



Published in final edited form as:

*Am Psychol.* 2013 April ; 68(3): 158–171. doi:10.1037/a0032159.

## Assessment of Capacity in an Aging Society

**Jennifer Moye,**

VA Boston Healthcare System and Harvard Medical School

**Daniel C. Marson, and**

University of Alabama at Birmingham

**Barry Edelstein**

West Virginia University

### Abstract

Over the past 40 years, the assessment and scientific study of capacity in older adults has emerged as a distinct field of clinical and research activity for psychologists. This new field reflects the convergence of several trends: the aging of American society, the growing incidence and prevalence of dementia, and the patient rights, deinstitutionalization, and disability rights movements. Because of these forces, capacity issues now permeate the fabric of everyday life, whether in the form of guardianship petitions, questions of capacity to consent to treatment, the ability to make a new will, or participation in human research. In seeking to resolve these issues, families, clinicians, and legal professionals increasingly turn to psychologists to assess a capacity and to provide empirically supported judgments that properly balance autonomy and protection for the individual. Psychologists have taken a leading role in the development of functional assessment instruments that measure important aspects of the capacity construct. In addition, psychology has been a major contributor to the scientific study of capacity. In collaboration with colleagues from medicine and law, psychologists have articulated crucial theoretical frameworks that integrate legal, clinical, and ethical dimensions of the capacity problem. This article focuses on the evolution of theory, law, science, and practice in the evaluation of capacity in older adults and its recent culmination in a series of interdisciplinary handbooks sponsored by the American Psychological Association and the American Bar Association.

### Keywords

capacity; competency; decision making; informed consent; assessment

---

Correspondence concerning this article should be addressed to Jennifer Moye, VA Boston Healthcare System, Brockton Campus, 940 Belmont Street, Brockton, MA 02301. jennifer.moye@va.gov.

Jennifer Moye, VA Boston Healthcare System and Department of Psychiatry, Harvard Medical School; Daniel C. Marson, Department of Neurology and Alzheimer's Disease Center, University of Alabama at Birmingham; Barry Edelstein, Department of Psychology, West Virginia University.

This article draws from material developed by the authors for the *Assessment of Older Adults With Diminished Capacity: A Handbook for Psychologists*. The members of the American Bar Association/American Psychological Association Assessment of Capacity in Older Adults Project Working Group, which developed the *Handbook for Psychologists*, were Barry Edelstein, PhD; Peter Lichtenberg, PhD, ABPP; Daniel Marson, JD, PhD; Jennifer Moye, PhD (co-editor); David Powers, PhD; Charles Sabatino, JD; Aida Saldívar, PhD, ABPP; Erica Wood, JD; and Stacey Wood, PhD (co-editor). Deborah DiGilio, MPH, director of the APA Office on Aging, and Donna Beavers from the APA Office of General Counsel provided APA staff support for the ABA–APA handbook series. The handbooks are available online at <http://www.apa.org/pi/aging/programs/assessment/index.aspx>.

Assessing the capacities of older adults with neuropsychiatric disorders has become ubiquitous in our society—an issue encountered on a daily basis by older adults, families, clinicians, real estate and stock brokers, attorneys, adult protective workers, and the courts (Moye & Marson, 2007). Most of us have had a grandmother, grandfather, or other older family member whose declining cognition and behavior have caused us to question whether she or he has the capacity to live independently, drive an automobile safely, or make sound financial decisions. Judgments of capacity by psychologists, physicians, and other health care professionals can have crucial implications for the civil liberty and personal autonomy of individuals whose capacity is questioned.

While professionals from all disciplines face challenges caused by diminished capacity in older adults, psychologists have been on the front lines of both scientific research and clinical practice. Recently, the American Bar Association (ABA) and the American Psychological Association (APA) collaborated on a series of capacity assessment handbooks for attorneys, judges, and psychologists (ABA Commission on Aging & APA, 2005, 2006, 2008) that are available for free download at <http://www.apa.org/pi/aging/programs/assessment/index.aspx>. The ABA–APA capacity assessment handbooks represent an important interdisciplinary effort to promote sound conceptual understanding and skilled clinical assessment of civil capacities in older adults.

This article highlights civil capacity assessment of older adults as an important issue in contemporary psychology and the contributions of psychology to its science and practice. The thesis of this article is twofold: (a) The field of civil capacity assessment has emerged within the past 50 years through the co-evolution of law, theory, science, and practice within the context of large-scale demographic, social, and policy forces, and (b) the recently developed ABA–APA capacity assessment handbooks reflect and crystallize these developments. In articulating this thesis, we have organized the article into the following five sections: First, we provide overarching clinical and legal definitions of capacity that inform the sections to follow. Second, we discuss the origins and contents of the ABA–APA handbooks so there is a meaningful context for subsequent references to these. In the third section, we describe and summarize the historical and societal contexts for capacity evaluation of older adults. In the fourth section we describe the development of legal standards and theoretical constructs, outline key findings of capacity science, and chart developments in the practice of capacity assessment. Finally, in the fifth section, we propose a scientific, clinical, educational, and policy agenda for advancing the field of civil capacity assessment of older adults. Figures 1 and 2 together provide a roadmap to the interrelated and co-evolving factors described in this article.

## Definitions of Capacity

### General Definition

Capacity is a status that is almost as hard to define as it is to assess. A good generic definition of *capacity* is as follows: “a threshold requirement for persons to retain the power to make decisions for themselves” (Appelbaum & Gutheil, 1991, p. 180). The terms *capacity* and *competency* occur frequently and often interchangeably in clinical practice

settings, leading to confusion. In the past, we found it useful to use the term *capacity* to describe a clinical finding regarding decisional abilities and *competency* to describe a legal/judicial determination of legal status. However, we find this distinction less useful today, as the term *capacity* is increasingly employed in the law. In fact, the term *capacity* is now favored in recent legal reform efforts such as in the area of adult guardianship (Moye, Wood, et al., 2007), although the term *competency* still appears in older statutes and is more common in criminal law. Therefore, because we are writing about civil law meanings of capacity, we find it most accurate to use the term *capacity* for both clinical and legal applications. In the sections that follow, we specify when we are referring to legal capacity.

### Clinical Usage

In this article, the term *capacity* is used to denote a professional clinical judgment as to whether an individual has the requisite minimal ability to successfully carry out a specific task (e.g., drive a car) or make a specific decision (e.g., refuse a medical treatment). Capacity issues arise most frequently when an individual makes a decision that puts his or her health, assets, property, or self at risk and lacks the insight or the willingness to accept help. In these situations, clinicians or family members may raise the question of whether this person has capacity and are often seeking authority for surrogate decision making on behalf of the identified person. A clinical finding of incapacity does not alter an individual's legal status, whereas a legal finding of incapacity does (Marson, Hebert, & Solomon, 2012).

### Legal Usage

In the legal sphere, capacity refers to the specific ability or abilities under law sufficient to carry out a specific action. Courts (judges and sometimes juries) may consider and decide matters of civil capacity (e.g., Does this individual have the capacity to execute a will or make a treatment decision?) or criminal capacity (e.g., Does this individual have the capacity to stand trial?). As noted, this article focuses on civil capacities, particularly those in question for older adults with cognitive impairment.

### The ABA–APA Capacity Assessment Handbooks

In 2003 a working group of attorneys, judges, and psychologists with capacity expertise formed under the auspices of the interdisciplinary Task Force on Facilitating APA and ABA Relations. The rationale for the working group was the mounting need to provide guidance to a range of professional groups concerning capacity assessment of older adults. This collaboration, staffed by the APA Office on Aging and the APA Office of General Counsel, proved to be exceptionally productive: Over a period of five years, a set of three capacity assessment handbooks were produced for attorneys, judges, and psychologists (for free download, go to <http://www.apa.org/pi/aging/programs/assessment/index.aspx>).

The third and most recent handbook, *Assessment of Older Adults With Diminished Capacity: A Handbook for Psychologists* (ABA Commission on Law and Aging & APA, 2008), was designed to prepare and orient psychologists to these assessments. It presents a conceptual model for capacity assessment (described below in the section on Co-Evolution of Capacity Theory, Law, Research, and Practice) and provides legal, scientific, and practice reviews in

six relevant assessment areas—medical consent, sexual consent, financial capacity, testamentary capacity, driving capacity, and independent living. The topic of undue influence appears in a separate chapter. The *Handbook for Psychologists* also provides practical guidance for working with attorneys and the courts and briefly discusses emerging areas of capacity assessment (such as capacity to vote). Online appendices provide detailed practical information, such as a review of functional assessment instruments. The ABA–APA handbooks, and in particular the *Handbook for Psychologists*, have become a primary resource for capacity assessment nationally. In the sections below, we discuss the historical antecedents as well as the policy and demographic forces that have given rise to the prominence of capacity issues in our aging society and ultimately to the handbooks themselves.

