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The Curious Neglect of High Functioning After Psychopathology:
The Case of Depression

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Abstract

We address a key issue at the intersection of emotion, psychopathology, and public health—the startling lack of attention to people who experience benign outcomes, and even flourish, after recovering from depression. A re-reading of the epidemiological literature suggests the orthodox view of depression as chronic, recurrent, and lifelong is overstated. A significant subset of people who recover and thrive after depression, yet research on people who achieve this outcome has been rare. To facilitate work on this topic, we present a generative research framework. This framework includes: (1) a proposed definition of healthy end state functioning that goes beyond a reduction in clinical symptoms, (2) recommendations for specific measures to assess high functioning, and (3) a roadmap of a research agenda for discovering *how* and *why* people flourish after emotional disturbance. Given that depression remains the most burdensome health condition worldwide, focus on what makes these excellent outcomes possible has enormous public health significance.

The Curious Neglect of High Functioning After Psychopathology: The Case of Depression

More and more, people with mental health problems are told that their prognosis is gloomy. What psychopathology researchers and clinicians communicate is that conditions like substance use disorder, schizophrenia, or bipolar disorder are often chronic and recurrent, and that, even with treatment, sustained periods of good functioning cannot be counted on. Given the assumption of a recurrent illness, the realistic aspiration is to keep symptoms contained as much as possible (Lieberman & Kopelowicz, 2005). Indeed, treatment goals that emphasize symptom reduction mirror a research enterprise that has largely ignored the possibility of positive psychosocial functioning after a serious mental disorder (Harvey & Bellack, 2009). Lost in the shuffle: Reality. A segment of patients achieve excellent psychosocial functioning despite prior experience with a serious mental disorder (e.g., schizophrenia; Harrow, Grossman, Jobe, & Herbener, 2005).

It is somewhat ironic that psychopathology research spreads epidemiological gloom when the biographies of leading psychopathology researchers reveal trajectories that go from severe disorder to healthy, productive living. *An Unquiet Mind* relates Kay Redfield Jamison's journey from debilitating episodes of bipolar disorder, to gaining control over her illness, to becoming a leading figure in bipolar research (Jamison, 1995). Similarly, *The Center Cannot Hold* tells of how Elyn Saks went from hearing voices as teenager and harming herself repeatedly to becoming a fulfilled and accomplished person as a lawyer, and pioneering psychiatrist in the area of mental health law (Saks, 2007). And Marsha Linehan, a titan in borderline personality disorder research revealed that she herself had struggled with the condition, including over two years of psychiatric hospitalization as a young person. Speaking of Linehan's case, *The New York Times's* Benedict Carey, explained why these trajectories have been kept out of the public

view, “No one knows how many people with severe mental illness live what appear to be normal, successful lives, because such people are not in the habit of announcing themselves” (Carey, 2011). Habits may be changing, however. A growing number of celebrities testify to the possibility of renewal after psychopathology. From Demi Lovato to Duane “the Rock” Johnson to Robert Downey Jr., we have spectacular — if anecdotal— evidence of excellent outcomes after psychopathology.

The gloomy outlook on long-term mental health is particularly evident for people who struggle with depression. If there is one piece of bankable expert consensus, it is that depression is a recurrent and chronic condition that is difficult to contain, even when treated.

Here are a few select commentators:

- “*Depression is a chronic, recurrent, and often familial illness that frequently first occurs in childhood or adolescence.*” write David Brent and Boris Birmaher (2002, p. 667) in the *New England Journal of Medicine*.
- “*During the last decade, researchers and clinicians have become increasingly aware that major depression, which was once thought to consist of discrete episodes of illness followed by full recovery, is both chronic and recurrent in many patients.*” Writes Martin Keller (1994, p. 205) in *European Neuropharmacology*.
- “*Without treatment, depression has the tendency to assume a chronic course, be recurrent, and over time to be associated with increasing disability.*” writes Moussavi and colleagues (2007, p. 851) in the *Lancet*.
- “*Depression is a chronic and recurrent condition, with each experienced depressive episode increasing the risk of future episodes (Solomon et al., 2000).*” From Hitchcock and colleagues (2016, p. 92).

This bleaker view of the course of depression parallels bleak findings from the epidemiology of depression. Depression has long been one of the foremost causes of disability (Paykel et al., 2005) and now, according to the World Health Organization, it is the foremost source of disability world worldwide (WHO, 2017). These projections are founded on several assumed characteristics of depression. The condition is common; often begins early in life; and is associated with a high level of impairment, often recurring throughout the life course.

Feeding into this grim epidemiological verdict are data from numerous follow-up studies of depression showing surprisingly poor long-term outcomes, usually in psychiatric samples (Winokur, Coryell, Keller, Endicott, & Akiskal, 1993; Ormel et al., 1993; Piccinelli & Wilkinson, 1994; Surtees & Barkley, 1994; Labbate & Doyle, 1997; Kanai et al., 2003; Kennedy, Abbott, & Paykel, 2003). In these longitudinal designs, depression is often treatment-refractory, exhibits low rates of remission, and high rates of relapse and recurrence. A few examples:

- Within a cohort of 380 individuals who recovered from an index major depressive episode and were followed for up to 15 years, the cumulative 15-year recurrence rate was 85% (Mueller et al., 1999). Even among patients who had remained well for 5 or more years, the recurrence rate was still 58% (Mueller et al., 1999).
- In a longitudinal study that followed the average patient over 9 years, patients showed evidence of depression in 48% of the months under study, expressed by full, minor, or residual symptoms (13.2, 15.2 and 19.6% respectively; Kennedy & Paykel, 2004).
- Less than half of patients remained virtually symptom free for even 2 years after recovery from a depressive episode (Kanai et al., 2003). As the number of

depressive episodes increases, so does the progressive likelihood of relapse (Solomon et al., 2000; Kessing, Hansen, Andersen, & Angst, 2004)

- In a large, multicenter trial involving 2,876 depression outpatients receiving pharmacological treatment (citalopram), only 28% showed evidence of remission (Trivedi et al., 2006).
- Among 2,600 consecutive outpatients diagnosed with depression by general practitioners ($n = 292$) who prescribed antidepressants (Anseau et al., 2009), only about a quarter were classified as being in remission in a follow up visit 3 to 12 months later (28.3% according to practitioner diagnosis and 17.1% according to patient reports).

Clearly, gloom has some foundation. The epidemiological and long-term follow-up studies suggest that a substantial population of people affected by depression present with a burdensome and recurrent form of the disorder. Amazingly, a generation or two ago, the conventional wisdom about depression was the exact opposite: this was a transient, “self-limited” condition (e.g., Zis & Goodwin, 1979). In contrast to the new epidemiology, the view that depression is typically benign has vanished, almost without a trace.

