Is it Time to Consider Meaning in Life as a Public Policy Priority?

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〈Abstract〉

A substantial body of research has grown around the thesis that meaning in life is vital to psychological health and well-being. The majority of this research has focused on individual well-being, whether people feel happy and relatively free of psychological disorders and mental distress. Across hundreds of studies, meaning in life has been linked to lower distress and impairment and greater well-being and achievement, and this set of findings extends to physical health as well. Further, there is a small number of studies indicating that people who report greater meaning in life are better relationship partners, neighbors, and citizens. This article reviews some of this research and asks the question, if meaning in life is associated with better individual health and well-being as well as with better citizenship should societies direct effort to monitoring—and perhaps facilitating—meaning in life as a matter of public policy. The article explores how meaning-focused public policy might proceed, and concludes by asserting that systematic measurement of meaning in life across nations is necessary to build the evidence needed to inform meaning-supportive public policy.

Key Words: Meaning in Life, Purpose in life, Well-Being, Social policy, Public Policy

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I. Biographical Sketch

Michael F. Steger, Ph.D. is an Associate Professor of Counseling Psychology and Applied Social Psychology at Colorado State University. Dr. Steger received his Ph.D. with a dual specialization in Counseling and Personality Psychology from the University of Minnesota in 2005. His research interests concern better understanding the factors that promote human flourishing and ameliorate psychological suffering. In particular, he has focused on researching how people generate the sense that their lives are meaningful, as well as investigating the benefits of living a meaningful life. He has published numerous peer-reviewed journal articles, book chapters, and scholarly publications. He has served as an Associate Editor for Journal of Personality, and on the editorial board of several additional journals. His published works include two books, *Designing Positive Psychology, Purpose and Meaning in the Workplace*, and the forthcoming *Handbook of Positivity and Strengths Based Approaches at Work*. He also developed the Meaning in Life Questionnaire, which has become the most widely-used measure of meaning and purpose in the world.

II. Is it Time to Consider Meaning in Life as a Public Policy Priority?

Roughly one decade ago, Diener and Seligman (2004) published a
groundbreaking article proposing that public policy should shift its focus from solely fiscal and economic indicators to incorporate considerations of people’s well-being. They concluded that while the existing research base is too disjointed and insufficient to serve as a foundation for public policy, as a basic step societies should systematically assess well-being to build a database strong enough to guide public policy. In particular, they recommended pursuing assessment in six domains: positive and negative emotions, engagement, optimism, trust, life satisfaction, and meaning in life. Diener and Seligman’s article marked an important point of transition for meaning in life, from a topic of interest for primarily humanistic and existentialist psychologists to one of the top potential indicators of whether human life achieves a desirable quality at the personal, social, economic, and governmental level. The aim of this article is to examine the status of meaning in life as a factor in public policy decisions. First, I will define meaning in life. Second, I will briefly review research relevant to two critical questions that must be answered before public policy can be based on meaning: can meaning be measured, and does meaning relate to important policy outcomes. Finally, I will provide examples of how meaning-focused public policy might differ from public policy as usual.

Defining Meaning in Life

In the intervening time since Diener and Seligman’s (2004) article, there has been an eruption of ambitious and broad-based
research on well-being. This research has strengthened the argument that well-being should be considered in public policy decisions, yet, a fairly recent review found that many of the same issues identified by Diener and Seligman persisted. Mulgan (2013) concluded that well-being research was beginning to be applied to public policy, but that the lack of common assessments hampered progress. The fundamental starting point for public policy must be assessment instruments that enable comparisons over time, both across and within societies. In the case of meaning in life, part of the problem with achieving a common assessment tool may lie in the variety of definitions that have been proffered.