## Setting the Stage

### Historical Antecedents and the Intersecting Forces of Shifting Public Policy and Demography

**Historical background**—In order to better appreciate how far concepts of capacity have evolved in the United States, it is helpful to adopt a historical perspective. To do so, we briefly consider the evolution of the capacity construct in English law, as it is the primary source for jurisprudence in the United States. In the English language, the first recorded use of the term *capacity* emerges in the later 15th century (Little, Fowler, Coulson, & Onions, 1955). For example, by 1485 in England the term *capacity* was being used to describe “mental receiving power, ability to take in impressions, ideas, and knowledge” and an “active power of mind, talent,” nonlegal meanings that persist today (Little et al., 1955, p. 260). However, even earlier, in 1480, the term *capacity* existed in legal parlance as “legal qualification,” a jurisprudential meaning that continues in Anglo-American law more than five centuries later. That is likely where the similarities end, as the legal concept of capacity in the late medieval period focused almost exclusively on feudal land and estate ownership issues and did not have the breadth of application that it enjoys today in our postindustrial, aging society (Sabatino & Basinger, 2000).

Over time the legal construct of capacity expanded to encompass issues such as *testamentary capacity*. In the classic English case of *Banks v. Goodfellow* (1870), the court established the well-known common law test of testamentary capacity still in use today, stating in pertinent part,

It is essential ... that a testator shall understand the nature of the act [of making a will] and its effects; shall understand the extent of the property of which he is disposing; shall be able to comprehend and appreciate the claims to which he ought to give effect; and, with a view to the latter object, [and] that no disorder of the mind shall poison his affections, pervert his sense of right, or prevent the exercise of his natural faculties ...

(quoted in Jacoby & Steer, 2007, p. 155).

The legal capacity construct moved to embrace other concepts, such as guardianship of the person and estate. The historical origins of guardianship are in the laws of ancient Greece

and Rome, which were developed to protect and dispose of the estates of individuals with mental disabilities (Quinn, 2004) and did not encompass humanitarian concerns (Sabatino & Basinger, 2000). These laws, in turn, inspired guardianship in English law, which first emerged in the 14th century under the statute *De Praerogativa Regis* (the royal prerogative), which empowered the king to provide special protection to the estates and assets of “idiots” (those born without reason) and “lunatics” (those who lost reason later in life).

The legal origins of capacity to consent to treatment are more recent, as it was necessary for the doctrine of informed consent to first become established in the law before concepts of capacity to consent could emerge. The earliest documented case relating to medical consent occurred in the English case *Slater v. Baker & Stapleton* (1767). In this case, two physicians were held liable for the rebreaking of a bone (disuniting a healing fracture) because “it appears from the evidence of the surgeons that it was improper to disunite the callous without consent; this is the usage and law of surgeons.” The *Slater* decision was followed by increasing numbers of such cases in the United States by the turn of the 20th century (Mazur, 1986). It was in one such case that Justice Benjamin Cardozo (later appointed to the U.S. Supreme Court) wrote the famous dictum that “every human being of adult years and sound mind has a right to determine what shall be done with his own body” (*Schloendorff v. Society of New York Hospital*, 1914, p. 1). This principle of personal self-determination remains a fundamental aspect of contemporary informed consent doctrine (Marson, Dymek, & Geyer, 2000; Mazur, 1986). However, it was not until the 1960s and later that courts in the United States began to explore and define the basis of medical consent *capacity*, elucidating specific standards, for example, *understanding* (*Moore v. Webb*, 1961) and *appreciation* (*Lane v. Candura*, 1978). The development of legal concepts of medical consent capacity subsequently informed regulations and laws governing research consent capacity.

In summary, the concept of capacity had an established presence both in law and medicine by the middle of the 20th century in the United States. However, it was not the ubiquitous concept that it is today, and it did not then command the clinical and scientific attention from psychology that it does now in our aging society in the 21st century.

### Public Policy Trends Impacting Individual Decision Making

Three broad public policy trends, set forth in Figure 2 and described below, have given rise to an unprecedented concern and attention to the rights and protections of older adults. First, and perhaps foremost, the patient rights movement and the doctrine of informed consent have stimulated and shaped the field of capacity assessment. The evolving doctrine of informed consent places a high value on individual autonomy and therefore puts the individual’s capacity for self-determination at the forefront of decision making. The ethical and legal bases of informed consent have evolved over the last century from the mere act of obtaining consent to a process of disclosure and discussion between patients and health care practitioners that respects each patient’s right to define his or her health care values, goals, and means to achieve those goals (President’s Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, 1982). The law simultaneously evolved to recognize individual interests in bodily integrity and autonomy

(Berg, Appelbaum, Lidz, & Parker, 2001). The doctrine of informed consent grew further in response to well-publicized abuses of patients by doctors and researchers (e.g., those outlined in the Nuremberg trials) and challenges by patients to gain control over their care (e.g., those with Hansen's disease; Fairchild, 2004).

A second public policy movement that has influenced the development of the concept of capacity is deinstitutionalization. The 1960s marked a period of advocacy for community integration of individuals with psychiatric illness, involving a massive shift of such individuals from institutions to community-based services (Dumont & Dumont, 2008), which continued into the late 1990s. Building on legislation (National Mental Health Act, 1946) and the introduction of the first psychotropic medications, psychiatric treatment policy evolved to favor noninstitutional, less restrictive, and presumably more effective community-based treatment and residence for mentally ill persons. This principle, enacted into law in 1963 (Community Mental Health Act of 1963), set the groundwork for the expansion of capacity assessment into areas such as managing finances and living in the community.

A third public policy movement that has informed capacity assessment is the disability rights movement (Burgdorf, 2008) with its legal protections for those with disabilities (Americans With Disabilities Act of 1990; Developmental Disabilities Assistance and Bill of Rights Act of 1975). Central to this movement is the principle that disability is not a medical phenomenon but rather a personal status that arises from the interaction of a physical and/or mental condition within social or physical environments, practices, or attitudes that do not accommodate full social participation (Bagenstos, 2009). The impact of this principle can be seen in the evolution of capacity theory, where the capacity construct has shifted away from a focus on a loss of ability to considering the individual's functioning as it interacts with the environment, as can be seen in Grisso's (1986) interactive component of capacity and in the ABA–APA model's supporting element. Although they were not directed to older adults specifically, each of these social movements emphasized individual liberties in decision making and hence placed decision-making capacity front and center. However, it is changing demography, described below, that has made questions of capacity in older adults such a central concern.

### **Demographic Changes and Expansion of the Capacity Concept**

Historically, assessments of capacity applied primarily to individuals with serious mental illness and developmental disabilities. The explosion in the number and proportion of older adults in the population due to medical advances and longevity has now focused legal and clinical practices of capacity assessment increasingly on older adults. By 2030, there will be 71 million American adults over age 65, accounting for roughly 20% of the U.S. population (Centers for Disease Control and Prevention & The Merck Company Foundation, 2007). Normal aging is often associated with a number of cognitive declines (Salthouse, 2012), which can potentially influence a range of functional abilities supported by these cognitive abilities. For example, age-related cognitive declines have been identified in information-processing speed, various types of memory (e.g., working memory, episodic memory), and executive functioning (Jankowiak, 2011; Park & Bischof, 2011). There is considerable

interindividual variability in the nature and rate of age-related cognitive decline in affected cognitive domains, while a few cognitive domains may show relative age invariance (e.g., knowledge; Park & Bischof, 2011). Thus each person has a unique constellation of cognitive strengths and deficits that contribute collectively to their functional abilities. It should be appreciated that cognitive aging alone, as distinct from clinical conditions such as dementia, is not sufficient to cause incapacity. However, normal cognitive aging, in tandem with other factors such as sensory impairment, isolation, mood disturbance, and emotional dependency, can put older individuals at risk for impaired capacity and also vulnerability to exploitation (National Center on Elder Abuse, 2005).

Age is associated with more frequent health care decisions with increasing numbers of chronic diseases (Administration on Aging, 2010). In particular, while most older adults do not have dementia, the risk of cognitive impairment and dementia strongly increases with age. By 2030, 7.7 million adults in the United States over the age of 65 will have dementia due to Alzheimer's disease, and by 2050 over 15 million will be afflicted (Hebert, Scherr, Bienias, Bennett, & Evans, 2003). While dementia is not the only source of diminished capacity in older adults, dementia places individuals at particular risk for difficulties in decision making; the increasing prevalence of dementia contributes to the rise in capacity assessment.

In addition, older adults, with a lifetime of employment behind them, have amassed considerable wealth as a group—bringing the issues of financial capacity and financial exploitation to the fore. Our society is currently undergoing a massive transfer of wealth from the World War II generation to the baby boomer generation (Havens & Schervish, 2003). In addition, families are increasingly blended and living at a geographical distance from one another, giving rise to increasing family conflicts over a loved one's health care management and financial dispositions. As a result, probate courts are seeing a marked rise in contested guardianships and wills (Nedd, 1998). Older adults are also disproportionately vulnerable to exploitation and abuse. There is a high prevalence of elder abuse, exploitation, and undue influence by strangers, friends, and also family members (National Center on Elder Abuse, 2005) who seek to take financial advantage of vulnerable seniors and their assets.

In summary, public policy developments emphasizing autonomous action by medical patients and those with disabilities, coupled with the aging of America, have led to an unprecedented concern with and attention to the rights and protections of older adults. These public policy and demographic forces impact the evolution of the theory, law, science, and practice of capacity assessment as detailed in the section below.

