How Do You Feel About...?
Health Outcomes in Late Life and Self-Perceptions of Health and Well-Being

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Research has shown over the years that the self-perceptions of older adults about their health and well-being may be at least as important as objective data for predicting the course of their health over time. I review a series of studies that span 30 years in which I and my colleagues have asked older adults in the community about their self-rated health and well-being across a spectrum of parameters, including self-rated health, social support, and mood (both negative and positive), and about whether their basic needs are being met. The social environment shapes perceptions of health and well-being, as does the body. Feelings, such as feelings about health and well-being, are therefore a key (but not the only) psychological-behavioral bridge between the body (genome and physiology) and society (environmental stressors and social context). Following a review of these studies, I attempt to place these perceptions of health and well-being in a social context, a context critical to understanding the consistency and strength of these studies (and others performed over many years) documenting the association between answers to the question “How do you feel about...?” and health outcomes over time.

Key Words: Health, Self-perception, Well-being

The Kleemeier Award Lecture provides the lecturers an opportunity to summarize and focus on what they believe to be key findings over their research careers. A self-assessment of one’s research, however, may uncover hidden themes that only emerge upon review. Prior to this lecture, I would have described my career as that of a psychiatrist who has focused his research on the epidemiology of late-life depression. However, upon reflection, this description neglects a key driver of my research heretofore hidden from view. I am a social epidemiologist who, over many years, has investigated social interactions, not the least of which is the interaction between doctors and their patients. This drive undoubtedly derives from my clinical work as a psychiatrist, in which I engage in the most basic interaction between doctors and their patients, specifically asking the question, “How do you feel about...?” and listening to the answer.

Most clinicians treating older adults focus on facts: facts about the behaviors of their patients (e.g., the number times the patient gets up at night to use the bathroom), facts about their physiological function (e.g., lab values), and facts about their
daily function (e.g., activities of daily living). Nevertheless, research has shown over the years that the perceptions of older adults about their health and well-being may be at least as important as facts for evaluating their well-being and the course of their health over time (Idler & Benyamini, 1997). Unfortunately, clinical medicine has moved away from listening to patients (their complaints) and toward seeing them, and what can be seen (a magnetic resonance image or a number on a symptoms screening scale). It has moved from a hear-and-feel discipline to a see-and-do discipline. Algorithms are increasingly replacing the art of listening to patients and assessing their views of their health. “How do you feel...?” is a question all too often ignored. For example, physicians ask, “How many hours on average do you sleep at night?” rather than “Do you feel you are getting enough sleep?”

The social environment shapes “how we feel,” as does the body. Feelings are therefore one but not the only key psychological–behavioral bridge between the body, that is, genome and physiology, and society, that is, environmental stressors and social context (Hernandez & Blazer, 2006). Biomedical science has become expert in measuring the genome and its products, and such expertise will provide a platform for amazing changes in the medicine of the future. In like manner, social scientists have developed more sophisticated means for measuring the social environment, from assessing environmental stressors at the individual level to network analysis. Nevertheless, if clinicians who work with older adults concentrate on these tools of assessment alone, then they miss the person who emerges from the genome and resides in the context of her or his sociocultural environment. There is no better way to know the person than to explore the subjective feelings of the person—exactly what clinicians do when they ask, “How do you feel?”

Here I review a series of studies that span 30 years in which my colleagues and I have asked older adults in the community how they feel about a variety of topics related to their health and well-being: about their self-rated health (Blazer & Houpt, 1979); about their social support (Blazer, 1982); about their mood, both negative (Blazer, Hybels, & Pieper, 2001; Hybels, Pieper, & Blazer, 2002) and positive (Blazer & Hybels, 2004); and about whether their basic needs are being met (Blazer, Sachs-Ericsson, & Hybels, 2005). These studies, of course, are neither the only ones published exploring self-perception, nor necessarily the best. Yet they do illustrate the variety of simple questions that clinicians can ask patients and the predictive power of the responses from patients. (In this article, those treated are referred to as patients; the reader can easily substitute client if that is a more personally appropriate term.) I also concentrate on studies of the association of perceptions of health and well-being with mortality, the most distal of health outcomes, recognizing that many proximal steps intervene along the way. Proximal outcomes may include future disease onset, functional decline, institutionalization, and so on, all of which may be valid endpoints in longitudinal studies.