Early articulations of meaning in life tended to circumnavigate the concept, discussing where meaning might come from or what benefits meaning might deliver. Often these accounts were drawn from people's strength in the face of adversity, as in the seminal writings of Viktor Frankl (1963) regarding his survival of Nazi concentration camps in World War II:

*Then I spoke of the many opportunities of giving life a meaning. I told my comrades (who lay motionless, although occasionally a sigh could be heard) that human life, under any circumstances, never ceases to have a meaning, and that this infinite meaning of life includes suffering and dying, privation, and death. I asked the poor creatures who listened to me attentively in the darkness of the hut to face up to the seriousness of our position. They must not lose hope but should keep their courage in the certainty that the hopelessness of our struggle did not detract from its dignity and its meaning. I said that someone looks down on each of us in difficult hours—a friend, a wife, somebody alive or dead, or a God*
—and he would not expect us to disappoint him. He would hope to find us suffering proudly—not miserably—knowing how to die. (p. 104)

Meaning in Frankl’s work was seen to confer a vital life-force that motivates virtuous and noble behavior regardless of pragmatic circumstances. As scholars sought ways to assess meaning, concepts such as purpose, vigor, hope, excitement, activity, and energy, as well as lack of boredom, depression, suicidality, fear of death, and emptiness all appeared in working definitions (e.g., Antonovsky, 1987; Battista & Almond, 1973; Crumbaugh, 1977; Crumbaugh & Maholick, 1964). Most of the early research was driven by therapeutic concerns over psychological patients, so including such concepts made clinical sense, but at the cost of a clean articulation and assessment of meaning. Even through the 1990s, it was common to see recently-developed meaning in life assessments and definitions include elements of activity and energy level, hope, thoughts of death, or specific kinds of goals and purposes (for reviews, see Steger, 2009; 2012; 2013). Obviously, the utility of research is diminished if instruments assess the same content as the constructs they are intended to predict. For example, meaning assessments that include content related to energy, thoughts of death, and hope are ill fit to examine the relationship between meaning and depression because low energy, thoughts of death, and hopelessness are fairly common symptoms of depression (e.g., Dyck, 1987; Steger & Kashdan, 2009).

Today, it is possible to offer a consensual definition of meaning
in life that includes the most consistently-appearing and central aspects of meaning, while also avoiding over-inclusiveness. The two central components of meaning are significance and purpose (Steger, 2009; Steger, Frazier, Oishi, & Kaler, 2006). Significance refers to people’s ability to comprehend their lives and construct a mental model of their experiences that brings their lives into a coherent whole, whereas purpose refers to people’s possession and pursuit of highly valued, long-term aspirations and aims (King, Hicks, Krull, & Del Gaiso, 2006; McKnight & Kashdan, 2009; Steger, 2009).

Critical Questions for Meaning in Public Policy

For meaning in life to provide utility for public policy, two things must be established. First, can meaning in life be assessed? Second, is meaning in life related to priority items in public policy?

Can Meaning in Life be Assessed?

Assessment tools for meaning in life have existed for more than half a century, but demonstrating that reliable and valid assessment exists is an ongoing project. The most widely used assessments of meaning in life vary in the degree to which they hew to the definition presented above. Although some include content that is extraneous to this definition (Crumbaugh & Maholick, 1964; Ryff, 1989), risking artificial conflation with important outcome variables, others exist that are better confined to simply assessing meaning in
life (e.g., Reker, 1992; Reker & Peacock, 1981). Meaning in life assessments also vary in their psychometric qualities, with several concerns having been noted over structural validity (e.g., Steger, 2006; 2007).

One assessment instrument in particular has been adapted for use in epidemiological research and national health surveys. According to one independent review paper, the Meaning in Life Questionnaire (MLQ; Steger et al., 2006) has been used to assess more people than any other meaning in life instrument (Heintzelman & King, 2014), and a separate independent review gave the MLQ the only perfect score granted in its analysis of rigor of development and demonstrated psychometric quality (Brandstätter, Baumann, Borasio, & Fegg, 2012). The MLQ is a simple, straightforward tool with robust psychometric properties that hews closely to core definitional content for meaning in life. The full version of the MLQ assesses both how meaningful people perceive their lives to be and also how intently people feel they are searching for more meaning in their lives (Steger, Kashdan, Sullivan, & Lorenz, 2008; Steger, Oishi, & Kesebir, 2011). Brief versions, generally consisting of three items assessing the extent of meaning in people’s lives, have been developed and used by governmental agencies for national health surveillance (e.g., Kobau, Sniezek, Zack, Lucas, & Burns, 2010) and by non-governmental research institutes conducting cross-national research on health and quality of life (Samman, 2007). In cross-national research, the psychometric properties of the full MLQ (e.g., Steger, Kawabata, Shimai, & Otake, 2008) and short version (Steger & Samman, 2012)
have proven to be very good (Steger & Shin, 2010).