## **Co-Evolution of Capacity Theory, Law, Research, and Practice**

### **Evolution of Capacity Theory and Law**

**Early 20th century**—One is hard pressed to identify a clear conceptual model or theory of capacity in the 1950s or even into the 1960s. In a telling article from the first issue of the *Journal of the American Geriatrics Society* in 1953, authors Clow and Allen (1953/2002)

argued that capacity is an intrinsic aspect of personality and thereby vulnerable automatically to mental illness:

Incompetency is not a disease but is the result of malfunction or deficiency in the mental functioning of an individual. There are no few simple signs or symptoms that indicate a person to be mentally ill or incompetent. Such conclusions depend on an understanding of the whole personality that is not a rigid, static state but is a moving, functional unit. (p. 1880)

The article is a valuable time capsule as the emphasis on personality as the basis of capacity arguably reflects Freudian interpretations of function and mental illness prevailing at the time. It is interesting to note that this analysis did not consider concepts such as discrete cognitive impairment or functional impairment so critical to contemporary theories of capacity but instead focused solely on the personality as a “moving, functional unit”—a highly vague concept permitting enormous latitude and interpretive judgment. Under this early 20th century theoretical model, a psychiatrist’s diagnosis of schizophrenia or other serious mental illness was tantamount to loss of legal capacity—with little intervening analysis needed.

This clinical model of capacity is consistent with early 20th century legal concepts of capacity in guardianship law. Specifically, findings of incapacity were tied to broad labels such as idiocy, lunacy, insanity, being a “spendthrift,” or possessing an “unsound mind”—originating, as previously noted, in the 14th century but continuing in use through the 20th century (Sabatino & Basinger, 2000). Needless to say, such vague labels lacked medical or scientific bases and therefore afforded judges enormous discretion in determining who might be “in need” of guardianship and therefore at risk of losing independent legal status and control over property. By the mid-20th century a more medically based model of capacity emerged. Such clinical or diagnostic conditions were only slightly more specific than the fictional status labels of idiot and lunatic that preceded them, but they were harbingers of the functional paradigm shift to come.

**Paradigm shift**—A key paradigm shift occurred in the 1980s when a functional standard for incapacity emerged. The approach was promulgated in 1982 as part of the Uniform Guardianship and Protective Proceedings Act (UGPPA; National Conference of Commissioners on Uniform State Laws, 1982), in which an “incapacitated person” is defined to mean any person who is impaired “by reasons of mental illness, mental deficiency, physical illness or disability, chronic use of drugs, chronic intoxication, ... *to the extent of lacking sufficient understanding or capacity to make or communicate responsible decisions*” (emphasis added, § 1-106).

The logical and necessary link between diagnoses and abilities—as evidenced in the 1982 UGPPA—was a crucial conceptual point first clearly articulated by Grisso (1986). Responding to contemporaneous efforts to clarify legal standards for medical consent capacity (Appelbaum & Grisso, 1988; Roth, Meisel, & Lidz, 1977) and the emergence of organizations to promote forensic practice, Thomas Grisso, a clinical and forensic psychologist, published a seminal book, *Evaluating Competencies* (Grisso, 1986, 2003), that provided a conceptual model of capacity. In his model he proposed six analytical



characteristics common to all legal capacity assessments: (1) functional, (2) contextual, (3) causal, (4) interactive, (5) judgmental, and (6) dispositional (Grisso, 1986). In his 2003 revision, he combined the contextual and functional characteristics and referred to them as components. The functional component refers to the individual's functional abilities—what he or she can do, as well as the knowledge, understanding, and beliefs that support such functional abilities within the individual's environment. Grisso argued that the most fundamental objective of capacity assessment is to obtain information about an individual's functional abilities that are constituent to the capacity in question. The preeminence of function in capacity is arguably the core contribution of his theoretical model and one that has deeply influenced a generation of subsequent capacity researchers, including ourselves.

Other elements of the Grisso model also represent important contributions. In the causal component, Grisso noted that numerous state statutes require there to be an identifiable cause (usually a disease with neurocognitive or behavioral deficits) that can explain an individual's declining functional skills and thereby his or her diminished or lost capacity. The interactive component refers to the dynamic of the individual acting within the demands of his or her environmental context. A capacity judgment is ultimately a decision about the "goodness of fit" between an individual's current functional abilities and the performance demands of the particular context in question (Grisso, 1986, 1994). The judgmental and dispositional components weigh the congruence in the person–context fit as sufficient to warrant a finding of incapacity and the necessary form of legal disposition. The Grisso model provided an essential conceptual framework that heretofore had been lacking in the capacity assessment field. The model has stood the test of time for over 25 years and represents an enduring contribution to the field of capacity assessment. It has served as the basis for both conceptual model building and instrument development.

**The ABA–APA handbooks conceptual model**—When the ABA–APA Working Group on the Assessment of Capacity in Older Adults formed in 2003, it turned initially to the Grisso model to guide its own conceptual approach to the assessment of civil capacities in older adults for attorneys, judges, and psychologists. Building upon elements of Grisso's model, the working group proposed an expanded nine-step model of capacity: (1) legal, (2) functional, (3) diagnostic, (4) cognitive, (5) psychiatric/emotional, (6) values, (7) risks, (8) means to enhance capacity, and (9) clinical judgment.

The *Handbook for Psychologists* (ABA Commission on Aging & APA, 2008) describes the model in detail. In brief, the ABA–APA working group benefited substantially from the legal perspective of its attorney members. For example, at the outset, the element of "legal standard" was added for the purposes of making explicit that the applicable law of the jurisdiction should frame a clinical evaluation of capacity. The functional element derives from the legal standard and is central to capacity assessment, as is linking it to the diagnostic etiology. The ABA–APA model distinguishes cognitive abilities and psychiatric symptoms, in contrast to the Grisso model, as these are the primary mechanisms driving declines in relevant functioning. Thus, the model emphasizes psychologists' skill in undertaking standardized assessment of both cognitive abilities and psychiatric symptoms.

The values, risks, and support elements in the ABA–APA model may be viewed as elaborations upon Grisso’s interactive component. Understanding an individual’s longstanding values is a key consideration in making determinations of the fit between a person’s abilities and preferences, and his or her environmental demands. Age, race, ethnicity, culture, gender, sexual orientation, and religion may impact a person’s values and preferences for health care, where or how he or she lives, how money is managed, with whom time is spent, and the level of autonomy that is desirable to make life meaningful (Blackhall, Murphy, Frank, Michel, & Azen, 1995; Hornung et al., 1998). Further, the clinician inevitably needs to consider the occurrences, likelihood, and seriousness of risks (e.g., substantial financial loss or seriously infected wounds) as important considerations. In addition, the ABA–APA model explicitly emphasizes consideration of how an individual’s capacity can be supported and enhanced. Familiarity with common interventions to help older adults compensate for sensory, cognitive, and physical deficits, including available social services, can significantly influence the capacity decision process and outcome. Such consideration also will shape recommendations about the appropriateness and time periods for reassessment of capacity. The final step is for the clinician to provide a clinical judgment that integrates information to form a clinical opinion about capacity.

The expansion of the Grisso model by the ABA–APA working group tracks corresponding legal developments in the guardianship reform movement (Moye & Naik, 2011) occurring in the late 1990s and the 2000s. The 1997 revision of the UGPPA (National Conference of Commissioners on Uniform State Laws, 1997) defined incapacity as “lacking ability to meet *essential* requirements for physical health, safety, or self-care, *even with appropriate technological assistance* [emphasis added]” (§ 5-102). The introduction of the phrases “essential” and “even with appropriate technological assistance” represents efforts to further delimit the circumstances in which a court may intervene in an individual’s life. Another recent change in guardianship law is the preference for “limited guardianship” to preserve rights within areas of retained capacities—meaning that judges need information on specific functional capacities so that specific rights may be reserved. Fittingly, in the 1990s capacity research turned its attention to articulating and investigating the functional abilities within specific capacities.

### **Emergence of Capacity Research With Older Adults**

Capacity research with older adults has emerged as an area of investigation with a discernible developmental trajectory over the past 30 years. Progress has generally followed a series of stages of scholarship, which includes (a) construct definition and validation, (b) instrument development, (c) patient group comparisons, (d) clinical prediction using primarily cognitive predictor measures, and (e) clinical decision making. This developmental trajectory is perhaps best exemplified by scientific work completed first in the domain of medical consent capacity and more recently in the domain of financial capacity. In this section we highlight key advances in capacity science; the *Handbook for Psychologists* (ABA Commission on Aging & APA, 2008) and other sources provide a comprehensive review (Marson, Triebel, & Knight, 2012; Moye, Gurrera, Karel, Edelstein, & O’Connell, 2006; Palmer, Savla, & Harmell, 2012).

**Defining the capacity construct: What is being studied?**—For a science of capacity to arise, there must first be focused efforts to define the relevant capacity constructs. For example, within the area of medical consent capacity, scholarly analysis of legal decisions across jurisdictions identified legal standards of understanding, appreciation, reasoning, and expressing a choice as decisional abilities underlying consent capacity (Appelbaum & Grisso, 1988; Appelbaum & Roth, 1981). Similar conceptual work has occurred for financial capacity (Marson & Hebert, 2008a) and is emerging for testamentary capacity (Marson & Hebert, 2008b). Within other capacities such as independent living and driving, key skills have been identified, but to date they have not been placed as explicitly within a capacity framework. Preliminary content development can be followed by factor analytic and multitrait–multimethod studies to examine the construct validity of the concept (Dymek, Marson, & Harrell, 1999; Moye, Karel, Azar, & Gurrera, 2004).