But what if neither the older orthodoxy, nor the new view of depression fully captures the truth? What if instead two distinct variants of depression operate simultaneously—a grim chronically recurring, lifelong variant, and a relatively benign, time-limited variant (Monroe & Harkness, 2012)? If there are two variants, the conclusions scientists and practitioners reach about depression will hinge upon which variant happens to be in the spotlight. In this article, we make several related points. First, we argue that there is an overlooked group who, despite a history of depression, will go on to thrive, functioning above the level of the average

nonpsychiatric person. Second, we argue that omission of this group is both unfortunate and costly for the field, laying out a practical research framework designed to remedy this situation. This framework has several elements including (1) a definition of healthy end state functioning that goes beyond the absence of clinical symptoms, (2) methods for assessing high end state function, and (3) a map that outlines the key unanswered questions for the field to address. Finally, we discuss why renewing focus on good outcomes after depression and other serious disorders might help to reduce suffering and benefit the public health.

High Functioning After Depression Probably Isn't Rare

How common is it for people to function well after depression? Current data permits only an educated guess, using knowledge of related endpoints, such as nonrecurrent depression. The Diagnostic and Statistical Manual of Mental Disorders, in its 4th edition, stated that approximately 40% of people affected by depression will have only a single lifetime episode (American Psychiatric Association, 2000). The DSM-5 was less definitive, writing only that depression is said to be recurrent in “the majority of cases” (American Psychiatric Association, 2013).

A central problem in answering this question is that we lack true population data on the long-term course of depression. Extant data, however, suggests that a substantial percentage of people who have depression, have depression that never recurs. Across three major studies from 40 to 60% of people who had a first episode of depression never experienced a recurrence, even after many decades of follow-up (Mueller et al., 1999; Eaton et al., 2008; Mattisson, Bogren, Horstmann, Munk-Jorgenson, & Nettelblatt, 2007).

These individuals with single-episode, nonrecurrent depression are badly underrepresented in research designs. In a bold statement, Monroe and Harkness (2012) wrote,

“these people constitute approximately one-half of the population of depressed persons and represent the most important and promising group for future study. Yet they have been essentially ignored.” (p. 900). Surely, this omission, and the field’s lack of focus on good outcomes after depression more broadly, virtually guarantees an unduly pessimistic impression of depression’s course (Monroe & Harkness, 2012).

In this article, we hope to begin to change this state of affairs. We consider why the phenomenon of good functioning after depression has been largely ignored, sketch a research agenda for bringing this topic into the spotlight, and explain what will be gained by doing so. Our hunch is that high functioning after depression will prove to be a rich and heterogeneous construct. For example, some individuals may achieve high functioning after depression after the “passage of time.” Others may achieve it following a formal treatment. Some persons may achieve HFAD following the very first lifetime episode; others may achieve it only after many episodes of depression. Indeed, understanding the differences among these different groups of HFAD may prove critical towards understanding the mechanisms underlying the phenomenon.

Defining High Functioning After Depression

There is no off-the-rack definition of “good” or “high” functioning after depression. As a first step, we offer a provisional definition of high functioning after depression (HFAD) to aid research. Our provisional definition is conservative, intended to unequivocally identify persons who meet the criteria. We advocate for a strict definition of HFAD because a high bar is more likely to identify people who retain HFAD status over time, a stability which has both theoretical and practical benefits (e.g., low attrition). That said, our goal is to identify resilient individuals who function well despite a history of depression, not to set a super human standard that will be rarely met by mere mortals.

HFAD is more than simply remitting or recovering from depression, as these terms are defined in the literature. Specifically, we suggest three elements are necessary for HFAD status. First, the person must have a documented history of MDD. Second, the person must have fully recovered from depression, using gold standard criteria for recovery (defined as zero or minimal symptoms of depression for at least one year, see below; Fava, Ruini, & Belaise, 2007). The third element is that the person must have also achieved high end-state functioning across multiple domains. Because our conceptualization of high end-state functioning differs from what has prevailed in the field, we supply some history, background, and rationale for our approach.

Historically, the dominant approach for considering good psychosocial functioning after an intervention or the passage of time has asked who achieved a “statistically significant” improvement (e.g., Moskowitz et al., 2017) or “clinically meaningful change,” from baseline (e.g., an improvement of $> .50$ standard deviations from the sample’s average baseline, Driessen, Van, Peen, Don, Twisk, Cuijpers, & Dekker, 2017). Our view is that such a criterion is inadequate, and will not encompass “high functioning” since people diagnosed with emotional disturbances typically exhibit objectively poor functioning at baseline, showing dramatic elevations in distress-related outcomes as well as severe deficits in positive psychological functioning (Goodman, Doorley, & Kashdan, 2017). Moreover, this method fails to take into account that statistical improvement in an extreme subgroup is likely to reflect a natural regression to the mean. Further, a focus on statistically significant gain lacks ecological validity, because it is not defined by what patients deem salient for their actual day-to-day psychological functioning (Jacobson, Follette, & Revenstorf, 1984). Finally, yoked to this historical approach of “statistically significant gain” has been an overwhelming focus on measures of symptom severity as the primary outcome (e.g., Hofmann & Smits, 2008; Westen, 2001). This is

problematic because meta-analytic evidence indicates that a statistically significant reduction in distress is only weakly correlated with other aspects of functional improvement for adults diagnosed with depression (McKnight & Kashdan, 2009a) and anxiety disorders (McKnight, Monfort, Kashdan, Blalock, & Calton, 2016).

Therefore, if we are to understand healthy functioning and help people attain this status, we need to move away from simple reductions in distress or psychological problems as the conceptual focus/measurement approach and towards theoretically based, meaningful outcome measures that use stronger, more robust ways to operationalize healthy/positive functioning. Such an approach has precedents. In 1998, a small group of researchers designed therapeutic interventions to increase well-being as an adjunct to traditional cognitive-behavioral packages, a strategy to reduce relapse in patients with depression, or a program in children to prevent the initial onset of depression (Fava, 1999; Fava, Fafanelli, Cazzaro, Conti, & Grandi, 1998; Ruini, Belaise, Brombin, Caffo, & Fava, 2006). Like us, these researchers called for alternative measurement strategies beyond the mere presence/severity of emotional disturbances. Despite some initial work that used a battery of measures to capture the continuum of psychosocial functioning and highlighted individuals who achieve meaningful levels of well-being (Keyes, 2002, 2005), this initial call to arms has been largely ignored, even by researchers testing positive psychology interventions, who limited their target to the reduction of depressive symptoms (Schueller, Parks, & Kashdan, 2014; Sin & Lyubomirsky, 2009).