**Is Meaning Related to Priority Items in Public Policy?**

The issues targeted by public policy are diverse, and vary across nation and across the evolution of individual nations. At a basic level, nations want to provide critical, life-supporting goods and services, such as roads and safe food and water; safety for its citizens; and a fundamental medium for economic transactions. One might argue that people who feel a sense of meaning will function better in their occupational roles—whether that involves building roads, ensuring public safety, or operating markets (e.g., Brief & Nord, 1990; Colby, Sippola, & Phelps, 2001; Steger & Dik, 2010; Steger, Dik, & Duffy, 2012; Wrzesniewski, 2003). However, it seems unlikely that focusing on meaning, or any other component of well-being, would facilitate the provision of basic services as effectively as developing more tightly-focused policy. That is, policy directed at providing drinking water should focus on water issues, policy directed at improving childhood mortality rates should focus on increasing vaccination rates, and so on.

Undoubtedly there is a psychological dimension to any policy directive carried out by humans, but meaning in life is likely to have its greatest impact in domains in which ongoing actions of individuals make a difference over time. For example, we might expect that people who view community health as a meaningful part of their lives may be less likely to drive too fast, drive under the influence of substances, or drive without wearing safety
harnesses, but that would not necessarily lead to the development of better road maintenance, safer speed limits, or an expanded paved road infrastructure. In contrast, people who find it meaningful to maximize the health of their families may indeed be more likely to successfully obtain all the necessary vaccinations to improve the health of their children, as well as to provide healthier food and opportunities for physical activity. In this sense, meaning could be related to better health among a country’s citizens, but not necessarily to success in specific policy efforts.

For these reasons, this brief review will focus on public policy targets that are more likely to depend on individual rather than governmental action. In particular, I will show that meaning in life is related to several indicators of physical health, mental illness, and social relationships.

Meaning in life is related to better physical health. A narrative literature review conducted in 2013 identified 70 studies that have examined the relationship between meaning in life and various indicators of health (Roepke, Jayawickreme, & Riffle, 2014). An inclusive definition of meaning was used, including the following terms: meaning, sense of coherence, global meaning, subjective meaningfulness, purpose, meaning-making, search for meaning, post-traumatic growth, stress-related growth, and benefit-finding. Nearly all of these terms (i.e., sense of coherence, meaning-making, post-traumatic growth, stress-related growth, and benefit-finding) reference the role meaning is theorized to play in helping people cope with stress, adversity or tragedy, therefore they are not apt for understanding the role of meaning in health. When the list of
terms is limited only to those that directly assess some dimension of meaning (i.e., meaning, global meaning, subjective meaningfulness, purpose, and search for meaning) there still are dozens of studies that support meaning as a factor in better physical health. There is a positive relation between meaning and subjective ratings of health in a range of populations, from cancer survivors (Jim & Anderson, 2007) and Alzheimer Disease patients (Boyle, Buchman, Wilson, Yu, Schneider, & Bennett, 2012) to adolescents and smoking cessation patients (Steger, Mann, Michels, & Cooper, 2009). Those high in meaning in life show better physiological indicators of immune (Krause & Hayward, 2012) and stress response (Ishida & Okada, 2006). Meaning also is beneficially related to the health behaviors thought to be important for overall health, such as dietary control (Piko & Brassai, 2009), substance use (Brassai, Piko, & Steger, 2012; Martin, MacKinnon, Johnson, & Rohsenow, 2011), physical activity (Brassai, Piko, & Steger, in press; Holahan, Holahan, Velasquez, Jung, North, & Pahl, 2011), and healthy attitudes toward sexual prophylactics (Steger, Fitch-Martin, Donnelly, & Rickard, in press). Among older adults, a large-scale study showed that those higher in meaning and purpose were more likely to engage in recommended preventative health care services, such as getting cholesterol or mammogram tests, and they also spent fewer nights in hospitals (Kim, Sprecher, & Ryff, in press). Reduced use of hospital stays might indicate a profound economic benefit to meaning in life given that the cost of hospital stays in 2011 in the United States along was around $387 billion (Pfuntner, Wier, & Elixhauser, 2012). Finally, and perhaps most importantly,
Meaning in life is related to lesser mental illness. Estimates of the societal cost of mental illness vary quite widely. In the United States, researchers have suggested that the cost to the economy is between $197 billion and $317 billion dollars per year (Insel, 2008; Kessler et al., 2008). Globally, the World Health Organization estimated that the costs was roughly $2.5 trillion as of 2010 (WHO, 2011). Certainly mental illness poses a significant public policy challenge. Meaning in life consistently is negatively related to levels of psychological distress and symptoms of mental illness, including depression, anxiety, posttraumatic stress disorder, eating disorders, and substance use disorders (French et al., 2001; Park, 2010; Steger, Frazier, & Zacchanini, 2008; Steger & Kashdan, 2009; Zika & Chamberlain, 1992). Several studies also have shown that those high in meaning in life respond better to psychological treatment (Debats, 1996). Although there is very little research showing that increasing meaning serves to decrease mental illness, meaning can be viewed as an important indicator of psychological functioning that spans distinct manifestations of mental illness, and could be used to monitor the outcomes of public policy initiatives designed to improve quality of life and social good.