**Instrument development: Can the construct be measured reliably?**—Prior to studying the construct, it next must be operationalized and reliably measured (Grisso, 1986). In early influential work, the MacArthur group developed a series of research instruments for measuring medical consent capacity (Appelbaum & Grisso, 1992; Grisso & Appelbaum, 1992, 1993) that promoted the study of consent capacity within psychiatric populations. Similar efforts have occurred, for example, for financial capacity in dementia populations (Marson, Sawrie, et al., 2000) and independent living subject to guardianship (Anderer, 1997). These efforts have established that capacity can be measured with adequate interrater, test–retest, and internal consistency reliability. The emergence of conceptually grounded and reliable capacity assessment instruments has permitted further empirical study of capacity constructs across different patient populations.

**Patient group comparisons: What conditions impair capacity?**—A natural next step in capacity science is to study how individuals with neurocognitive disease or neuropsychiatric disease perform on aspects of capacity function. For example, several researchers have found that individuals with dementia are impaired on core consent abilities of reasoning and understanding while the simple consent ability to express a choice often remains intact well into more advanced dementia (Kim & Caine, 2002; Marson, Chatterjee, Ingram, & Harrell, 1996; Marson, Cody, Ingram, & Harrell, 1995; Moye, Karel, Azar, & Gurrera, 2004a). This finding is important because individuals with dementia may express a choice for treatment, without adequately understanding, appreciating, or being able to reason about the risks and benefits of treatment alternatives. Over the course of dementia, decisional abilities further decline, especially reasoning (Moye, Karel, Gurrera, & Azar, 2006). In the area of schizophrenia, some individuals with schizophrenia have impaired consent capacity, while others do not (Grisso & Appelbaum, 1995; Wong, Clare, Holland, Watson, & Gunn, 2000). This finding is consistent with the heterogeneity of symptom presentations and functional level within schizophrenia.

Studies using similar methodology have investigated other capacities, for example, financial capacity in patients with dementia (Marson, Sawrie, et al., 2000; Martin et al., 2008) and mild cognitive impairment (MCI; Griffith et al., 2003; Triebel et al., 2009) and research consent within dementia (Karlawish, Casarett, & James, 2002; Kim, Caine, Currier,

Leibovici, & Ryan, 2001), schizophrenia (Palmer & Savla, 2007), and bipolar disorder (Misra, Socherman, Park, Hauser, & Ganzini, 2008; Palmer, Dunn, Depp, Eyler, & Jeste, 2007).

It is important to note that some conditions such as depression, and especially delirium, may cause temporary impairment or loss of capacity. A listing of medical conditions that may impair capacity and the way in which they do so is provided in Appendix G of the *Handbook for Psychologists* (ABA Commission on Aging & APA, 2008); Appendix H describes temporary and reversible causes of confusion.

**Clinical predictors: How do cognitive and other clinical deficits affect and explain capacity?**—A next stage in capacity research is to link capacity performance to specific clinical markers of disease. Such studies will help establish the validity of the capacity construct and of the assessment instrument as well as provide information about how the capacity is related to established clinical variables. For example, in the area of medical decision-making capacity, the consent ability of understanding treatment information is associated with impaired memory, as well as impaired conceptualization and comprehension; the consent ability of appreciation is associated with executive functions and conceptualization; the consent ability of reasoning is associated with executive abilities; and the consent ability of expressing a choice is associated with confrontation naming and auditory comprehension (Gurrera, Moye, Karel, Azar, & Armesto, 2006; Marson et al., 1996; Marson, Cody, et al., 1995). Similar studies have investigated clinical predictors for other capacities, for example, financial capacity (Sherod et al., 2009), driving (Bravo & Nakayama, 1992; Lee, Lee, & Cameron, 2003; McGwin, Chapman, & Owsley, 2000; Roenker, Cissell, Ball, Wadley, & Edwards, 2003), and independent living (Brown, Devanand, Liu, & Caccappolo, 2011; Gold, 2012; Liu et al., 2007; Twamley et al., 2002; Viertiö et al., 2012).

**Clinical decision making: How accurate are clinician judgments of capacity?**—Another step in capacity research is the investigation of professional clinical judgments of capacity. For example, clinicians arrive at significantly discrepant judgments of capacity in dementia (Marson, McInturff, Hawkins, Bartolucci, & Harrell, 1997), focusing on different cognitive and decisional abilities in patients (Marson, Hawkins, McInturff, & Harrell, 1997) or holding values different from those of patients (Braun, Gurrera, Karel, Armesto, & Moye, 2009).

Together, findings from studies using these five sets of methodologies combine to provide an ever clearer understanding of capacity. In the next section, we describe how clinical practice has evolved and improved over time, benefiting from this research as well as from legal reform (Moye, Wood, et al., 2007) and clinical education (Marson, Earnst, Jamil, Bartolucci, & Harell, 2000). In particular, we describe how capacity assessment has evolved using interviews, instruments, guidelines, and the ABA–APA capacity assessment handbooks.

## Evolution of Capacity Assessment as a Clinical Practice

**Clinical interviews**—There has been a long tradition of assessing capacity based on the clinical judgments of mental health professionals (Gutheil & Appelbaum, 1982). Clinical interviews for capacity assessment vary in quality, ranging from broad mental status interviews providing little information from which to infer capacity to sophisticated capacity interviews directed to core abilities and values.

**Forensic assessment instruments**—As previously described, an early step in capacity research is to develop a capacity instrument. Many of these same instruments can be used for clinical assessment. By the time of the second edition of Grisso's (2003) *Evaluating Competencies*, numerous forensic assessment instruments had been developed, especially for medical consent capacity but also for financial capacity, independent living/guardianship, and other areas. A listing of available instruments to assess capacity, with primary citation, is provided in Appendix B of the *Handbook for Psychologists* (ABA Commission on Aging & APA, 2008); Appendices C, D and E review standardized instruments for cognitive, psychiatric, and values assessment relevant to capacity assessment. Some of these instruments use a vignette (Edelstein, 1999; Edelstein, Nygren, Northrop, Staats, & Pool, 1993; Marson, Ingram, Cody, & Harrell, 1995; Moye, Karel, et al., 2007); some employ direct performance testing (Loeb, 1996); and others provide semistructured interview questions (Grisso & Appelbaum, 1998). While additional psychometric development would be useful, these instruments are important in providing a standardized methodology for assessing complex capacity constructs.

**Clinical guidelines for capacity assessment**—Education and further guidance in capacity assessment have the potential to improve interclinician reliability (Marson, Earnst, et al., 2000) and to correct common misperceptions about capacity (Ganzini, Volicer, Nelson, & Derse, 2003). In the late 1990s, psychologists within the Department of Veterans Affairs (VA) released *Assessment of Competency and Capacity of the Older Adult: A Practice Guideline for Psychologists* (Department of Veterans Affairs, 1997). A panel of VA and non-VA psychologists provided recommendations for five steps in capacity assessment: referral clarification, general assessment planning, assessment, synthesis of data and communication of findings, and follow-up evaluation. This guideline discussed the role of objective cognitive and mental health assessment as well as functional assessment of specific capacities.

**ABA–APA handbooks**—The ABA–APA handbook series represents a more recent intellectual contribution to clinical practice. For example, the ABA–APA *Handbook for Psychologists* seeks to improve clinical capacity assessment through a distillation of capacity theory, law, science, and practice. The ABA–APA handbooks as a group have received a very positive response from clinicians and other professionals nationally. Reflecting the demand for capacity assessment resources, since 2005 more than 19,700 print copies and 79,100 electronic copies of the handbooks have been distributed. They have been presented at more than 70 professional education conferences and continuing education workshops across the country. In addition, the *Handbook for Judges* (ABA Commission on Aging & APA, 2006) has been distributed to all state probate courts. Templates and

processes from the *Handbook for Judges* are utilized in state courts including those of Connecticut, Colorado, Florida, Maine, Massachusetts, Texas, Utah, Vermont, Virginia, and Washington as well as in probate courts in Canada and Australia.

To better understand how the *Handbook for Psychologists* has been employed clinically, the APA Office on Aging surveyed 508 psychologists who received a hard copy and for whom it had valid e-mail addresses (American Psychological Association Office on Aging, 2012); 122 (24%) psychologists responded. These psychologists reported using the handbooks for clinical evaluations (73.6%), forensic evaluations (39.0%), and student training (36.4%), with particular application in the areas of independent living (95%), financial capacity (93.3%), medical consent (80.0%), and driving (78%). Respondents less frequently consulted the sections on evaluating sexual consent capacity (30.2%) and testamentary capacity (44.2%). A very high number of respondents (83.5%) recommended the handbook to colleagues and students.

In summary, in the past 50 years there have been enormous advances in the theory, law, science, and practice of capacity assessment which have interacted and informed one another, changing the prevalence, context, and process of capacity assessments of older adults. In the next section we present a roadmap to improving capacity assessment in the future.