The lack of well-crafted operationalizations of clinically meaningful change and high functioning remain something of an embarrassment for the field. After all, the goals of intervention are not only to reduce symptoms but to help people acquire a semblance of normal functioning. Of course, there is no absolute, agreed-upon definition of normal or good

functioning, and any benchmark that approximates healthy functioning will be arbitrary to some degree. Nevertheless, because the goal of psychological and/or pharmacological interventions are to help people with disorders acquire emotions, thoughts, and behaviors that resemble the rest of the population (i.e., normal, non-disordered children and adults), there is merit in operationalizing healthy functioning as the degree of deviation from the performance of a normal, non-disordered adult.

We highlight Turner and colleagues' treatment study of adults with social anxiety disorder (Turner, Beidel, & Jacob, 1994; Turner, Beidel, Long, Turner, & Townsley, 1993) to illustrate a statistical norm-based approach to operationalizing high end state functioning. These authors required that in order to designate a person as high end state functioning, a patient's functioning had to exceed a specific cut point—specifically, performance had to be at the 84th percentile on a given symptom measure relative to the distribution of a non-disordered population (e.g., less impaired than at least 16 percent of the most dysfunctional normal controls). Laudably, Turner and colleagues did not rely on a single assessment for their classification; rather they created a composite index that included self-report measures, performance on a behavioral measure, and at least one trained independent rater evaluating functioning (Turner et al., 1994; Turner et al., 1993). Since Turner and colleagues' work, other researchers have taken advantage of available population norms on specific assessment instruments to operationalize meaningful clinical change (Jacobson, Roberts, Berns, & McGlinchey, 1999). In our own recommended assessment below, we adopt some features of this approach.

The arguments presented for using normative data to anchor healthy functioning—as opposed to mere statistically significant change—may seem terribly obvious. Still, these

recommendations have not affected research practices, perhaps because the incentives for implementing them have been insufficient. Upon close inspection of the premier outlet for publishing psychological intervention trials, the *Journal of Consulting and Clinical Psychology*, only 35% of articles over a 9-year time span adopted assessments of clinically meaningful change (Ogles, Lunnen, & Bonesteel, 2001). There are, nevertheless, some hopeful signs. For instance, third-wave cognitive behavioral therapies such as Acceptance and Commitment Therapy (ACT) and Dialectical Behavior Therapy (DBT) are much less reliant on symptom lists to assess therapeutic progress than previous cognitive behavioral therapies and these therapies are more likely to incorporate several aspects of well-being into their models of clinical change (Forman, Herbert, Moitra, Yeomans, & Geller, 2007; Uliaszek, Rashid, Williams, & Gulamani, 2016).

How Should We Establish HFAD?

To establish criterion one (a history of MDD), the gold standard is an in-person semi-structured diagnostic interview. The gold standard interview in this context is the Structured Clinical Interview for DSM 5 (SCID 5; First, William, Karg, & Spitzer, 2015), which been used extensively to reliably establish a history of depression in adult samples (Lobbestael, Leurgans, & Arntz, 2011).

To assess criterion two (full recovery from MDD) we recommend administering a modified version of the SCID that assess all of the symptoms of depression. This procedure uses a time-line follow-back technique to create a shared frame of reference for discussing the onset and offset of episodes and employs guidelines recommended by the National Institute of Mental Health (NIMH) Collaborative Program on the Psychobiology of Depression (e.g., Keller et al., 1992) to define full recovery from depression in the past year. Essentially, MDD history

participants will be in full recovery if they report no significant signs of depressive illness during the past year (e.g., no more than two symptoms are experienced to more than a mild degree at any one time; for studies that have reliably this approach to assess recovery see, Rottenberg, Salomon, Gross, & Gotlib, 2005).

Establishing criterion three (high end state functioning) is more complex. Because human functioning encompasses multiple domains, the assessment of high end-state functioning should ideally encompass and integrate functioning across multiple domains applicable to high end-state functioning. Our proposed battery includes relatively subjective elements of psychological functioning, as well as more objective elements of psychosocial functioning (e.g., social relationships). Our proposed battery, however, represents a compromise in many respects. Some domains of high end state functioning remain difficult to assess (e.g., occupational functioning), and/or lack population-based norms. With this in mind, we focus on practical suggestions for a measurement battery that is currently achievable, while suggesting the work that is needed to create an optimal battery.

To establish psychological (subjective) aspects of high end-state functioning, we recommend a focus on the facets of general well-being. Well-being is a rich, complex, and accepted aspect of positive psychological functioning and has spawned extensive research, including normative data. Although some theories argue for different types of well-being, recent research suggests a single, broad dimension of well-being with several underlying facets (e.g., Disabato, Goodman, Kashdan, Short, & Jarden, 2015; Goodman, Disabato, Kashdan, & Kaufman, in press). Drawing from initial models of subjective well-being (Diener, 1984) and psychological well-being (Ryff, 1989), we include nine facets. These nine facets are: satisfaction with life (cognitive evaluation that life is satisfying and close to ideal); positive emotions

(frequent presence of pleasurable high energy, such as cheerfulness, and low energy states, such as peacefulness); negative emotions (infrequent distressing states, such as fear or anger); autonomy (acting with a sense of volition or willingness); environmental mastery (self-direction and productivity); personal growth (continual self-improvement); positive relations with others (the capacity to love and be loved); purpose in life (an overarching life aim); and self-acceptance (positive self-regard; for other potentially justifiable facets, see Longo, Coyne, & Joseph, 2017). Conceptually, these well-being facets encompass self-determination theory and the three intrinsic needs of competence (i.e., environmental mastery), belongingness (i.e., positive relations with others), and autonomy (Ryan & Deci, 2000).

To help identify a standard of well-being that denotes individuals who report HFAD, we consulted the National Survey of Midlife Development in the United States (MIDUS; <http://midus.wisc.edu/scopeofstudy.php>), which provides data on these nine well-being facets within a nationally representative sample of adults (N = 3,034), thus allowing for adequate normative data. Table 1 summarizes the measures used for each well-being facet and presents means and standard deviations by age and gender. From these data, people from any adult sample within the United States can be compared to these reference points in research and practice.

To ensure a rich multidimensional conceptualization of well-being, we recommend against simply collapsing all the measures into a single composite. Instead, we recommend cut-points that establish a *pattern* of psychological well-being – where a person experiences sufficient nutrients and expressions of healthy functioning to be described as flourishing instead of struggling, floundering, or languishing (Keyes, 2005). To mark cutoffs that represent above average well-being, we located cutoffs on the well-being facets that are met by the top

quarter of nondisordered persons in the MIDUS sample. Based on this analysis, we consider individuals to exhibit robust well-being if they are > 50th percentile (i.e., population mean) on at least eight of nine well-being facets, and also > 84th percentile (i.e., at least one standard deviation above the population mean) on at least three of nine well-being facets.