Meaning in life is related to more positive social relationships. One of the most influential variables in predicting quality of life and well-being at the societal level is social trust, broadly defined. Good governance, democratic representation, trust of one’s neighbors, and civility indicate that the social compact is being upheld by its
constituents. At the most basic level, these social goods are created through positive social relationships, whether between citizens and governors, neighbors, family members, or business partnerships. Although relationships consistently are among the most commonly cited contributors to people’s perceptions that life is meaningful (O’Donnell, Bentele, Grossman, Le, Jang, & Steger, 2014), the research literature on links between meaning and relationship quality is relatively sparse.

Being rejected or ostracized, or feeling excluded cause reduce perceived meaning in life (e.g., Williams, Cheung, & Choi, 2002), whereas meaning in life is higher on days when people feel more close and connected to others (Steger & Kashdan, 2009). Family appears to be an especially important source of connection (Delle Fave, Pozzo, Bassi, & Cetin, 2013), and both perceived family cohesion and family satisfaction are positively related to meaning in life (Lightsey & Sweeney, 2008). Outside of one’s family, social support and self-reported strength of social bonds are all related to meaning (Dunn & O’Brienn, 2009; Hicks & King, 2009; Krause, 2007), and experiencing meaning in one’s workplace is associated with greater trust in managers (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). People high in meaning give back to their relationships and communities, too, reporting higher levels of volunteering, donations, and relationship-improving activities (Steger, Kashdan, & Oishi, 2008). Finally, romantic relationships bridge friendship and family categories, and it is no surprise that meaning in life is positively related to marital satisfaction and marital adjustment (Shek, 1994), better communication between
spouses (Kalantarkousheh & Hassan, 2010), and sexual satisfaction (McCann & Biaggio, 1989), and negatively related to sexual frustration (Sallee & Casciani, 1976). Societies often incentivize durable romantic pairs through marriage laws and tax policies, so perhaps meaning may help society recoup those investments.

Meaning–Focused Public Policy May Diverge from Economic–Focused Public Policy

As reviewed above, research suggests that two critical questions for considering meaning in public policy can be answered to some degree. Meaning can be assessed reliably and at a large scale, and meaning does seem to be related to several common targets of public policy. It would seem, then, both practical and advisable for public policy efforts to at the very least assess meaning in life over time as a potential indicator of the overall function of a society. In their appraisal of well-being as a foundation for public policy, Diener and Seligman (2004) noted that public policy decisions that are dominated by monetary and economic concerns are most likely effective and efficient means for increasing the basic standard of living for the largest number of people. One might include in this list important societal aims, such as reducing the incidence and prevalence of poverty, early mortality, physical disease and illness, unemployment and underemployment, illiteracy, and violent crime. At the same time, Diener and Seligman argued that for countries that have achieved widespread dispersion of these basic elements of economic and physical security, continued focus on economic or
monetary targets alone is insufficient for effecting continued improvement in human existence.

My argument in the present paper is that focusing on meaning is not incompatible with ensuring the basic security and material benefits of living in an organized society, but rather that a meaning focus adds incremental value and that considering meaning in life at a societal level can direct attention and effort toward initiatives and policies that both sustain material benefits (e.g., health, social trust, and other aims reviewed earlier in this paper) and disseminates well-being benefits to a country’s stakeholders in the broadest possible manner. Despite many shared aims, there may indeed be occasions when a meaning-focused policy diverges from money-focused policy-as-usual. For example, a major study of 132 nations using a single item to assess meaning in life found that average levels of meaning were higher in poorer countries than in wealthier countries (Oishi & Diener, 2014). Thus, money and meaning may not always travel together.