## **Advancing Capacity Assessment for the Next Generation**

In this final section, we anticipate future developments for this still young field and suggest an agenda for research, practice, education, and interprofessional collaboration. We see six major directions for the field of capacity assessment of older adults for the next 20 years. Capacity evaluation involves careful assessment of multiple sources of data—functional, diagnostic, cognitive, psychiatric, values, risks, and possible interventions. The research priorities below will strengthen our assessment of one or more of these components and may thereby strengthen the ultimate professional judgment of capacity that integrates these components.

## **Linking Capacity Research to Neuroscience**

Neuroscientific technologies and discoveries such as neuroimaging hold substantial promise by illuminating interrelationships between brain networks, associated cognitive abilities, and downstream functional skills that comprise capacity. Improved understanding of these relationships may provide important information to integrate with diagnostic, cognitive, values, and risks elements in arriving at capacity conclusions. Although an individual's capacity can be diminished by a variety of causes (motor dysfunction, neuropsychiatric symptoms, and medical illness), the primary driver in older adults is usually cognitive change. For example, recent imaging research found that atrophy in the angular gyrus is significantly associated with diminished financial capacity in patients with amnesic MCI (Griffith et al., 2010). Written arithmetic was the primary mediator of the relationship between angular gyrus volume and financial skill. This finding also replicated neuropsychological findings of written arithmetic as the key predictor of financial capacity across control, MCI, and Alzheimer's disease (AD) groups (Sherod et al., 2009). Generally

speaking, enhanced integration of capacity practice with relevant sciences, such as neuroscience and decision-making science, discussed below, should enhance our understanding of capacity as a construct.

### **Bridging Judgment/Decision-Making Science and Capacity Research**

Over the past three decades, the field of judgment and decision-making research has revealed surprising knowledge about human decision making that is not consistent with legal models of capacity. Legal models assume a rational decision-making process. However, young adults, under conditions of uncertainty, are inclined to make biased and irrational decisions (Hastie & Dawes, 2010), an inclination which extends into late life (Strough, Karns, & Schlosnagle, 2011). Other findings suggest the need to consider a variety of factors that can contribute to the decision-making process and outcome. For example, cognitive and emotional processes associated with decision making play significant roles in the formulation of our final choices (Rogerson, Gottlieb, Handelsman, Knapp, & Younggren, 2011), and the nature of their roles can vary across the life span. Age-related deficits in attention, memory, learning, cognitive control, and risk taking can influence the nature and quality of our decisions (Mata, Josef, Samanez-Larkin, & Hertwig, 2011). Because older adults tend to rely more heavily on past experience and rules or heuristics, and less on decision-relevant information presented to them (e.g., (Löckenhoff, O'Donoghue, & Dunning, 2011; Woodhead, Lynch, & Edelman, 2011), older adults may be more likely to make decisions based on experience, not facts. The theories, models, and research findings from the judgment and decision-making literature must be considered in future capacity research with older adults if we are to fully understand the decision-making process in the context of capacity determinations.

### **New Patient Populations**

Future capacity research needs to expand to new patient populations. As described previously, the body of capacity research in older adults to date has focused either on individuals with primary psychiatric disorders or with neurodegenerative diseases. Studies specific to the MCI/AD context may not always necessarily generalize well to other dementias and disorders (Dymek, Atchison, Harrell, & Marson, 2001). For this reason, it is important to understand how cognitive changes in other neurodegenerative diseases, such as Huntington's disease, amyotrophic lateral sclerosis, or multiple sclerosis, and in acquired disorders such as traumatic brain injury or cerebrovascular accident may affect different capacities (Dreer, DeVivo, Novack, Krzywanski, & Marson, 2008; Dymek et al., 2001; Marson, Hebert, & Solomon, 2012; Marson et al., 2005).

In a similar vein, there is a great need to expand scientific studies to persons with developmental disorders such as Down's syndrome, autism, and pervasive developmental disorder and to intellectual developmental disability generally as individuals enter adulthood and age. These populations present special challenges for researchers when they reach older ages, in particular, difficulties undergoing standardized testing and assessment. But by the same token, there is perhaps no patient population at greater risk for inadequate or even overlooked capacity assessment and for unjust loss of decisional autonomy. Consequently there is an urgent need for high-quality capacity research with these patient groups.

## Strengthening Assessment Instruments and Practices

Another future development will likely involve the strengthening of assessment instruments and practice. For most capacity instruments we still lack fundamental normative data, including studies of age differences and cultural bias, to establish the range and limits of their use. For example, normal age-related cognitive impairment may affect higher order functional capacities such as consent capacity and financial capacity (Diehl, Willis, & Schaie, 1995; Park, Morrell, Frieske, & Kincaid, 1992; Willis & Schaie, 1993). More data on the range of normal capacity performance in healthy populations will strengthen the utility of forensic assessment instruments for discriminating clinically impaired performance.

Another approach would be to establish criterion-referenced performance standards on forensic assessment instruments to define criteria for functional performance that are subsequently interpreted within context. The goal is not to establish a score to equal capacity—potentially testing for optimal performance—but to have a sense of what is sufficient performance on specific functional tasks. We may care not how well a person performs a capacity task relative to other individuals but whether he or she performs it at a criterion level. However, we still have limited information on the appropriate criterion-outcome to use. Save for a few seminal studies, we have little evidence-based guidance for how professionals might or should integrate data. Clinical and legal judgments ideally balance facts with the careful consideration of values, personal experience, age cohort, and cultural, religious, or ethnic differences to achieve rich and equitable solutions for those with diminished abilities. Studies that elucidate clinical judgments may articulate useful algorithms or decision trees.

## Clinical Education

While the armamentarium of available capacity assessment measures continues to grow, a critical educational and knowledge gap exists at the basic health care provider level. Put simply, the growing body of hard won conceptual and pragmatic knowledge still needs to be effectively communicated to and assimilated by a wide range of health care professions. This is an ambitious undertaking but one that must be pursued if the capacity knowledge reflected in the ABA–APA handbooks is to be applied effectively in everyday clinical practice. Such educational efforts will likely take multiple forms, ranging from publications detailing best clinical practices (Moye & Naik, 2011; Widera, Steen-pass, Marson, & Sudore, 2011) to continuing professional education courses.

Perhaps the most important future educational goal, however, will be to establish capacity assessment training as a standard part of advanced professional training programs for physicians and psychologists. Such inclusion will require recognition on the part of psychology and psychiatry graduate programs and training directors of the value of capacity assessment as an aspect of curriculum development.

## Capacity Issues Across Professional Contexts

A final direction is to articulate capacity issues as they are specifically encountered by a range of different professional groups. Although capacity issues have a common legal and



clinical conceptual basis, the forms in which they emerge can differ notably across different professional settings. For example, capacity issues arising in the medical and hospital setting are distinct from those that might be encountered by a financial services professional or broker in their daily sales contacts and commercial activities or by adult protective services workers in the community. The three ABA–APA handbooks implicitly recognize these different professional contexts, insofar as each handbook was developed specifically for a different professional audience: attorneys, judges in guardianship proceedings, and psychologists. Another recognition of this need occurred in 2010, when the Financial Industry Regulatory Authority proactively developed an online capacity educational program for financial professionals working with elderly clients (Financial Industry Regulatory Authority, 2010), reprinting information from the ABA–APA handbooks. In the coming years, it will be interesting to see how other professions respond to the unique challenges of dealing with aging clients with capacity loss.

## Summary

As society ages, an increasing number of older adults will experience impaired cognitive functioning. As a result, evaluation of capacity will become even more prevalent than it is today. Over the last 50 years, public policy has established the individual's decision-making autonomy as a fundamental focus and concern. Capacity concepts have evolved in law and theory; science and practice have evolved in tandem. In this context, the American Psychological Association in partnership with the American Bar Association has provided key conceptual and practice guidance in the form of the ABA–APA capacity assessment handbooks. As reflected by these handbooks and the increasing body of capacity scholarship and assessment measures, the foundation of capacity research has been laid, but much work remains for psychology and other disciplines in extending and expanding our knowledge to new populations, problems, methodologies, and related scientific fields. Ongoing clinical education, scientific investigation, and vigorous interdisciplinary collaboration are needed to further advance the evaluation of decision-making capacity in an aging society.

## Acknowledgments

Financial support for the ABA–APA handbooks was provided by the Borchard Foundation Center on Law and Aging, the Gerontology Center at the University of Georgia, the Charles H. Farnsworth Trust, and the American Psychological Association. Daniel C. Marson receives support from National Institutes of Health Grants AG021927 and HD053074.

We thank Thomas Grisso, Adam Brinkman, and Michele Karel for comments on drafts of this article.

## References

- Administration on Aging.. A profile of older Americans: 2009. Washington, DC: Author; 2010.
- American Bar Association Commission on Law and Aging, & American Psychological Association.. Assessment of older adults with diminished capacity: A handbook for lawyers. Washington, DC: Author; 2005.
- American Bar Association Commission on Law and Aging, & American Psychological Association.. Judicial determination of capacity of older adults in guardianship proceedings: A handbook for judges. Washington, DC: Author; 2006.