We also recommend that a battery for assessing high end state functioning include more objective elements of high end state functioning. Not only is functioning in occupational, relationship, or self-care domains important in and of itself, including these domains allows for some correction against biases in self-report measures of psychological well-being (Heintzelman, Trent, & King, 2015). As one example, a person who perceives high well-being during a manic episode may also engage in reckless behaviors that are devastating their friendships, ruining their finances, and leading to legal entanglements. Obviously, a self-report of extremely high psychological well-being can mask problematic objective functioning (Gruber, Mauss & Tamir, 2011).

It is significant to note a dearth of validated multi-domain measures that assesses “optimal” functioning. Also, the field lacks agreement as to what constitutes optimal functioning in many domains (e.g., occupational). Our best available measures do allow us to achieve the important goal of a HFAD sample that contains individuals free of any significant problems in their psychosocial functioning. For this purpose, we recommend the World Health Organization Disability Assessment Schedule – second edition (WHODAS 2.0; Üstün Kostanjsek, Chatterji, & Rehm, 2010). We recommend the WHODAS 2.0 because it assesses six broad domains: role functioning, cognition, mobility, self-care, social interaction, and participation. Another advantage of the WHODAS 2.0 is that there is a well-normed self-report version, a clinician version, and the measure can be easily adapted to obtain additional informant reports (e.g.,

romantic partner, parent, close friend). A clinician assessment of impairment is particularly valuable in that it allows for a relatively standardized second informant report beyond the self (Alexander, McKnight, Disabato, Kashdan, 2017). The measure can also be used cross-culturally, and normative data from 10 different countries are available. For pragmatic reasons, our recommended cutoff on the WHODAS 2.0 is an average composite score of 1 or below. A score of 1 or less corresponds to mild to zero difficulties across domains. Requiring a score of 0, an assumption of perfect health, is unreasonable, as most nondisordered persons do not score a 0 (Andrews, Kemp, Sunderland, VonKorff, & Ustun, 2009), as a small number of items can be endorsed as a function of unrelated complaints (minor health ailments).

An important challenge for future work concerns how to best integrate multiple data sources regarding functioning when the sources diverge, for example, divergence between self and romantic partner ratings of social functioning. Recent reviews suggest a potential strategy, to consider disagreements among informants as potentially meaningful (e.g., Back & Nestler, 2016; Vazire, 2010). There should be greater convergence for easily observable information about a person such as social functioning and work engagement, and greater divergence among informants for less accessible information such as intelligence and creativity. Discrepancies between information sources should be evaluated according to how much information asymmetry is theoretically expected to be present. Large discrepancies on domains that should be easily observable to knowledgeable informants (e.g., social functioning to a close friend) may offer a portal onto self-presentation biases — attempting to appear in a particularly positive light to gain praise or a negative light to gain compassion. When available, discrepancies should be resolved by conversations with the target person, which can be used to reify or modify HFAD classification.

These suggestions constitute our initial operationalization of HFAD (summarized in Table 2), which should be refined as more data are collected on the HFAD construct. Our integrative measurement model offers an opportunity to better understand the nature and heterogeneity of HFAD. We expect researchers and practitioners to uncover multiple HFAD profiles, each characterized by unique characteristics (e.g., creative accomplishments, profound sense of purpose in life, highly independent or social lifestyle), offering opportunities to examine whether particular HFAD profiles are more common, viable, and sustainable.

Why has HFAD been overlooked?

Now that we have defined HFAD, we consider several reasons why it has been overlooked.

1. Researchers have embraced research designs that contain few HFAD persons. Because depression has been conceptualized as a chronic recurrent state, depression research has been primarily oriented towards finding factors associated with depression chronicity and recurrence. The typical ways that depression-vulnerable populations are identified are biased against sampling people who are currently HFAD (or will become so).

The modal study of depression seeks people who are depressed at time of testing. Practically speaking, persons who have been depressed repeatedly and chronically are much more likely to end up in a research study recruiting a currently depressed person than persons who experienced briefer disorder that did not recur. Consequently, currently depressed samples are less likely to contain individuals who have exhibited HFAD or will do so in the future. In other words, our primary knowledge base about depression course is derived from samples that underestimate HFAD, and overestimate future depression risk (i.e., conditioning upon the consequence, Dawes, 1993). Clinical settings, which supply many research samples are

especially more likely to contain people with prolonged, treatment-refractory depression (Nemeroff, 2007), and, as such, have a particularly strong anti-HFAD bias.

A second kind of sampling frame focuses on currently depressed people who had a single lifetime episode, usually contrasting them to depressed people who had multiple episodes. What proportion of a single episode group might ever meet HFAD criteria is ultimately an empirical question. But since this sampling frame lacks both the recovery and functioning elements of HFAD, the proportion is probably modest. In their discussion of nonrecurrent depression, Monroe and Harkness point out that single depression episode design is typically an undifferentiated and uncertain mix of (a) people who will recover and not have further episodes and (b) people who will go on to have chronic/recurrent depression (Monroe & Harkness, 2011). Thus, presence of a single lifetime episode of depression is a weak HFAD proxy that does not permit robust inferences about HFAD.

Even studies that target people who have fully remitted (or recovered) from depression may contain relatively few HFAD. There are two main reasons for the lack of overlap between remission and HFAD (1) the field often uses more liberal criteria for recovery than we propose, with far laxer symptomatic thresholds and briefer duration criteria, and (2) because remitted status in the field typically ignores level of psychosocial functioning. Divergence makes some sense in that that work on remitted depression has different goals, such as identifying mood-independent markers of depression risk (Scher, Ingram, & Segal, 2005). For all of these reasons, remitted/recovered depressed persons in the existing research corpus are simply not interchangeable with HFAD persons. It remains an open empirical question as to whether the correlates and predictors of traditionally-defined remitted depression are similar to those of HFAD.

2. Psychopathologists neglect HFAD because they have been uninterested in functional outcomes, particularly for depression. This statement may sound like hyperbole, but a comprehensive systematic search of over 90 depression treatment outcome meta-analyses found that less than 5% of the clinical trials measured and reported on functional outcomes. Instead, treatment outcome studies consider symptoms, symptom profiles, or diagnostic endpoints (McKnight & Kashdan, 2009a, p. 244). Not including functional outcomes is an important omission in light of data that show surprisingly weak correlations between functional outcomes and depressive symptoms, suggesting these are somewhat independent phenomena (McKnight & Kashdan, 2009a). Indeed, as we review below, positive functional outcomes appear to capture unique variance when considering long-term depression outcomes (Wood & Tarrier, 2010).