Monetary policy decisions prioritize economic growth and a simplistic accounting of national wealth. Presumably, this accumulation of wealth enables individuals to spend money in ways that maximize their interests, perhaps even resulting in well-being or meaning in life benefits while governments use their share of the wealth to distribute resources in ways that improve people’s lives. It is possible that given accurate modeling of all related costs and benefits that money driven policy decisions would indeed yield the greatest benefits for the greatest number of people. A decision to inaugurate an extractive industry, such as a logging operation or
mine, would include not only estimates of the market value of the resources extracted, the wages paid to workers, and various governmental shares of taxes, but also any environmental damage created, deterioration of water or organismic resources, effects on air quality, and psychological benefits (such as the benefits of working outside in the case of logging) or demerits (such as the psychological impacts of working underground in tight spaces in the case of mining), among other factors. The problem with such modeling is that the relative importance of many factors is not known, and quantifying them is not easy to do or straightforward. To what degree might the physical or psychological danger of working in a mine be offset by the psychological and physical benefits of securing paid work and providing for one's family?

Meaning-focused policy ideally would more directly reflect how well policy supports people's opportunity to find meaning in their lives. Several scholars have argued that there is an inherent self-transcendence to meaning in life, such that people's concerns increasingly incorporate the interests of other people, other groups, and perhaps even the cosmos themselves (e.g., Reker & Chamberlain, 2000). Meaning is also considered to be most vital when it is durable, when it spans lifetimes rather than moments in time. Supporting meaning might therefore lead to policy that seeks to invest in policy that maximizes long-term benefits to the greatest number of stakeholders. There are numerous possible examples.

Perhaps the most straightforward extension of meaning-focused policy concerns management of assets that all people rely upon.
There are many competing interests when it comes to managing shared assets, such as water, minerals, fisheries, or forests. Within meaning-focus policy, economic benefit to the relatively small number of people who are able to access and exploit those resources would be tempered with a consideration of how to preserve the long-term benefits those resources provide to the larger number of people who indirectly benefit from their existence. These are tangible and material assets, and although there may be disagreement with regard to the value of preservation versus extraction, it is fairly easy to recognize that these resources possess some indisputable value. Other policy decisions may focus on more difficult to value targets. For example, education might direct more attention to nurturing values and character development rather than marketable skills that are designed to supply labor for economic drivers because meaning is seen to be derived from a clear understanding of the self and efforts toward self-improvement (e.g., Steger, 2009). However, an interest in values would not necessarily stop at the individual level. Meaning-focused policy might seek investment in shared national identities that appreciate diversity yet provide a common point of interest and understanding for citizens, an effort to strengthen social bonds. Finally, some industries might be subjected to greater scrutiny than others. For example, the weapons industry would be viewed not only in terms of its profitability and potential to support national security of individual countries, but also in terms of the human toll that generally is not borne by arms producing nations (much less corporations) but rather by disempowered individuals in other
countries.

III. Where to Go from Here

As previous papers have concluded with regard to well-being as a public policy pursuit, it may be too early to develop specific action items to pursue in a meaning-focused public policy. There certainly is very little research, if any, linking public policy to well-being outcomes, much less meaning in life outcomes. At the same time, the evidence that exists suggests that policy decisions that improve people’s access to meaning in life would likely yield a host of desirable outcomes. Two basic steps could be taken at this time. First, the issue of meaning, along with well-being in general, could be included in policy conversations, at least as a counterpoint to conventional rationale. Second, meaning in life should be assessed on a regular basis within nationally representative samples across the globe. Ideally, in 10 more years, we will be able to examine the data and offer more directive ideas of how best to foster meaning in life through public policy.
References

Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.

Battista, J., & Almond, R. (1973). The development of meaning in life. *Psychiatry, 36*, 409–427.

Boyle, P. A., Barnes, L. L., Buchman, A. S., & Bennett, D. A. (2009). Purpose in life is associated with mortality among community–dwelling older persons. *Psychosomatic Medicine, 71*, 574–579.