- American Bar Association Commission on Law and Aging, & American Psychological Association.. Assessment of older adults with diminished capacity: A handbook for psychologists. Washington, DC: Author; 2008.
- American Psychological Association Office on Aging.. Capacity assessment training needs. Washington, DC: Author; 2012.
- Americans With Disabilities Act of 1990, 42 U.S.C. §12101 et seq (1990).
- Anderer, SJ. Unpublished doctoral dissertation. Allegheny University of the Health Sciences; 1997. Development of an instrument to evaluate the capacity of elderly persons to make personal care and financial decisions.
- Appelbaum PS, Grisso T. Assessing patients' capacities to consent to treatment. *New England Journal of Medicine*. 1988; 319:1635–1638.10.1056/NEJM198812223192504 [PubMed: 3200278]
- Appelbaum, PS.; Grisso, T. Manual for perceptions of disorder. Worcester, MA: University of Massachusetts Medical School; 1992.
- Appelbaum, PS.; Gutheil, TG. Clinical handbook of psychiatry and the law. 2. Baltimore, MD: Williams & Wilkins; 1991.
- Appelbaum PS, Roth L. Clinical issues in the assessment of competence. *American Journal of Psychiatry*. 1981; 138:1462–1467. [PubMed: 7294214]
- Bagenstos, SR. Law and the contradictions of the disability rights movement. New Haven, CT: Yale University Press; 2009.
- Banks v. Goodfellow, L.R. 5 Q.B. 549 (1870).
- Berg, JW.; Appelbaum, PS.; Lidz, CW.; Parker, LS. Informed consent: Legal theory and clinical practice. New York, NY: Oxford University Press; 2001.
- Blackhall LJ, Murphy ST, Frank G, Michel V, Azen S. Ethnicity and attitudes toward patient autonomy. *JAMA: Journal of the American Medical Association*. 1995; 274:820–825.10.1001/jama.1995.03530100060035
- Braun M, Gurrera RJ, Karel MJ, Armesto JC, Moye J. Are clinician's ever biased in their judgments of the capacity of older adult's to make medical decisions? *Generations*. 2009; 33:78–91. [PubMed: 21037935]
- Bravo MJ, Nakayama K. The role of attention in visual search tasks. *Perception & Psychophysics*. 1992; 51:465–472.10.3758/BF03211642 [PubMed: 1594436]
- Brown PJ, Devanand DP, Liu X, Caccappolo E. Functional impairment in elderly patients with mild cognitive impairment and mild Alzheimer disease. *Archives of General Psychiatry*. 2011; 68:617–626.10.1001/archgenpsychiatry.2011.57 [PubMed: 21646578]
- Burgdorf RL Jr. Restoring the ADA and beyond: Disability in the 21st century. *Texas Journal on Civil Liberties & Civil Rights*. 2008; 13:242–365.
- Centers for Disease Control and Prevention & The Merck Company Foundation.. The state of aging and health in America 2007. Whitehouse Station, NJ: The Merck Company Foundation; 2007.
- Clow HE, Allen E. Psychiatric aspects of mental competency in the aging. *Journal of the American Geriatrics Society*. 2002; 50:1879–1883. (Reprinted from *Journal of the American Geriatrics Society*, 1953 1 30, 38). 10.1046/j.1532-5415.2002.50520x [PubMed: 12410911]
- Community Mental Health Act of 1963, Pub. L. No. 88–164, 77 Stat. 282 (1963).
- Department of Veterans Affairs.. Clinical assessment for competency determination: A practice guideline for psychologists. Milwaukee, WI: Department of Veterans Affairs, National Center for Cost Containment; 1997.
- Developmental Disabilities Assistance and Bill of Rights Act of 1975, Pub. L. 94–103., 89 Stat. 486 (1975).
- Diehl M, Willis SL, Schaie KW. Everyday problem solving in older adults: Observational assessment and cognitive correlates. *Psychology and Aging*. 1995; 10:478–491.10.1037/0882-7974.10.3.478 [PubMed: 8527068]
- Dreer LE, DeVivo MJ, Novack TA, Krzywanski S, Marson DC. Cognitive predictors of medical decision-making capacity in traumatic brain injury. *Rehabilitation Psychology*. 2008; 53:486–497.10.1037/a0013798 [PubMed: 20686627]

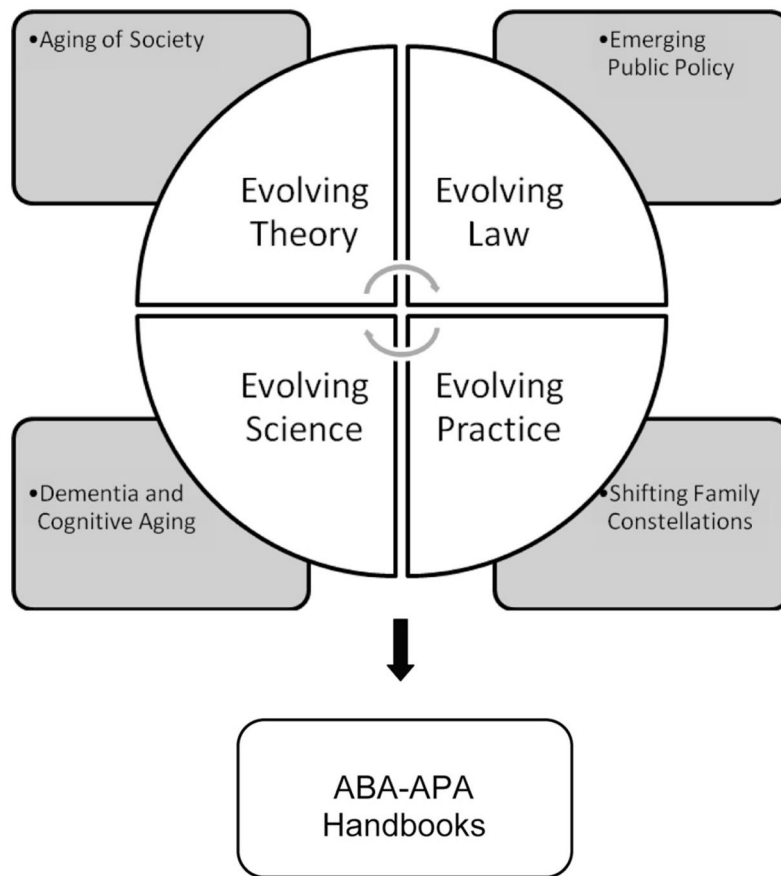
- Dumont MP, Dumont DM. Deinstitutionalization in the United States and Italy. *International Journal of Mental Health*. 2008; 37:61–70.10.2753/IMH0020-7411370405
- Dymek MP, Atchison P, Harrell L, Marson DC. Competency to consent to medical treatment in cognitively impaired patients with Parkinson's disease. *Neurology*. 2001; 56:17–24.10.1212/WNL.56.1.17 [PubMed: 11148230]
- Dymek MP, Marson DC, Harrell L. Factor structure of capacity to consent to medical treatment in patients with Alzheimer's disease: An exploratory study. *Journal of Forensic Neuropsychology*. 1999; 1:27–48.10.1300/J151v01n01\_03
- Edelstein, B. Hopemont Capacity Assessment Interview manual and scoring guide. Morgantown, WV: West Virginia University; 1999.
- Edelstein, B.; Nygren, M.; Northrop, L.; Staats, N.; Pool, D. Assessment of capacity to make financial and medical decisions. Paper presented at the meeting of the American Psychological Association; Toronto, Ontario, Canada. 1993 Aug.
- Fairchild AL. Community and confinement: The evolving experience for isolation for leprosy in Carville, Louisiana. *Public Health Reports*. 2004; 119:362–370.10.1016/j.phr.2004.04.016 [PubMed: 15158116]
- Financial Industry Regulatory Authority.. Senior investor issues: Diminished capacity. Washington, DC: Author; 2010.
- Ganzini L, Volicer L, Nelson W, Derse A. Pitfalls in the assessment of decision-making capacity. *Psychosomatics: The Journal of Consultation and Liaison Psychiatry*. 2003; 44:237–243.10.1176/appi.psy.44.3.237
- Gold DA. An examination of instrumental activities of daily living assessment in older adults and mild cognitive impairment. *Journal of Clinical and Experimental Neuropsychology*. 2012; 34:11–34.10.1080/13803395.2011.614598 [PubMed: 22053873]
- Griffith HR, Belue K, Sicola A, Krzywanski S, Zamrini E, Harrell L, Marson DC. Impaired financial abilities in mild cognitive impairment: A direct assessment approach. *Neurology*. 2003; 60:449–457.10.1212/WNL.60.3.449 [PubMed: 12578926]
- Griffith HR, Stewart CC, Stoeckel LE, Okonkwo OC, den Hollander JA, Martin RC, Marson DC. Magnetic resonance imaging volume of the angular gyri predicts financial skill deficits in people with amnesic mild cognitive impairment. *Journal of the American Geriatrics Society*. 2010; 58:265–274.10.1111/j.1532-5415.2009.02679.x [PubMed: 20374402]
- Grisso, T. Evaluating competencies. New York, NY: Plenum Press; 1986.
- Grisso, T. Clinical assessments for legal competence of older adults. In: Storandt, M.; VandenBos, GR., editors. *Neuropsychological assessment of dementia and depression*. Washington, DC: American Psychological Association; 1994.
- Grisso, T. Evaluating competences. 2. New York, NY: Plenum Press; 2003.
- Grisso, T.; Appelbaum, PS. Manual for understanding treatment disclosures. Worcester, MA: University of Massachusetts Medical School; 1992.
- Grisso, T.; Appelbaum, PS. Manual for thinking rationally about treatment. Worcester, MA: University of Massachusetts Medical School; 1993.
- Grisso T, Appelbaum PS. The MacArthur Treatment Competence Study. III: Abilities of patients to consent to psychiatric and medical treatment. *Law and Human Behavior*. 1995; 19:149–174.10.1007/BF01499323 [PubMed: 11660292]
- Grisso, T.; Appelbaum, PS. *MacArthur Competence Assessment Tool for Treatment (MacCAT-T)*. Sarasota, FL: Professional Resource Press; 1998.
- Gurrera RJ, Moye J, Karel MJ, Azar AR, Armesto JC. Cognitive performance predicts treatment decisional abilities in mild to moderate dementia. *Neurology*. 2006; 66:1367–1372.10.1212/01.wnl.0000210527.13661.d1 [PubMed: 16682669]
- Gutheil, TG.; Appelbaum, PS. *Clinical handbook of psychiatry and the law*. New York, NY: McGraw-Hill; 1982.
- Hastie, R.; Dawes, RM. *Rational choice in an uncertain world: The psychology of judgment and decision making*. Los Angeles, CA: Sage; 2010.
- Havens JJ, Schervish PG. Why the \$41 trillion wealth transfer estimate is still valid: A review of challenges and questions. *The Journal of Gift Planning*. 2003; 7:11–15.