3. HFAD has been neglected because depression research has lacked imagination about what happens after depression. Although counseling and humanistic psychology have traditions that emphasize positive functioning and the cultivation of strength as a treatment goal (Waterman, 2013), the primary treatment goal in mainstream academic clinical psychology and psychiatry is symptomatic relief. This is evidenced by landmark papers in clinical psychology and psychiatry research defining treatment endpoints as symptom reduction rather than wellness (Keller, 2003; Rush et al., 1998). A similar trend can be found in modern meta-analyses of cognitive-behavioral (Butler, Chapman, Forman, & Beck, 2006) intervention efficacy. There have been notable exceptions, such as work on well-being therapy (Fava, 1999; Fava et al., 1998), but even mindfulness and acceptance based interventions tend to rely on stress-related outcomes without empirical consideration of well-being and positive functioning (e.g., Goyal et al., 2014; Gu, Strauss, Bond, & Cavanagh, 2015; Khoury et al., 2013; Powers, Vörding, & Emmelkamp, 2009; Sin & Lyubomirsky, 2009). Additionally, each of the interventions reviewed

above fail to address clinical meaningful change, relying solely on statistically significant change. A systematic review of published reviews illustrates the disconnection between interventions designed to enhance a wide range of positive outcomes and the absence of assessment batteries that explicitly capture broader outcomes in the psychopathology literature. In sum, across interventions high end-state functioning receives only lip service, with such data collected in clinical trials in a haphazard fashion, if at all.

This is an odd state of affairs. What endpoint could be more optimal than remitting fully and enjoying high end-state functioning after an episode of depression? HFAD is desirable for moral, aesthetic, and practical reasons; any depressed person and depressed person's loved one would want HFAD, not to mention most practitioners. Indeed, when queried, depressed patients strongly endorse various aspects of positive psychological functioning as their goals for treatment (Battle et al., 2010), a pattern that is stronger for depressed persons than for other diagnostic groups (Holtforth, Wyss, Schulte, Trachsel, & Michalak, 2009). Specifically, survey data indicate that depressed persons in treatment more strongly endorse several positive mental health goals, such as optimism and self-confidence, a return to one's usual, normal self, and a return to usual level of functioning (Zimmerman et al., 2006) relative to desire for asymptomatic status. In sum, the high value that mental health consumers attach to HFAD is not yet reciprocated by mental health researchers.

The Critical Clinical Importance of an Asymptomatic Recovery

But is HFAD more than a warm and fuzzy "feel-good" construct? Preliminary data are encouraging, and suggest that the construct has the muscle to predict real world outcomes. Specifically, in study after study, the literature on long-term depression course indicates that

individuals who have one or more HFAD characteristic over perform, faring much better what we have come to expect from depression epidemiology.

Research on residual symptoms in depression convincingly demonstrates the critical clinical importance of an asymptomatic recovery: a small amount of residual symptoms has a surprisingly large impact on depression outcomes. In cross-sectional designs, even minor amounts of depressive symptomatology are associated with significant impairment (Judd et al., 2000a; Zimmerman, Posternak, & Chelminski, 2005). This relationship holds when people are followed over time. Close tracking of monthly ratings of impairment in major life functions and social relationships over 10-years among 371 initially depressed patients revealed that patients' pervasive and otherwise chronic disability *disappeared* in the months when patients became asymptomatic (Judd et al., 2000b).

Relatively small amount of residual depression symptoms predicts surprisingly poor depression outcome over the long term. In a large cohort, recoverers with residual symptoms relapsed in about 28 weeks (Judd et al., 1997), as compared to asymptomatic recoverers who relapsed in 157 weeks. In a landmark study, Judd and colleagues (2000b) found that incomplete recovery from the first lifetime major depressive episode was linked to a chronic course of illness during 12-years of prospective naturalistic follow-up. In study after study, residual symptoms are a potent predictor of relapse relative to individuals who achieve complete remission from depression (15.2 vs 67.6%, Pintor, Gastó, Navarro, Torres, & Fañanas, 2003; Lin et al., 1998; with a 4 year follow up period Pintor, Torres, Navarro, Matrai, & Gastó, 2004; see also Bockting et al., 2006 for more).

The other side of the coin is that attaining full recovery without residual symptoms—a critical element of our HFAD definition—portends a dramatically better future. For example,

among 48 patients with major depression who responded to a course of cognitive behavioral therapy, those who fully recovered were at a much lower risk for relapse (9%) over a year of follow-up than those who had only partially recovered (52%) (Thase et al., 1992). Similarly, Paykel et al., (1995) found that patients without residual symptoms (25%) were less than three times less likely to have an early relapse than patients who had residual symptoms (76%.) Over a 10 year follow up, achievement of an asymptomatic recovery predicted that depression would return much more slowly (231 weeks) relative to patients who recovered with residual symptoms (68 weeks; Judd et al., 1998b).

Consistent with our claims about HFAD, this body of work shows that even in clinical samples of depressed persons, who are often very characterized by poor long-term outcomes, there is a subgroup that fares much better than their counterparts over time. Presumably, long-term depression outcomes *would be even better* with a stronger definition of asymptomatic status and if high end-state functioning was incorporated into predictive models, as is proposed here.

Positive Functioning Matters over the Long-Term Course of Depression.

Also consistent with our premise, there are also initial indications that positive functioning provides unique information about the onset and course of depression (Johnson & Wood, 2017). First, there is both cross-sectional evidence that the *absence of positive characteristics* are associated with both stress and depression (Wood & Joseph, 2010a), and initial longitudinal evidence that the absence of such positive characteristics predict future depression (Brissette, Scheier, & Carver, 2002; Wood, Maltby, Gillett, Linley, & Joseph, 2008). In Solomon et al. (2004)'s 15-year follow-up, among individuals who recovered from a major depressive episode continuing psychosocial impairment, predicted recurrence of depression, with a risk of recurrence increasing by 12% for every 1-point increase in functional impairment.

Perhaps most impressive, among a cohort of 5,666 adults that were followed for 10 years; individuals lower in tenacity or flexibility evidenced the greatest risk for increased depression symptoms at follow up (Kelly, Wood, & Mansell, 2013). Furthermore, in the same cohort, individuals who were low on key existential measures of well-being (i.e., self-acceptance, autonomy, purpose in life, positive relationships with others, environmental mastery, and personal growth) were over seven times more likely to meet the cut-off for clinical depression at follow-up (Wood & Joseph, 2010).