Following a review of these studies, I attempt to place perceptions of health and well-being in a social context. I believe this context is critical to understanding the consistency and strength of our studies, and others performed over many years, documenting the association between answers to the question “How do you feel about...?” and health outcomes over time. Recognizing this context is a key to understanding why these simple questions are so important for investigators and clinicians as they seek to understand the predictors of health outcomes in older adults beyond lab values or pathologic changes in tissue.

Self-Rated Health and Mortality

Using data from the Older Americans Research and Services Project nearly 30 years ago, Jeff Houpt and I explored a sample of 997 community-dwelling elders who were 65 years of age or older (Blazer & Houpt, 1979; Fillenbaum, 1988). Seven hundred and nineteen were considered to be in good health by specific assessments of health, such as functional status. Of these elders in apparent good health, 104 (14%) self-rated their physical health to be poor whereas 615 (86%) self-rated their physical status to be good or fair. The reader should not be surprised with this disconnect between self-rated health and more specific measures of health. Individuals in good health may rate their health as poor and those in poor health may rate their health as good. Upon further exploration, we found that the physically healthy individuals who perceived their health to be poor were more depressed and more dissatisfied with their lives. They complained of multiple symptoms. Therefore, the perception of poor health in healthy elderly persons is associated with factors other than health itself (such as depression), factors known to be associated with poor health outcomes independent of usual indicators of health at a given point in time.

Nevertheless, the question “Does self-rated health predict health outcomes?” is not answered by the aforementioned study. Many investigators have addressed this question, and the answer has been almost uniformly “yes” (Idler & Benyamini, 1997). We explored this association in a follow-up community survey, the Established Populations for Epidemiologic Studies of the Elderly (EPESE), at Duke University (Cornoni-Huntley et al., 1990). The Duke EPESE was part of a multicenter, collaborative epidemiologic investigation of physical, psychological, and social function of persons 65 years of age and older living in East Boston, Massachusetts; Iowa and Washington counties, Iowa; New Haven, Connecticut; and the North-Central Piedmont of North Carolina. The North Carolina sample consisted of

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community residents selected from five contiguous Piedmont counties, one of which was predominantly urban and the other four predominantly rural. The population of the urban county was approximately equal to the combined populations of the four rural counties at the time of the 1980 census. The Duke EPESE is a 10-year prospective cohort study with the baseline interview conducted in 1986–1987 and three additional in-person contacts with sample members in 1989–1990, 1992–1993, and 1996–1997.

My colleagues and I used a four-stage stratified household sampling design to select a probability sample of 4,162 community residents who were 65 years of age or older. The age range at baseline was 65 to 105 years. Two thirds of the participants were women. To enhance statistical precision for estimating racial differences, we oversampled African Americans; they constituted 53.5% of the study respondents. We regressed mortality (obtained during the follow-up surveys as well as through the National Death Index) onto self-rated health and control variables in a logistic model. We controlled for age, sex, race, marital status, education, recent hospitalization, number of chronic diseases, smoking, alcohol consumption, and total cognitive score.

David Schoenfeld and Lynda Malmrose in our group studied a subsample of the EPESE cohort. They studied 1,192 adults, 70 to 79 years old and older, exhibiting good physical and cognitive function and therefore judged to be among the “successfully aging,” as part of the MacArthur Research Network on Successful Aging (Schoenfeld, Malmrose, Blazer, Gold, & Seeman, 1994). Poor self-rated health was associated with a dramatic and significant increase in mortality. Compared with those who rated their health as excellent, those who rated their health as good were 2.69 more likely to die over a 3-year follow-up; those who rated their health as fair were 7.26 times more likely to die; and those who rated their health as poor were an astounding 19.56 times more likely to die. Considering that this sample was basically healthy at the outset of the study, these odd ratios are remarkable for their predictive strength. Not only is self-perception of health not analogous to more specific measures of health, it is independently predictive of death in these healthy elders.

