 1: Percentage of Individuals, by Age, Classified as Thriving, Struggling, and Suffering Based on Life Evaluation Index Scores



DISCUSSION

Our findings support the theory that overall subjective well-being is U-shaped throughout the lifespan. In particular, the well-being composite score showed lower ratings for the mid-life group and higher scores for the youngest and oldest age groups, thereby reflecting a general decrease in well-being during mid-life. However, when assessed individually, the domains of well-being showed differential trends, either increasing or decreasing with age. In particular, the Emotional Health Index, the Healthy Behavior Index, and the Work Environment Index all trended higher over the life course. Conversely, the Life Evaluation Index and the Physical Health Index both demonstrated a downward trend over the life course. These differences in the sub-index trends may help to explain why some researchers have found that the global subjective well-being scores are U-shaped in American, East European, and Asian nations[47] since the value and support that a culture gives to different domains of well-being are likely to be reflected in the age-related well-being levels for that region.

Our analysis demonstrated that the percentage of Thriving individuals decreased over the life course while the percentages in the Struggling and Suffering individuals both increased. It is interesting to note that the age-range at which the percentage of individuals in the Struggling category increased above the percentage of individuals in the Thriving category approximates the lowest point in well-being curves described by others.[47] This suggests that this represents a turning-point at which individuals begin to achieve well-being in a different fashion. For example, among the individual domain scores, seniors ranked the lowest in the Physical Health and Life Evaluation Indexes; however, the Emotional Health Index average score for seniors exceeded the younger age groups. These results suggest that, although physical health may naturally decline with age, an improvement in emotional health can compensate later in life to restore or improve well-being.

Of further interest, while the U-shaped curve ultimately places members in the oldest age group at a higher level of well-being, more seniors are suffering than in any other group as indicated by the low Life Evaluation Index scores. This paradox may indicate a marked division amongst the oldest age group, whereby a certain small but important subset may have substantially lower well-being than the rest of the group.

The fundamental relationship between well-being and the life course is a complex topic that we have only begun to understand. Here, we support and extend upon previous research by GHWBI data collected from a large, random sample of Americans to demonstrate how well-being, and the underlying domains of well-being, differ by age. Since this study used a cross-sectional design, additional studies are needed to discern whether the observed differences were reflective of the point in time at which data was collected, or to the general aging process. A study utilizing a panel design

and measurement of the same sample of respondents over time may help determine whether there is a cause-effect relationship between age and well-being and should be considered as a subject for additional research.

In conclusion, we have shown that the underlying components of well-being are not uniform in their changes over time. This information will prove valuable in providing tailored support to improve the well-being of individuals at every age because these results suggest that individual needs vary over the course of a lifetime. We hope to encourage future research with the aim of understanding the role of income, race, gender, and other factors that may also contribute to or moderate this relationship over a lifespan. Furthermore, determining which domains of well-being are most easily impacted is a critical next step because these areas should be prioritized for programs with the overall purpose of improving well-being. As a whole, we anticipate that these findings represent a significant first step in identifying the most effective means to improve the quality of life or life experiences for individuals during their lifetime.

ABOUT HEALTHWAYS

Healthways is the leading provider of specialized, comprehensive solutions to help millions of people maintain or improve their health and well-being and, as a result, reduce overall costs. Healthways' solutions are designed to keep healthy people healthy, mitigate or eliminate lifestyle risk factors that can lead to disease and optimize care for those with chronic illness. Our proven, evidence-based programs provide highly specific and personalized interventions for each individual in a population, irrespective of age or health status, and are delivered to consumers by phone, mail, internet and face-to-face interactions, both domestically and internationally. Healthways also provides a national, fully accredited complementary and alternative Health Provider Network, offering convenient access to individuals who seek health services outside of, and in conjunction with, the traditional healthcare system.

ABOUT THE CENTER FOR HEALTH RESEARCH

The Center for Health Research performs advanced analytics with data collected from millions of participants over twenty-five years of Healthways programming. Currently, Healthways houses six times the volume of data contained in the Library of Congress. That depth and breadth of information allows the team to conduct a vast range of research, and it is used to advance their thinking in all levels of healthcare. For access to our Virtual Research Library, and the reports published by the team at the Healthways Center for Health Research, go to www.healthways.com/research.

ABOUT AGELAB

AgeLab is a multidisciplinary research program at the Massachusetts Institute of Technology. Based in the Engineering Systems Division, AgeLab integrates research in behavior and technology to produce ideas and innovations that improve the lives of older people and those that care about them. For more information visit web.mit.edu/agelab.

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