Importantly, there is also evidence that the *presence* of positive functioning *protects* against depression. In one investigation with a 10-year follow-up, individuals who initially scored high on a measure of flourishing were less likely to develop major depressive episodes, generalized anxiety disorder, or panic disorder (Keyes, Dhingra, & Simoes, 2010). Remarkably, the authors concluded that the variable flourishing (versus “languishing”) was better at predicting future mental disorders (including depression) over ten years than a measure that directly indexed previous history of mental disorders.

Positive functioning indices also appear useful for predicting the course of a depression episode. For instance, better psychosocial functioning predicted monthly improvement in depressive symptoms and a lower likelihood of relapse or recurrence for outpatients undergoing cognitive therapy, and underscoring the unique value of psychosocial functioning, depressive symptoms alone did not predict either of these outcomes (Vittengl, Clark, & Jarret, 2009). Likewise, in a large antidepressant trial of 331 depressed patients, early psychosocial improvement measured at 6 weeks predicted that a patient was 3-6 times more likely to be in symptomatic remission at 3 months, even controlling for initial depressive symptoms (Jha et al., 2016). It is also notable that these studies employed relatively primitive measures of positive

functioning (e.g., 5-item Work and Social Adjustment Scale); with more robust high-fidelity measures, even more variance may be captured. Because most of these samples are from the United States, it is worth considering a recent study of 797 adults with analogue depression from 43 different countries who were assessed multiple times (Disabato, Kashdan, Short, & Jarden, 2017). Adults with greater gratitude and meaning in life at baseline reported less depressive symptoms 3 months and even 6 months later, even controlling for initial depressive symptoms.

In sum, there is compelling initial evidence that positive functioning adds substantial incremental prediction to the long-term course of depression, over and above the traditional bread-and-butter predictors of psychopathology, such as depressive symptoms. This fact supports our conceptualization of HFAD, and our view that good psychosocial functioning is not merely a coveted outcome, but a potential motor/promotor of wellness.

A Research Framework to Facilitate the Study of HFAD

Now that we have addressed *why* we need research into HFAD, the next steps are to suggest what this research might look like in practice, the questions it might address, and what it might ultimately achieve. Below we outline a research framework intended to help facilitate the study of HFAD.

First, as we have emphasized, studying HFAD requires a sound assessment of who is HFAD. The HFAD construct entails a temporal ordering – a person who has both a past history of depression, which was followed by sustained recovery and high end-state functioning. To establish current HFAD status, initially it will be most practical to use a cross-sectional battery (see Table 1 for an initial consideration of measures with normative data). Psychiatric interviews can be used to reliably assess past MDD and then screen those who have with a history of past

MDD to insure that recovery and psychosocial functioning cutoffs are met (see Turner et al., 1993 for a similar strategy in patients diagnosed with social anxiety disorder).

The optimal way to longitudinally-establish HFAD is to follow people out of depression until they meet HFAD (or until the study ends). Although a superior method for telling us what predicts HFAD, longitudinally establishing HFAD for a meaningful number of cases is a forbidding prospect, as it likely requires a large initial sample, and multiple follow up assessments over a long period of time. The extensive manpower and funding needed to longitudinally-establish HFAD suggests an enterprise suitable for multi-site collaborations. Similarly, longitudinal designs can also be used to follow people who meet criteria for current HFAD, to determine the conversion rate of “normal recovery” into HFAD as well as what predicts continuation versus loss of HFAD status. Again, this work seems well-suited to a team science approach because of the human resources, sample sizes, and follow-up periods required to efficiently arrive at generalizable findings.

Beyond simply establishing that HFAD exists, there is much that we can do to use HFAD as a vehicle to explore important questions about the mechanisms of depression and wellness. In the spirit of giving away science, we propose eight questions we want others to pursue to develop this area.

1. If HFAD individuals have better outcomes, including fewer lifetime episodes of

depression, perhaps HFAD simply reflects a lower vulnerability to depression? For example we might expect to see that HFAD individuals have lower scores than their non HFAD counterparts on clinical variables known to index depression vulnerability, including family history of depression or a tendency towards later early onset of depression (versus later onset; Birmaher et al., 1996), and have more favorable profiles

on clinical factors known to exacerbate depression such as the experience of chronic medical illness (Moussavi et al., 2007). This approach can be applied to other domains of depression vulnerability, such as biological vulnerability. Relative to non-HFAD depression, we might expect that HFAD individuals would exhibit better profiles on putative biological risk markers such as amygdala hyperactivity Godlewska, Norbury, Selvaraj, Cowen, & Harmer (2012), dysregulation of the hypothalamic-pituitary adrenal (HPA) axis (Burke, Davis, Otte, & Mohr, 2005), as well as a lower genetic vulnerability to depression (Flint & Kendler, 2014).

2. If HFAD individuals are lower in depression vulnerability, why do HFAD persons

become depressed in the first place? One hypothesis might be that HFAD represents a more psychosocial form of depression, with depression more likely to be precipitated by environmental adversity, such as a death, a breakup of a romantic relationship, or a job loss. This is plausible because individuals who have a single lifetime episode of depression are likely over represented among HFAD and the epidemiological literature repeatedly finds first onsets of depression to be more likely related to environmental stress than subsequent depression episodes (e.g., Lewinsohn, Allen, Seeley, & Gotlib, (1999). One important caveat before dubbing HFAD a “psychosocial form” of depression is that environmental factors are not easily disentangled from “endogenous” depression risk” depression and these are not mutually exclusive (e.g., gene-environment correlation Jaffee & Price, 2007). For example, a large literature on stress-generation in generation indicates that putatively external events are often caused or exacerbated by depression-vulnerable personality traits and/or interpersonal behaviors (Hammen, 2006).

3. Assuming that HFAD persons have some degree of depression vulnerability, how do they

achieve benign outcomes? One possibility is that HFAD persons exhibit behaviors, either during their depression, and/or after it, that account for their long-term success. For example, HFAD individuals may be more likely to deploy beneficial emotion regulation strategies, may be more skillful in how they implement emotion regulation, or are higher in self-efficacy (Benight & Bandura, 2004). Relatedly, HFAD individuals may be more adaptable, exhibiting higher levels of “psychological flexibility,” self-regulating in a context-appropriate manner (Bonanno & Burton, 2013; Kashdan & Rottenberg, 2010). Behaviorally, investigators should test whether specific habits or regimens predict HFAD (e.g., regular exercise). It would be particularly useful to have designs that compare self-regulation between non-HFAD recovery, HFAD recovery, and healthy adults to test the hypothesis that HFAD persons might rival or even exceed “normal” persons in some domains.