Social Support and Mortality in Elderly Persons

One of my earliest explorations was into the role of social support as a predictor of health outcomes. In a community sample of 331 community-dwelling elders (65 years or older, a subsample of the Older Americans Research and Services sample already described who were followed for 30 months), I assessed adequacy of social support along three parameters: roles and available attachments (e.g., marital status, family members nearby); perceived social support (e.g., my family or friends are there to help me); and frequency of social interaction (e.g., the frequency of phone calls with family and friends; see Blazer, 1982). Mortality was assessed 30 months later. The overall results are presented in Table 1. Perception of social support is a separate construct from frequency of social interaction and social roles and attachments (perhaps more objective measures even though self-reported), though the constructs were correlated. Perception of social support was also, as seen in the table, an independent predictor of mortality with a relative risk greater than more objective measures in this highly controlled analysis. Note that perception of support remains a significant predictor even when the other two parameters are controlled. Interviewers working in community studies often report the incongruity that an older person may respond that family and friends don’t seem to care for her (or him), even as the interview is interrupted three or four times by family and friends checking on her status. Therefore, the “feeling” of being embedded within supportive and caring relationships may be at least as critical to health outcomes as the actual supply of social resources. The importance of social support as a predictor of health outcomes has been documented in numerous studies over the past 30 years.

Depressive Symptoms and Mortality

To this point, the examples of self-perception of health and well-being with health outcomes have exhibited straightforward results based on simple questions. Depression, in contrast, would not appear at first glance to be a perception. Any clinician recognizes the very disabling and at times life-threatening consequences of a severe episode of major depression. In addition, major depression as diagnosed by clinicians in clinical samples has been almost uniformly associated with all-cause mortality (Schulz, Drayer, & Rollman, 2002). However, depression assessed in community epidemiological studies is almost always based on the self-perception of a collection of symptoms that are thought to be part of the depression complex, such as a depressed mood, loss of interest, and a negative outlook on life. Our group has worked for many years with just such an
assessments that do not meet the criteria for clinical depression. We have used the scale to document the self-assessment of depressive symptoms by older adults in a number of studies of the association of these symptoms with mortality. The results of our studies have been far from uniform and present investigators with a more nuanced view of this association than has emerged from the clinical studies. Three studies are reported in the paragraphs that follow.

### Clinical Depression and Mortality

In the first study, we explored the association of clinical depression with mortality 3 years following initial assessment, using the entire CES-D scale in the Duke EPESE study (Blazer et al., 2001). When we controlled the analyses only for age, sex, and race, we found that the clinically depressed individuals were twice as likely to die as the nondepressed individuals over the 3 years of follow-up. However, when we controlled for other factors known to be associated with depression and also known to be predictors of mortality in late life (such as impaired functional status, impaired cognitive status, poor perceived social support, and reported chronic diseases), we found that the odds ratio declined to 1.3 and was no longer significant. From this study it appears that the association of depression and mortality may be mediated through other factors (such as functional impairment) or may simply be confounded by other factors. But does this suggest that we should abandon our explorations of a direct association between self-perception of depressive symptoms and mortality? The picture turns out to be more complex and much more interesting than we thought initially.

### Subthreshold Depression and Mortality

In a second study, Celia Hybels, Carl Pieper, and I explored the association between depressive symptoms that do not meet the criteria for clinical depression (what we have labeled subthreshold depression and operationalized as scores between 6 and 8 on our modified CES-D scale) and mortality over three successive follow-up intervals to improve the power of our analyses (Hybels et al., 2002). We found a counterintuitive association. Women with subthreshold depression in controlled analyses were less likely to die than those with fewer symptoms. This finding actually made the Jay Leno monologue: “Did you hear about that study at Duke where depressed women were less likely to die? That ought to make them feel better!” On reflection, though, this finding may not be as strange as it initially appears.

Can perception of depression ever be protective? Does mild depression actually conserve energy so that the organism may survive longer? Does mild depression lead to a more realistic view of the need for health care and a desire to pursue such care? The answer to these questions may be “yes.” Randolf Nesse has discussed the potential evolutionary advantage of less severe forms of depression; he suggested that they may be protective against adverse health outcomes (Nesse, 2000). He also suggested that syndromes such as depression would not survive if they did not have some evolutionary advantage. Our findings, though preliminary and in need of further confirmation through additional studies, provide some empirical evidence that this theory is worth exploring in the future.