Boyle, P. A., Buchman, A. S., Wilson, R. S., Yu, L., Schneider, J. A., & Bennett, D. A. (2012). Effect of purpose in life on the relation between Alzheimer disease pathologic changes on cognitive function in advanced age. *Archives of General Psychiatry, 69*, 499–505.

Brandstätter, M., Baumann, U., Borasio, G. D., & Fegg, M. J. (2012). Systematic review of meaning in life assessment instruments. *Psychoncology, 21*, 1034–1052.

Brassai, L., Piko, B. F., & Steger, M. F. (2012). Existential attitudes and eastern European adolescents’ problem and health behaviors: Highlighting the role of the search for meaning in life. *The Psychological Record, 62*, 719–734.

Brassai, L., Piko, B. F., & Steger, M. F. (in press). A reason to stay healthy: The role of meaning in life in relation to physical activity and healthy eating among adolescents. *Journal of Health Psychology*.

Brief, A. P., & Nord, W. R. (1990). *Meanings of occupational work*: 
A collection of essays. Lexington: Lexington Books.

Colby, A., Sippola, L., & Phelps, E. (2001). Social responsibility and paid work in contemporary American life. In A. S. Rossi (Ed.), Caring and doing for others: Social responsibility in the domains of family, work, and community. Chicago: University of Chicago Press.

Crumbaugh J. C. (1977). The Seeking of Noetic Goals Test (SONG): A complementary scale to the Purpose in Life Test (PIL). Journal of Clinical Psychology, 33, 900–907.

Crumbaugh, J. C., & Maholick, L. T. (1964). An experimental study in existentialism: The psychometric approach to Frankl’s concept of noogenic neurosis. Journal of Clinical Psychology, 20, 200–207.

Debats, D.L. (1996). Meaning in life: Clinical relevance and predictive power. British Journal of Clinical Psychology, 35, 503–516.

Delle Fave, A., Pozzo, M., Bassi, M., & Cetin, I. (2013). A longitudinal study on motherhood and well-being: Developmental and clinical implications. Terapia Psicologica, 31, 21–33.

Diener, E., & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. Psychological Science in the Public Interest, 5, 1–31.

Dunn, M. G., & O’Brien, K. M. (2009). Psychological health and meaning in life: Stress, social support, and religious coping in Latina/Latino immigrants. Hispanic Journal of Behavioral Sciences, 31, 204–227.

Dyck, M. J. (1987). Assessing logotherapeutic constructs: Conceptual and psychometric status of the Purpose in Life and Seeking of Noetic Goals Tests. Clinical Psychology Review, 7, 439–447.
Frankl, V. E. (1963). *Man’s search for meaning: An introduction to logotherapy.* New York: Washington Square Press.

French, S. A., Leffert, N., Story, M., Neumark-Sztainer, D., Hannan, P., & Benson, P. L. (2001). Adolescent binge/purge and weight loss behaviors: Associations with developmental assets. *Journal of Adolescent Health, 28,* 211 - 221.

Heintzelman, S. J., & King, L. A. (2014). Life is pretty meaningful. *American Psychologist, 69,* 561-574.

Hicks, J. A., & King, L. A. (2009). Positive mood and social relatedness as information about meaning in life. *Journal of Positive Psychology, 4,* 471 - 482.

Holahan, C. K., Holahan, C. J., Velasquez, K. E., Jung, S., North, R. J., & Pahl, S. A. (2011). Purposiveness and leisure–time physical activity in women in early midlife. *Women & Health, 51,* 661 - 675.

Insel, T. R. (2008). Assessing the economic costs of serious mental illness. *American Journal of Psychiatry, 165,* 703-711.

Ishida, R., & Okada, M. (2006). Effects of a firm purpose in life on anxiety and sympathetic nervous activity caused by emotional stress: Assessment by psychophysiological method. *Stress and Health, 22,* 275 - 281.

Jim, H. S., & Andersen, B. L. (2007). Meaning in life mediates the relationship between social and physical functioning and distress in cancer survivors. *British Journal of Health Psychology, 12,* 363 - 381.

Kalantarkousheh, S. M., & Hassan, S. A. (2010). Function of life meaning and marital communication among Iranian spouses in Universiti Putra Malaysia. *Procedia-Social and Behavioral Sciences, 5,* 1646 - 1649.
Kessler, R. C., Heeringa, S., Lakoma, M. D., Petukhova, M., Rupp, A. E., Schoenbaum, M., Wang, P. S., & Zaslavsky, A. M. (2008). Individual and societal effects of mental disorders on earnings in the United States: Results from the national comorbidity survey replication. *American Journal of Psychiatry, 165,* 663–665.