- Hebert LE, Scherr PA, Bienias JL, Bennett DA, Evans DA. Alzheimer disease in the U.S. population: Prevalence estimates using the 2000 Census. *Archives of Neurology*. 2003; 60:1119–1122.10.1001/archneur.60.8.1119 [PubMed: 12925369]
- Hornung CA, Eleazer GP, Strothers HS, Wieland GD, Eng C, McCann R, Sapir M. Ethnicity and decision-makers in a group of frail older people. *Journal of the American Geriatrics Society*. 1998; 46:280–286. [PubMed: 9514372]
- Jacoby R, Steer P. How to assess capacity to make a will. *British Medical Journal*. 2007; 335:155–157.10.1136/bmj.39232.706840.AD [PubMed: 17641350]
- Jankowiak, JL. Cognitive function in healthy aging. In: Albert, ML.; Knoefel, JE., editors. *Clinical neurology of aging*. 3. New York, NY: Oxford University Press; 2011. p. 159-171.
- Karlawish JHT, Casarett DJ, James BD. Alzheimer's disease patients' and caregivers' capacity, competency, and reasons to enroll in an early-phase Alzheimer's disease clinical trial. *Journal of the American Geriatrics Society*. 2002; 50:2019–2024.10.1046/j.1532-5415.2002.50615.x [PubMed: 12473015]
- Kim SYH, Caine ED. Utility and limits of the Mini-Mental State Examination in evaluating consent capacity in Alzheimer's disease. *Psychiatric Services*. 2002; 53:1322–1324.10.1176/appi.ps.53.10.1322 [PubMed: 12364686]
- Kim SYH, Caine ED, Currier GW, Leibovici A, Ryan JM. Assessing the competence of persons with Alzheimer's disease in providing informed consent for participation in research. *American Journal of Psychiatry*. 2001; 158:712–717.10.1176/appi.ajp.158.5.712 [PubMed: 11329391]
- Lane v. Candura, 376 N.E.2d 1232 (Mass. App. Ct. 1978).
- Lee HC, Lee AH, Cameron D. Validation of a driving simulator by measuring the visual attention skill of older adult drivers. *American Journal of Occupational Therapy*. 2003; 57:324–328.10.5014/ajot.57.3.324 [PubMed: 12785671]
- Little, W.; Fowler, HW.; Coulson, J.; Onions, CT. *The Oxford universal dictionary on historical principles*. 3. Oxford, England: Oxford University Press; 1955.
- Liu KPY, Chan CCH, Chu MML, Ng TYL, Chu LW, Hui FSL, Fisher AG. Activities of daily living performance in dementia. *Acta Neurologica Scandinavica*. 2007; 116:91–95.10.1111/j.1600-0404.2007.00800.x [PubMed: 17661793]
- Löckenhoff CE, O'Donoghue T, Dunning D. Age differences in temporal discounting: The role of dispositional affect and anticipated emotions. *Psychology and Aging*. 2011; 26(2):274–284.10.1037/a0023280 [PubMed: 21534688]
- Loeb, P. *Independent Living Scales*. San Antonio, TX: Psychological Corporation; 1996.
- Marson DC, Chatterjee A, Ingram KK, Harrell LE. Toward a neurologic model of competency: Cognitive predictors of capacity to consent in Alzheimer's disease using three different legal standards. *Neurology*. 1996; 46:666–672.10.1212/WNL.46.3.666 [PubMed: 8618664]
- Marson DC, Cody HA, Ingram KK, Harrell LE. Neuropsychological predictors of competency in Alzheimer's disease using a rational reasons legal standard. *Archives of Neurology*. 1995; 52:955–959.10.1001/archneur.1995.00540340035011 [PubMed: 7575222]
- Marson DC, Dreer LE, Krzywanski S, Huthwaite JS, DeVivo MJ, Novack TA. Impairment and partial recovery of medical decision-making capacity in traumatic brain injury: A 6-month longitudinal study. *Archives of Physical Medicine and Rehabilitation*. 2005; 86:889–895.10.1016/j.apmr.2004.09.020 [PubMed: 15895333]
- Marson, D.; Dymek, M.; Geyer, J. Ethical and legal issues of clinical care and research. In: Clark, CM.; Trojanowski, JQ., editors. *Neurodegenerative dementias*. New York, NY: McGraw-Hill; 2000. p. 425-435.
- Marson DC, Earnst K, Jamil F, Bartolucci A, Harell LE. Consistency of physicians' legal standard and personal judgments of competency in patients with Alzheimer's disease. *Journal of the American Geriatrics Society*. 2000; 48:911–918. [PubMed: 10968294]
- Marson DC, Hawkins L, McInturff B, Harrell LE. Cognitive models that predict physician judgments of capacity to consent in mild Alzheimer's disease. *Journal of the American Geriatrics Society*. 1997; 45:458–464. [PubMed: 9100715]
- Marson, DC.; Hebert, T. Financial capacity. In: Cutler, BL., editor. *Encyclopedia of psychology and law*. New York, NY: Sage; 2008a. p. 313-316.

- Marson, DC.; Hebert, T. Testamentary capacity. In: Cutler, BL., editor. Encyclopedia of psychology and law. New York, NY: Sage; 2008b. p. 799-802.
- Marson, D.; Hebert, T.; Solomon, A. Civil competencies in older adults with dementia: Medical decision-making capacity, financial capacity, and testamentary capacity. In: Larrabee, GJ., editor. Forensic neuropsychology: A scientific approach. 2. New York, NY: Oxford University Press; 2012. p. 401-437.
- Marson DC, Ingram KK, Cody HA, Harrell LE. Assessing the competency of patients with Alzheimer's disease under different legal standards: A prototype instrument. Archives of Neurology. 1995; 52:949-954.10.1001/archneur.1995.00540340029010 [PubMed: 7575221]
- Marson DC, McInturff B, Hawkins L, Bartolucci A, Harrell LE. Consistency of physician judgments of capacity to consent in mild Alzheimer's disease. Journal of the American Geriatrics Society. 1997; 45:453-457. [PubMed: 9100714]
- Marson DC, Sawrie SM, Snyder S, McInturff B, Stalvey T, Boothe A, Harrell LE. Assessing financial capacity in patients with Alzheimer's disease: A conceptual model and prototype instrument. Archives of Neurology. 2000; 57:877-884.10.1001/archneur.57.6.877 [PubMed: 10867786]
- Marson, DC.; Triebel, K.; Knight, A. Financial capacity. In: Demakis, GJ., editor. Civil capacities in clinical neuropsychology. New York, NY: Oxford University Press; 2012. p. 39-68.
- Martin R, Griffith HR, Belue K, Harrell L, Zamrini E, Anderson B, Marson D. Declining financial capacity in patients with mild Alzheimer's disease: A one-year longitudinal study. American Journal of Geriatric Psychiatry. 2008; 16:209-219.10.1097/JGP.0b013e318157cb00 [PubMed: 18263665]
- Mata R, Josef AK, Samanez-Larkin GR, Hertwig R. Age differences in risky choice: A meta-analysis. Annals of the New York Academy of Sciences. 2011; 1235:18-29.10.1111/j.1749-6632.2011.06200.x [PubMed: 22023565]
- Mazur DJ. Informed consent: Court viewpoints and medical decision making. Medical Decision Making. 1986; 6(4):224-230.10.1177/0272989X8600600407 [PubMed: 3773652]
- McGwin G, Chapman V, Owsley C. Visual risk factors for driving difficulty among older drivers. Accident Analysis and Prevention. 2000; 32:735-744.10.1016/S0001-4575(99)00123-2 [PubMed: 10994600]
- Misra S, Socherman R, Park BS, Hauser P, Ganzini L. Influence of mood state on capacity to consent to research in patients with bipolar disorder. Bipolar Disorders. 2008; 10:303-309.10.1111/j.1399-5618.2007.00525.x [PubMed: 18271910]
- Moore v. Webb, 345 S.W.2d 239, 243 (Mo. App. 1961).
- Moye J, Gurrera RJ, Karel MJ, Edelstein B, O'Connell C. Empirical advances in the assessment of the capacity to consent to medical treatment: Clinical implications and research needs. Clinical Psychology Review. 2006; 26:1054-1077.10.1016/j.cpr.2005.04.013 [PubMed: 16137811]
- Moye J, Karel MJ, Azar AR, Gurrera RJ. Capacity to consent to treatment: Empirical comparison of three instruments in older adults with and without dementia. The Gerontologist. 2004a; 44:166-175.10.1093/geront/44.2.166 [PubMed: 15075413]
- Moye J, Karel MJ, Azar AR, Gurrera RJ. Hopes and cautions for instrument-based evaluations of consent capacity: Results of a construct validity study of three instruments. Ethics, Law, and Aging Review. 2004b; 10:39-61.
- Moye J, Karel MJ, Edelstein B, Hicken B, Armesto JC, Gurrera RJ. Assessment of capacity to consent to treatment: Current research, the "ACCT" approach, future directions. Clinical Gerontologist: The Journal of Aging and Mental Health. 2007; 31:37-66.10.1080/07317110802072140
- Moye J, Karel MJ, Gurrera RJ, Azar AR. Neuropsychological predictors of decision-making capacity over 9 months in mild-to-moderate dementia. Journal of General Internal Medicine. 2006; 21:78-83.10.1111/j.1525-1497.2005.00288.x [PubMed: 16423129]
- Moye J, Marson DC. Assessment of decision making capacity in older adults: An emerging area of research and practice. Journals of Gerontology: Series B, Psychological Sciences and Social Sciences. 2007; 62:3-11.10.1093/geronb/62.1.P3
- Moye J, Naik A. Physician evaluations are key to preserving rights for individuals facing guardianship. JAMA: Journal of the American Medical Association. 2011; 305:936-937.10.1001/jama.2011.247