### Positive Affect and Mortality

The self-perception of depression is not the self-perception of a unitary construct. Depressive symptoms range across a spectrum that includes negative affect (such as feeling depressed), somatic symptoms (such as anhedonia, psychomotor disturbances, and cognitive dysfunction), negative views of the world and the self (such as hopelessness and low self-esteem), and interpersonal problems. The CES-D factors into four specific subscales that mirror this spectrum: negative psychological symptoms; somatic symptoms; symptoms that reflect an absence of positive affect; and interpersonal symptoms (Blazer, Landerman, Hays, Simonsick, & Saunders, 1998).

Positive affect was assessed by four items: felt as good as other people; felt hopeful about the future; happy; and enjoyed life. Do these subscales of depressive symptoms vary in their predictive power for mortality? We had reason to suspect that positive affect may be specifically protective against mortality.

We performed a Cox proportional hazards model over 10 years following the initial assessment using the EPESE sample (Blazer & Hybels, 2004). We found that 49% of the sample survived the entire 10-year follow-up using the EPESE cohort; we censored them in the proportional hazard modeling. The analyses controlled for age, sex, race, income, education, cognitive function, and functional status. We found that only the positive affect scale was a significant predictor of mortality. This finding again is counterintuitive for clinicians, for they would expect that the core symptoms of depression would be more predictive, such as anhedonia (lack of interest) and sleep problems. Yet only a small percentage of these individuals from the community were experiencing depressive symptoms severe enough to require hospitalization or aggressive treatment. When the entire sample is assessed, it was a lack of hope and lack of happiness and enjoyment with life that were predictive.

### Basic Needs and Mortality

Another colleague, Natalie Sachs-Ericsson, abstracted a scale from our EPESE survey that provided...
a measure of self-perception of basic needs being met (Blazer et al., 2005). She included five items that met internal reliability standards for a scale of basic needs. The items included in the scale were as follows: “How safe from crime is your neighborhood?”; “How well does the amount of money you have taken care of your needs?”; “Do you have enough financial resources to meet emergencies?”; “Is your house (apartment, etc.) in adequate condition?”; and “Do you have enough heat in winter?” In a Cox proportional hazards model, we determined if the perception of basic needs not being met was associated with mortality when age, sex, race, marital status, annual income, education, cognitive impairment, and functional impairment were controlled. As can be seen in Table 2, our scale measuring basic needs is a very significant predictor of mortality. No interaction terms were predictive (e.g., including income along with other expected predictors of mortality). The items included in the scale were as follows: “How safe from crime is your neighborhood?”; “How well does the amount of money you have taken care of your needs?”; “Do you have enough financial resources to meet emergencies?”; “Is your house (apartment, etc.) in adequate condition?”; and “Do you have enough heat in winter?” In a Cox proportional hazards model, we determined if the perception of basic needs not being met was associated with mortality when age, sex, race, marital status, annual income, education, cognitive impairment, and functional impairment were controlled. As can be seen in Table 2, our scale measuring basic needs is a very significant predictor of mortality. No interaction terms were predictive (e.g., including income × basic needs) and, as can be seen, the best model included two quadratic terms.

We have discovered over the years that many different perceptions of health and well-being that can be assessed by simple and straightforward questions have proven to be impressive predictors of mortality in controlled studies. These findings beg for an explanation.

### Possible Mechanisms for the Association Between Health Outcomes and Self-Perceptions of Health and Well-Being

Possible explanations of the association between health outcomes and the self-perception of health and well-being are not wanting. For example, Goldman, Glei, and Chang (2004) explored the association between a number of possible mechanisms that might explain the association between self-rated health and health outcomes. Most of these variables are also known to be independently associated with health outcomes. The list of variables considered and the evidence of their association with self-rated health from their study include the following: sex, marital status, and social network (no association); age (a U-shaped association); ethnicity and employment (weakly associated); education (strongly associated); physical and mental health (associated in high-income groups); physical health (associated in low-income groups); and laboratory and physical measures such as body mass index, waist-to-hip ratio, high-density lipoprotein, cholesterol, cortisol-to-dehydroepiandrosterone sulfate ratio, €4 allele of the apolipoprotein E gene, and norepinephrine (all associated when medical diagnosis, physical function, mental health, behavioral risk factors, stress, and socioeconomic status are controlled).