Kobau, R., Sniezek, J., Zack, M. M., Lucas, R. E., & Burns, A. (2010). Well-being assessment: An evaluation of well-being scales for public health and population estimated of well-being among US adults. *Applied Psychology: Health and Well-Being, 2,* 272–297.

Kim, E. S., Strecher, V. J., & Ryff, C. D. (in press). Purpose in life and use of preventive health care services. *PNAS.*

King, L. A., Hicks, J. A., Krull, J. L., & Del Gaiso, A. K. (2006). Positive affect and the experience of meaning in life. *Journal of Personality and Social Psychology, 90,* 179–196.

Krause, N. (2007). Longitudinal study of social support and meaning in life. *Psychology and Aging, 22,* 456 - 469.

Krause, N. (2009). Meaning in life and mortality. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 64B,* 517 - 527.

Krause, N., & Hayward, R. D. (2012). Religion, meaning in life, and change in physical functioning during late adulthood. *Journal of Adult Development, 19,* 158 - 169.

Lightsey, O., & Sweeney, J. (2008). Meaning in life, emotion oriented coping, generalized self-efficacy, and family cohesion as predictors of family satisfaction among mothers of children with disabilities. *The Family Journal, 16,* 212 - 221.

Martin, R. A., MacKinnon, S., Johnson, J., & Rohsenow, D. J.
Purpose in life predicts treatment outcome among adult cocaine abusers in treatment. *Journal of Substance Abuse Treatment, 40*, 183–188.

McCann, J. T., & Biaggio, M. K. (1989). Sexual satisfaction in marriage as a function of life meaning. *Archives of Sexual Behavior, 18*, 59–72.

McKnight, P. E., & Kashdan, T. B. (2009). Purpose in life as a system that creates and sustains health and well-being: An integrative, testable theory. *Review of General Psychology, 13*, 242–251.

Mulgan, G. (2013). Well-being and public policy. In S. David, I. Boniwell, & A. C. Ayers (Eds.). *The Oxford handbook of happiness* (pp. 517–532). Oxford, United Kingdom.

Oishi, S., & Diener, E. (2014). Residents of poor nations have a greater sense of meaning in life than residents of wealthy nations. *Psychological Science, 25*, 422–430.

Park, C. L. (2010). Making sense of the meaning literature: an integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological bulletin, 136*, 257.

Pfuntner, A., Wier, L. M., & Elixhauser, A. (2012). *Healthcare cost and utilization project (HCUP) statistical briefs, #144: Overview of hospital stays in the United States, 2011* Agency for Health Care Policy and Research: Rockville, MD.

Piko, B. F., & Brassai, L. (2009). The role of individual and familial protective factors in adolescents’ diet control. *Journal of Health Psychology, 14*, 810–819.

Reker, G. T. (1992). *Manual: Life Attitude Profile – Revised*. Petersborough, Ontario, Canada: Student Psychologists Press.
Reker, G. T., & Chamberlain, K. (2000). *Exploring existential meaning: Optimizing human development across the life span*. Thousand Oak, CA: Sage Publications.

Reker, G. T., & Peacock, E. J. (1981). The Life Attitude Profile (LAP): A multidimensional instrument for assessing attitudes toward life. *Canadian Journal of Behavioral Science, 13*, 264–273.

Roepke, A. M., Jayawickreme, E., & Riffle, O. M. (2014). Meaning and Health: A Systematic Review. *Applied Research in Quality of Life, 9*, 1055–1079.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069–1081.

Sallee, D. T., & Casciani, J. M. (1976). Relationship between sex drive and sexual frustration and purpose in life. *Journal of Clinical Psychology, 32*, 273–275.

Samman, E. (2007), Psychological and subjective wellbeing: A proposal for internationally comparable indicators. *Oxford Development Studies, 35*, 459–486.

Shek, D. T. (1994). Meaning in life and adjustment amongst midlife parents in Hong Kong. *International Forum for Logotherapy, 17*, 102–107.