4. Do HFAD persons’ patterns of help seeking contribute to good outcomes? Population

estimates suggest that depression goes untreated or is undertreated nearly 80 percent of the time (Kessler et al., 2003). This suggests the hypothesis that HFAD individuals might interrupt depression before it creates collateral damage because of earlier treatment, or greater treatment adherence, either during acute treatment and/or during the maintenance phase relative to their non-HFAD counterparts. It also will be important to examine whether HFAD is related to specific forms of treatment, such as cognitive-behavioral therapy, which has been postulated to have more enduring effects upon depression (Hollon et al., 2006). Conversely, it is also conceivable that HFAD individuals will be *less* likely to seek treatment than their non-HFAD counterparts. This seemingly

paradoxical finding could result from HFAD depressions that resolve swiftly before treatment is sought because the episodes are milder and/or triggered by transient environment events that resolve quickly.

5. Do benign outcomes reflect superior resources in the HFAD group? It will be important to test the hypothesis that attaining HFAD is related to the availability of resources that promote better depression outcomes, including greater financial resources, social resources (quantity and quality), or intellectual resources (Gilman, Kawachi, Fitzmaurice, & Buka, 2002). Better occupational, interpersonal, or cognitive resources may all serve to buffer against the effects of depression, particularly after depression remits. Alternatively, it is possible that HFAD may simply represent a “return to baseline” among individuals who exhibit extremely high premorbid functioning. This is a challenging hypothesis to test because reliable data concerning premorbid functioning are typically not available and retrospective assessments of premorbid functioning are likely to be suspect. Nevertheless, where it is possible, it would be valuable to collect premorbid functioning data to help adjudicate between these hypotheses..

6. Can depression itself be an event to trigger long-term improvement in HFAD? The conventional wisdom is that depression invariably has destructive and cumulative effects that grow over time (Joiner, 2000). However, this may not always be the case. For example, we know from research on trauma that some individual are able to deploy cognitive processes such as benefit finding that allow them to draw upon a negative event in ways that actually enhances subsequent functioning, (Helgeson, Reynolds, & Tomich, 2006; Morrill et al., 2008; for work on similar processes in cancer, Sears, Stanton, & Danoff-Burg, 2003). Indeed, evolutionary perspectives have argued explicitly that

depression can provoke successful adaptation under certain circumstances (Rottenberg, 2014; Nesse, 2000). One key idea is that depression may be a mechanism that prompts sustained processing of complex life problems, and this sustained thinking, though often painful, may help people to ultimately solve the life problems and move towards greater well-being (Andrews & Thompson, 2009), as people rediscover purpose in life, cultivate new strengths, or change how they approach work or relationships (McKnight & Kashdan, 2009b).

7. What does HFAD tell us about thriving after other mental disorders? At this initial stage, it is not known whether the variables that account for HFAD are specific to depression or broadly apply to psychopathology. Given the great strides towards demonstrating transdiagnostic processes, our default hypothesis is that much of what we learn about HFAD can be applied to anxiety disorders, schizophrenia, substance abuse, and other mental health problems. Our hypothesis is supported by existing research suggesting that mental disorders are best understood by dimensional instead of categorical models (e.g., Forbes, Tackett, Markon, & Krueger, 2016;; Mahaffey, Watson, Clark, & Kotov, 2016). Only a few higher-order dimensions might exist, and common factors are likely to explain the majority of variance in disorder compared to healthy functioning. In turn, HFAD researchers should embrace theories and observations from other conditions (trauma, social anxiety) to inform their hypotheses about recovery from depression. To bring the field to fruition, we will need work expressly designed to compare recovery in HFAD to that of other mental health conditions.

8. Finally, can we apply what learn about HFAD to enhance clinical interventions? As should be clear from our research agenda, we believe it is likely that future work will

identify multiple routes into HFAD. To clarify how these pathways are relevant to clinical interventions, it will be important to delineate which pathways to HFAD are the most common, the most easily achieved, and the most robust. Upon measuring and studying HFAD, researchers will gain insight into the naturalistic interventions that increase the probability of healthy outcomes. We are likely to witness a further increase in attention to supplements to cognitive-behavioral and psychopharmacological interventions such as sleep hygiene, exercise, nutrition, exposure to sun light, healthy sexual activity, and spiritual practices (e.g., Disabato, Kashdan, Short, & Jarden, 2017; Hallahan et al., 2016; O’Leary, Bylsma, & Rottenberg, 2017).

Implications

People experiencing many forms of psychopathology are routinely told their condition has a grim prognosis. Are such pronouncements justified? In the case of depression, maybe not. High end-state functioning in depression has been broadly neglected, leaving an acknowledged gap in our epidemiology. This is not unusual. For most mental health conditions, we simply do not know how common it is for people to flourish afterwards for a prolonged period. In the case of depression, sometimes research on its course has followed people into recovery, but the storyline of depression has abruptly stopped there. We know little about what happens next, particularly to those with who have a sustained recovery that is accompanied by good functioning. With this in mind, we close with reflections about why it is harmful to ignore people who flourish after depression, and how an accounting of HFAD individuals could serve the public health.

One reason HFAD needs to be discussed is that it is part of the truth, which patients and the broader public are owed. It would be odd if an oncologist didn’t tell a cancer patient his or

her chances of achieving lifetime remission. We submit that a depressed patient also deserves to know. The public deserves to know as well. As we gather data about the prevalence of HFAD and the factors that influence it, it is critical to disseminate this information widely. Public perceptions of depression are currently bleak, dominated by the disease model of depression, which presents the condition as biologically-based, frequently lifelong, and sees the clinical goal as mitigating vulnerability (i.e., by taking medications; Deacon & Baird, 2009; Kemp, Lickl, & Deacon, 2014). Findings about HFAD are important to add to this public conversation, not merely as inspirational anecdotes, but to ground realistic hope in systematic scientific research.

Addressing substantive questions about HFAD can yield payoffs for researchers, clinicians, and patients alike. Regardless of how common HFAD proves to be, we can learn from it. HFAD individuals may be instructive if we consider them as people who carry within them a kind of antidote to depression. As researchers unlock the reasons for why some individuals have a notably good course, a key question will be whether this antidote can be applied to other people, via formal interventions, via enhancing the strategies that people use to “self-help,” or via some other means. Indeed, if there are distinct pathways to HFAD, we may develop different versions of the antidote that are personally tailored to the individual (Joyner & Paneth, 2015).