- Moye J, Wood E, Edelstein B, Wood S, Bower EH, Harrison JA, Armesto JC. Statutory reform is associated with improved court practice: Results of a tri-state comparison. *Behavioral Sciences & the Law*. 2007; 25:425–436.10.1002/bsl.762 [PubMed: 17506075]
- National Center on Elder Abuse.. 15 questions & answers about elder abuse. Washington, DC: Author; 2005.
- National Conference of Commissioners on Uniform State Laws.. Uniform Guardianship and Protective Proceedings Act. Chicago, IL: Author; 1982.
- National Conference of Commissioners on Uniform State Laws.. Uniform Guardianship and Protective Proceedings Act. Chicago, IL: Author; 1997.
- National Mental Health Act, 42 U.S.C. § 232 (1946).
- Nedd H. Fighting over the care of aging parents: More siblings clash over money and control. *USA Today*. 1998 Jul 30.:1.
- Palmer BW, Dunn LB, Depp CA, Eyler LT, Jeste DV. Decisional capacity to consent to research among patients with bipolar disorder: Comparison with schizophrenia patients and healthy subjects. *Journal of Clinical Psychiatry*. 2007; 68:689–696.10.4088/JCP.v68n0505 [PubMed: 17503977]
- Palmer BW, Savla GN. The association of specific neuropsychological deficits with capacity to consent to research or treatment. *Journal of the International Neuropsychological Society*. 2007; 13:1047–1059.10.1017/S1355617707071299 [PubMed: 17942022]
- Palmer, BW.; Savla, GN.; Harmell, AL. Healthcare decision-making capacity. In: Demakis, GJ., editor. *Civil capacities in clinical neuropsychology: Research findings and clinical applications*. New York, NY: Oxford University Press; 2012. p. 69-94.
- Park, DC.; Bischof, GN. Neuroplasticity, aging, and cognitive function. In: Schaie, KW.; Willis, SL., editors. *Handbook of the psychology of aging*. 7. Burlington, MA: Academic Press; 2011. p. 109-151.
- Park DC, Morrell RW, Frieske D, Kincaid D. Medication adherence behaviors in older adults: Effects of external cognitive supports. *Psychology and Aging*. 1992; 7:252–256.10.1037/0882-7974.7.2.252 [PubMed: 1610514]
- President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research.. *Making health care decisions: The ethical and legal implications of informed consent in the patient-practitioner relationship*. Washington, DC: U.S. Government Printing Office; 1982.
- Quinn, MJ. *Guardianships of adults: Achieving justice, autonomy, and safety*. New York, NY: Springer; 2004.
- Roenker DL, Cissell GM, Ball KK, Wadley VG, Edwards JD. Speed-of-processing and driving simulator training result in improved driving performance. *Human Factors*. 2003; 45:218–233.10.1518/hfes.45.2.218.27241 [PubMed: 14529195]
- Rogerson MD, Gottlieb MC, Handelsman MM, Knapp S, Younggren J. Nonrational processes in ethical decision making. *American Psychologist*. 2011; 66:614–623.10.1037/a0025215 [PubMed: 21875170]
- Roth LH, Meisel CA, Lidz CA. Tests of competency to consent to treatment. *American Journal of Psychiatry*. 1977; 134:279–284. [PubMed: 842704]
- Sabatino CP, Basinger SL. Competency: Reforming our legal fictions. *Journal of Mental Health and Aging*. 2000; 6(2):119–144.
- Salthouse T. Consequences of age-related cognitive declines. *Annual Review of Psychology*. 2012; 63:201–226.10.1146/annurev-psych-120710-100328
- Schloendorff v. Society of New York Hospital, 105 N.E. 92 (NY Ct. App., 1914).
- Sherod MG, Griffith HR, Copeland J, Belue K, Krzywanski S, Zamrini EY, Marson DC. Neurocognitive predictors of financial capacity across the dementia spectrum: Normal aging, mild cognitive impairment, and Alzheimer's disease. *Journal of the International Neuropsychological Society*. 2009; 15:258–267.10.1017/S1355617709090365 [PubMed: 19203439]
- Slater v. Baker & Stapleton, 95 Eng. Rep. 860 (K.B. 1767).

- Strough J, Karns TE, Schlosnagle L. Decision-making heuristics and biases across the life span. *Annals of the New York Academy of Sciences*. 2011; 1235:57–74.10.1111/j.1749-6632.2011.06208.x [PubMed: 22023568]
- Triebel KL, Martin R, Griffith HR, Marceaux MA, Okonkwo OC, Harrell L, et al. Declining financial capacity in patients with mild cognitive impairment: A one-year longitudinal study. *Neurology*. 2009; 73:928–934.10.1212/WNL.0b013e3181b87971 [PubMed: 19770468]
- Twamley EW, Doshi RR, Nayak GV, Palmer BW, Golshan S, Heaton RK, Jeste DV. Generalized cognitive impairments, ability to perform everyday tasks, and level of independence in community living situations of older patients with psychosis. *American Journal of Psychiatry*. 2002; 159:2013–2020.10.1176/appi.ajp.159.12.2013 [PubMed: 12450950]
- Viertiö S, Tuulio-Henriksson A, Perälä J, Saarni SI, Koskinen S, Sihvonen M, Suvisaari J. Activities of daily living, social functioning and their determinants in persons with psychotic disorder. *European Psychiatry*. 2012; 27:409–415.10.1016/j.eurpsy.2010.12.005 [PubMed: 21377336]
- Widera E, Steenpass V, Marson DC, Sudore R. Finances in the older patient with cognitive impairment: “He didn’t want me to take over”. *JAMA: Journal of the American Medical Association*. 2011; 305:698–706.10.1001/jama.2011.164
- Willis, SL.; Schaie, KW. Everyday cognition: Taxonomic and methodological considerations. In: Puckett, JM.; Reese, HW., editors. *Life-span developmental psychology: Mechanisms of everyday cognition*. Hillsdale NJ: Erlbaum; 1993. p. 33-54.
- Wong JG, Clare ICH, Holland AJ, Watson PC, Gunn M. The capacity of people with a “mental disability” to make a health care decision. *Psychological Medicine*. 2000; 30:295–306.10.1017/S0033291700001768 [PubMed: 10824650]
- Woodhead EL, Lynch EB, Edelstein BA. Decisional strategy determines whether frame influences treatment preferences for medical decisions. *Psychology and Aging*. 2011; 26:285–294.10.1037/a0021608 [PubMed: 21668121]



**Figure 1. Emergence of Decisional Capacity Assessment of Older Adults**  
*Note.* ABA = American Bar Association; APA = American Psychological Association.



	1960s	1970s	1980s	1990s	2000s
Public policy movements	Patient rights	Mentally ill rights	Disability rights		
Demography	Extension of life span		Aging of society		Dementia
Capacity theory	Global competency		Grisso model	Specific capacities	Values and risk context
Capacity law	Capacity and mental illness coextensive		Cognition and function added	Limited guardianship	
Capacity science		Scholarly articles	Forensic instruments	Explosion of capacity science	
Capacity practice	Physician opinion	Mental status examinations	Cognitive assessment	Forensic instruments	APA handbooks

**Figure 2.**  
Evolution of Capacity Theory, Law, Science, and Practice in Social and Demographic Contexts