Mechanisms that could explain the association between perceived social support and health outcomes include self-efficacy. Self-efficacy resulting from good support may facilitate addressing risk factors for poor health outcomes, such as smoking cessation (Cutrona & Troutman, 1986). People with low social support may have higher levels of urinary norepinephrine, regardless of their level of stress, and therefore experience an increased allosteric load (Fleming, Baum, Gisriel, & Gatchel, 1982; McEwen, 1998); and lower social support may be associated with compromised immune competence (Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1997). Perceived social support may also be determined in part by inherent temperament, which is reflected in the genetic determinants of support (Kendler, 1997).

Possible mechanisms that have been suggested to explain the increased mortality among depressed individuals include the following: depressed persons may be less likely to have insurance to cover health care needs (Sturm & Wells, 1995); depressed persons may be less likely to adhere to their medical regimen (Schulz et al., 2002); depressed persons may be less likely to receive preventive and curative treatments (Druss, Rosenheck, & Sledge, 2000); and depression is associated with known risk factors for mortality, such as tobacco (Covey, Glassman, & Stetten, 1998).

Pressman and Cohen (2005) have suggested mechanisms that might explain the association between positive affect and health outcomes. First they assert that positive affect may not simply be the opposite of negative affect (such as depression), and therefore it constitutes an independent risk or protective factor in health outcomes. In other words, positive affect appears to be a separate construct from perceived health. In one study, dispositional optimism (a stable trait over 15 years) was inversely associated with mortality in community-dwelling older men (Giltay, Zitman, & Kromhout, 2006). A lack of positive affect may also reflect a low-grade anhedonia (Mora, Robitaille, Leventhal, Swigar, & Leventhal, 2002), which places the older adult at risk for adverse health outcomes independent of other depressive symptoms.
The association between perceived inadequate basic needs and adverse health outcomes may point to a more sociologically based and nuanced explanation, namely perceived disadvantage, that independently contributes to poor self-perceptions across the spectrum just described and therefore may contribute to adverse health outcomes. The absence of basic needs not only may lead individuals to feel looked down on, devalued, and inferior (Charlesworth, Gilfillan, & Wilkinson, 2004), it also increases the stress of meeting usual needs (Wilkinson, 2005).

The paradox of perceived disadvantage even in a period of increasing resources can be illustrated during a unique period of U.S. history, namely the history of the mugwumps (Hofstadter, 1955). At the turn of the 20th century, the progressive movement gained significant strides politically. This movement derived much of its initiative from the so-called mugwumps, mostly middle- to upper-middle-class well-educated citizens, often from “old money.” However, as the economy improved, the mugwumps were not happy. On the surface, the mugwumps should not have been dissatisfied, for they were actually doing better financially than during the economic depression of the latter 19th century. Why were the mugwumps unhappy? The mugwumps were unhappy because they experienced a significant sense of disadvantage when they compared themselves to the “plutocrats” (or “robber barons”) such as the Vanderbilts, Fords, and Morgans.

I propose that the perceived disadvantage of not having one’s basic needs met serves as a way to conceptualize self-perceptions of health and well-being associated with health outcomes more generally. Specifically, actual income and physical possessions may be less important as a predictor of adverse health outcomes than perceptions of income and status inequality. When societies in which income inequality is lower are compared with societies in which income inequality is higher (such as the United States), relative income may be more important than actual income (Wilkinson, 1996). For example, citizens of Greece, with one-half the average real income of the United States yet with a much less varied income distribution among the vast majority of citizens than in the Unites States, have a better life expectancy than do the citizens of the United States. Overall, health is poorer in countries where income inequality is greater (Wilkinson & Pickett, 2006).

Some explanations for the impact of perceived relative disadvantage in societies such as the United States include the following.

First, dominance hierarchies often are about privileged access to scarce resources. Health care may become less available even in societies in which income goes up because health care expenses may rise at an even higher rate (especially technologically sophisticated health care). This is no more true than in the United States among the elderly population, especially those faced with increasing restrictions upon basic Medicare services (Lantz, House, Mero, & Williams, 2005).

Second, relatively lower socioeconomic status (and the perception of “losing out” in society) may be associated with more risk factors for adverse health outcomes, such as smoking, obesity, or “intangible” factors not readily available to empirical exploration (Charlesworth et al., 2004). Older people on a fixed income may gradually but inevitably view themselves moving down the socioeconomic ladder. This may even be true in affluent continuing care communities, in which some elders face income restrictions especially as they age beyond their resources and may even experience threatened expulsion from such a community.