Critically, as researchers array the factors that may account for HFAD, it will not only be important to determine which are the most robust, but also which are most modifiable. Factors that can be modified in principle can then be fed forward into clinical research designs. Clinically-minded research can determine (a) how to best cultivate HFAD-related characteristics, and (b) the downstream effects on symptoms and functioning of doing so. Ultimately, this work has potential to improve existing acute or maintenance treatments for depression. This may mean augmenting existing treatments, developing new treatments, or fashioning self-help procedures

that incorporate our newfound HFAD knowledge. Our hope is that research on HFAD can be applied so more people can be helped to achieve this cherished outcome.

The essence of any intervention, for treating depression, or for any other condition, is to help others to unlock their potential. By no means are we suggesting that existing allied health professionals are lacking commitment to being helpful. What we are suggesting is that the status quo approach to conceptualizing, studying, and treating depression has systematically omitted essential data that has led to erroneous conclusions. Far from signaling a lifetime psychological prison sentence, the onset of depression can herald a delimited period of suffering, after which a person emerges as a highly functioning member of society in the most important of life domains: socializing effectively, contributing meaningful work, loving and being loved, and regularly extracting pleasure and meaning from everyday endeavors. Scientists have yet to write this new narrative. It can only be outlined at present. Our hope is that from this outline will come new inquiries that will spawn investigations that will first improve our understanding and then the actual condition of people who experience significant mental health challenges like depression.

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Facet of high functioning	Early Mid-Life (32-49)		Late Mid-Life (50-64)		Older Life (65-84)	
	Women	Men	Women	Men	Women	Men
<p>Life Satisfaction - Five items to rate satisfaction with life overall, health, work, relationships with children, and relationship with spouse/partner (for some participants the last two items were missing). <u>Sample item:</u> Using a scale from 0 to 10 where 0 means “the worst possible health” and 10 means “the best possible health”, <i>how would you rate your health these days?</i></p>	7.58 (1.29)	7.56 (1.23)	7.75 (1.28)	7.69 (1.25)	8.09 (1.17)	8.06 (1.15)
<p>Negative Affect - Six items to rate how frequently one felt negative emotions in the past 30 days. <u>Sample item:</u> Using a scale from 1-5, where 1 means “all of the time” and 5 means “none of the time,” <i>how much of the time did you feel hopeless?</i></p>	4.35 (0.66)	4.44 (0.56)	4.40 (0.64)	4.52 (0.56)	4.53 (0.52)	4.62 (0.52)
<p>Positive Affect - Six items to rate how frequently one felt positive emotions in the past 30 days. <u>Sample item:</u> Using a scale from 1-5, where 1 means “all of the time” and 5 means “none of the time,” <i>how much of the time did you feel cheerful?</i></p>	3.27 (0.72)	3.30 (0.71)	3.34 (0.76)	3.39 (0.70)	3.53 (0.68)	3.60 (0.70)
<p>Autonomy - Seven items to rate self-determination and independence from others. <u>Sample item:</u> Using a scale from 1-7, where 1 means “strongly agree” and 7 means “strongly disagree,” <i>I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.</i></p>	5.02 (1.00)	5.41 (0.96)	5.26 (1.04)	5.57 (0.93)	5.39 (0.98)	5.63 (0.91)
<p>Environmental Mastery - Seven items to rate the capacity to effectively manage one’s life. <u>Sample item:</u> Using a scale from 1-7, where 1 means “strongly agree” and 7 means “strongly disagree,” <i>In general, I feel I am in charge of the situation in which I live.</i></p>	5.13 (1.04)	5.32 (1.06)	5.30 (1.16)	5.48 (1.04)	5.51 (1.00)	5.72 (0.92)
<p>Personal Growth - Seven items to rate continued growth and development as a person. <u>Sample item:</u> Using a scale from 1-7, where 1 means “strongly agree” and 7 means “strongly disagree,” <i>I think it is important to have new experiences that challenge how you think about yourself and the world.</i></p>	5.49 (0.99)	5.46 (0.98)	5.52 (1.04)	5.48 (0.99)	5.42 (1.01)	5.25 (1.00)
<p>Positive Relations with Others - Seven items to rate quality of one’s interpersonal relationships. <u>Sample item:</u> Using a scale from 1-7, where 1 means “strongly agree” and 7 means “strongly disagree,” <i>I know that I can trust my friends, and they know they can trust me.</i></p>	5.69 (1.03)	5.49 (1.04)	5.80 (1.01)	5.59 (1.06)	5.96 (0.93)	5.71 (0.98)
<p>Purpose in Life - Seven items to rate whether one’s life has meaning and purpose. <u>Sample item:</u> Using a scale from 1-7, where 1 means “strongly agree” and 7 means “strongly disagree,” <i>I have a sense of direction and purpose in life.</i></p>	5.42 (1.00)	5.49 (0.99)	5.44 (1.04)	5.53 (1.02)	5.34 (1.00)	5.30 (1.01)
<p>Self-Acceptance - Seven items to rate positive evaluations of oneself. <u>Sample item:</u> Using a scale from 1-7, where 1 means “strongly agree” and 7 means “strongly disagree,” <i>In general, I feel confident and positive about myself.</i></p>	5.10 (1.25)	5.28 (1.19)	5.32 (1.29)	5.49 (1.18)	5.54 (1.09)	5.62 (1.05)

Note: Measures included reverse coded items such that higher scores mean greater high functioning. Means are presented in each cell with standard deviations in parentheses. All scales, items, and descriptive statistics are derived from the National Survey of Midlife Development in the United States (MIDUS; <http://midus.wisc.edu/scopeofstudy.php>). We focused upon the second wave of the MIDUS study because its wellbeing measures exhibited greater reliability and validity than the first wave (Gallagher, Lopez, & Preacher, 2009). To account for participant drop out, multiple imputation – with auxiliary variables from the first wave – was used (van Buuren & Groothuis-Oudshoorn, 2011).

Table 2. Definition of High Functioning after Depression

Criteria	Definition	Recommended Assessment
Documented history of MDD	Met criteria for past MDD.	SCID-5 (past MDD module)
Full recovery from MDD	During past year, no more than two depression symptoms experienced to more than a mild degree at any one time.	Modified SCID-5
High levels of reported psychological well-being	In past month, above the 50th percentile relative to population mean on at least eight of nine well-being facets. AND Above the 84th percentile relative to population mean on at least three of nine well-being facets.	Scales of Psychological Well-being; Satisfaction with Life Scale; Positive and Negative Affect Schedule (See Table 1).
Unimpaired daily psychosocial function	Zero to mild impairment across major life domains (e.g., social, occupational) in past month.	WHODAS 2.0

Note: MDD = Major Depressive Disorder; SCID-5 = Structured Clinical Interview for DSM-5 clinician or research version; WHODAS 2.0 = World Health Organization Disability Assessment Schedule – second edition.