Steger, M. F. (2006). An illustration of issues in factor extraction and identification of dimensionality in psychological assessment data. *Journal of Personality Assessment, 86*, 263–272.

Steger, M. F. (2007). Structural validity of the Life Regards Index. *Measurement and Evaluation in Counseling and Development, 40*, 97–109.

Steger, M. F. (2009). Meaning in life. In S. J. Lopez (Ed.), *Oxford
handbook of positive psychology (2nd Ed.) (pp. 679–687). Oxford, UK: Oxford University Press.

Steger, M. F. (2012). Experiencing meaning in life: Optimal functioning at the nexus of spirituality, psychopathology, and well-being. In P. T. P. Wong (Eds.), The human quest for meaning (2nd Ed) (pp. 165–184). New York: Routledge.

Steger, M. F. (2013). Assessing meaning and quality of life. In K. Geissinger (Editor in Chief), B. A. Bracken, J. F. Carlson, J. C. Hansen, N. R. Kuncel, S. P. Reise, & M. C. Rodriguez, APA handbook of testing and assessment in psychology, Vol. 2 (pp.489–499). Washington, DC: American Psychological Association.

Steger, M. F., & Dik, B. J. (2010). Work as meaning. In Linley, P. A., Harrington, S., & Page, N. (Eds.), Oxford handbook of positive psychology and work (pp.131–142). Oxford, UK: Oxford University Press.

Steger, M. F., Dik, B. J., & Duffy, R. D. (2012). Measuring meaningful work: The Work and Meaning Inventory (WAMI). Journal of Career Assessment, 20, 322–337.

Steger, M. F., Fitch-Martin, A., Donnelly, J., & Rickard, K. M. (in press). Meaning in life and health: Proactive health orientation links meaning in life to health variables among American undergraduates. Journal of Happiness Studies.

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. Journal of Counseling Psychology, 53, 80–93.

Steger, M. F., Frazier, P., & Zacchanini, J. L. (2008). Terrorism in two cultures: Traumatization and existential protective factors
following the September 11th attacks and the Madrid train bombings. Journal of Trauma and Loss, 13, 511–527.

Steger, M. F., & Kashdan, T. B. (2009). Depression and everyday social activity, intimacy, and well-being. Journal of Counseling Psychology, 56, 289–300.

Steger, M. F., Kashdan, T. B., & Oishi, S. (2008). Being good by doing good: Eudaimonic activity and daily well-being correlates, mediators, and temporal relations. Journal of Research in Personality, 42, 22–42.

Steger, M. F., Kashdan, T. B., Sullivan, B. A., & Lorentz, D. (2008). Understanding the search for meaning in life: Personality, cognitive style, and the dynamic between seeking and experiencing meaning. Journal of Personality, 76, 199–228.

Steger, M. F., Kawabata, Y., Shimai, S., & Otake, K. (2008). The meaningful life in Japan and the United States: Levels and correlates of meaning in life. Journal of Research in Personality, 42, 660–678.

Steger, M. F., Mann, J. R., Michels, P., & Cooper, T. C. (2009). Meaning in life, anxiety, depression, and general health among smoking cessation patients. Journal of Psychosomatic Research, 67, 353–358.

Steger, M. F., Oishi, S., & Kesibir, S. (2011). Is a life without meaning satisfying? The moderating role of the search for meaning in satisfaction with life judgments. Journal of Positive Psychology, 6, 173–180.

Steger, M. F., & Samman, E. (2012). Assessing meaning in life on an international scale: Psychometric evidence for the Meaning in Life Questionnaire–Short Form among Chilean households. International Journal of Wellbeing, 2, 182–195.
Steger, M. F., & Shin, J. Y. (2010). The relevance of the Meaning in Life Questionnaire to therapeutic practice: A look at the initial evidence. *International Forum on Logotherapy, 33,* 95-104.

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79,* 748-762.

World Health Organization. (WHO 2011a). *Global status report on non-communicable diseases 2010.* Geneva: WHO.

Wrzesniewski, A. (2003). Finding positive meaning in work. In K. S. Cameron, J. E. Dutton & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 298–309). San Francisco: Barrett-Koehler.

Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People’s relations to their work. *Journal of research in personality, 31,* 21-33.

Zika, S., & Chamberlain, K. (1992). On the relation between meaning in life and psychological well being. *British Journal of Psychology, 83,* 133-145.