Third, those in a subordinate position within a society may be more likely to “give up” (Sapolsky, 2001). Older people on average may be especially vulnerable to giving up when their physical and emotional strength decline in an ever more competitive society.

Fourth, inequality may lead to greater exposure to violence, loss of control over one’s environment, lower levels of trust and social cohesion, and lower levels of social capital (Wilkinson, 2005).

Fifth, older people trapped in neighborhoods that become more crime ridden are exposed to more violence, sometimes to the point that they feel trapped in their homes (Marmot, 2004).

For these reasons and others, relative socioeconomic disadvantage may lead many older adults to experience threats that impair health outcomes as well as immediate threats to well-being. Yet can we generalize perceived disadvantage in basic needs being met to the other areas already reviewed here? I believe that we can. For example, what is an 80-year-old to think when he or she is browsing the latest issue of AARP? Walking around the block for exercise pales in comparison to pictures of people in their fifties sailing, riding bicycles, and traveling to distant places. Questions naturally arise about how well one really is: “I feel pretty good but not that good. What’s wrong with me?”

In relation to perceptions of social support, we have perhaps have moved beyond the 1950s views of ideal families. Older adults often live at some distance from their family, and a three- or four-generational family living together in harmony, such as depicted in The Waltons, is rare. A visit to any retirement community uncovers older people with considerable interaction with others (including family, at least by telephone). Even so, these older adults often feel that they are isolated when they compare themselves with others.

Can depressive symptoms be viewed as an expression of relative disadvantage? Moderate to severe major depression is recognized as a disease by virtually all health care professionals, yet many elders suffering from this disease remain raked by the stigma of suffering from a mental illness as well as the
traits such as optimism. For any given individual, the reality may be an epiphenomenon, and basic personality may remain relatively stable throughout the life cycle, yet clearly can be influenced by social factors. Such temperamental traits may cut across perceptions such as self-rated health, positive affect, social support, and even perception of basic needs (despite the finding that these perceptions have generally proven to be separate constructs). Self-perceptions, as already noted, may also lead to health behaviors that determine health outcomes. Perceptions could be in part epiphenomena of underlying psychobiological processes that lead to adverse health outcomes.

In summary, there is significant evidence that absolute inequality (such as low socioeconomic status), relative inequality (such as lower income in a society with a wide range of incomes), and perceived inequality (such as a perception that basic needs are not being met) can impact physical and mental health. Nevertheless, the factors that explain these associations remain to be clearly identified. Candidate factors include a sense of self-efficacy (a trait that is quite valuable in a society where independence and self-reliance are emphasized, such as the United States), depression (where hopelessness often derives from as well as leads to unfavorable comparisons), positive affect (where not feeling at the “top of your game” can be considered abnormal), genetic predisposition (where the perceived inequality may be an epiphenomenon), and basic personality traits such as optimism. For any given individual, the relative contribution of these and other factors may be difficult for the clinician to sort out. Empirical studies are emerging that can inform clinicians about the importance of these self-assessments and their impact on health, including studies that are beginning to help identify and sort out the possible mechanisms by which perceptions influence health outcomes. Regardless, perceived inequalities across a range such as health, social support, mood, and basic needs are fertile areas for future research.

As my maternal grandmother was apt to say, “Comparisons are odious.” Unfortunately, we are comparing ourselves to others constantly. A small percentage of older adults need but look around and they can truly say to themselves, “I am doing better than virtually anyone else I know my age.” Yet another group of adults may find ways to compare themselves with favorably with others even when they are experiencing some problems (a not uncommon adaptive mechanism among older adults). These self-enhancing comparisons enable older adults to make more favorable comparisons. For example, an overweight elder who has some difficulty getting around compares himself to a morbidly obese friend: “I am so happy I am not like him.” Some elders do make comparisons and the results of their comparisons are not always favorable. We have yet to learn in what ways unfavorable comparisons contribute to health outcomes, but I believe that we have accumulated enough evidence from studies asking the question, “How do you feel about…?” that we should explore the possibilities further.

References


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