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## PSYCHOLOGICAL TESTING IN DETERMINING DISABILITY

### Intellectual Disability and the Death Penalty

#### LEARNING OBJECTIVES

- Describe how intellectual disability is defined and who is responsible for defining it
- Discuss how psychological testing is used in identifying intellectual disability
- Explain the concept of normal distribution of intelligence and how it applies to intelligence testing
- Explain how measurement error is accounted for in testing for intellectual disability
- Describe how adaptive functioning is measured
- Identify the problems in measurement of intellectual functioning associated with practice effects

Randi, a fictitious 35-year-old female, is on death row in Texas. She has a long history of learning problems, and her lawyers claim that she is intellectually disabled and therefore exempt from the death penalty. They arranged for her to be evaluated by a forensic psychologist, and the psychologist found that Randi's IQ was 69, in the range of mild intellectual disability. Her level of adaptive functioning was less clear because she was in prison and not much was expected of her. However, her family reported that she was slow to develop speech, she always

had difficulty communicating with others, and she received special education services since early elementary school. She could read and write but not very skillfully. The psychologist determined that Randi likely had deficits in adaptive functioning and that a diagnosis of intellectual disability was warranted. Randi was also evaluated by a psychologist for the state, and he found she had low intellectual functioning but did not meet diagnostic criteria for intellectual disability. She obtained an IQ score of 71 and she seemed to function much like other inmates, without needing any special help. Her case is going to be heard soon, and it is not clear what the court will decide.

Randi's case is an extreme example of a much more ordinary concern, how to determine if someone has a disability. The determination is very important from a legal perspective because individuals who have disabilities are protected by the Americans with Disabilities Act (ADA). The legal definition of *disability* is a physical or mental impairment that substantially limits a major life activity. Psychological tests are sometimes used to document a disability because when scores are significantly below average, it is an indication that a person's ability to complete a related task is likely to be impaired. Just like for Randi, however, the determination of disability needs to go beyond test scores and include the impact of the impairment on everyday functioning.

## INTELLECTUAL DISABILITY AND CAPITAL PUNISHMENT: A BRIEF HISTORY

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The Eighth Amendment of the United States Constitution was written in the late 1700s and is part of the Bill of Rights. It outlaws cruel and unusual punishment. In 2002, as a result of a Supreme Court decision, the execution of defendants with intellectual disabilities became unlawful on the basis of the Eighth Amendment. Although the Supreme Court made it unlawful to execute individuals with intellectual disabilities, it left it up to individual states to define intellectual disability and to establish criteria and procedures for establishing whether an individual has an intellectual disability. Most states, if not all, rely on mental health professionals, typically psychologists or psychiatrists, to determine whether a defendant meets criteria for a diagnosis of intellectual disability, and mental health professionals rely on test scores to establish the diagnosis.

The definition of intellectual disability, criteria for the diagnosis, and procedures for establishing the diagnosis vary across states, and the criteria set by states are often different than medically established criteria for the diagnosis of intellectual disability. An individual might be correctly diagnosed with an intellectual disability using the criteria established by the American Psychiatric Association and codified in the *Diagnostic and Statistical Manual* but fail to meet criteria established by the state for the same purpose. Since the consequences of having an intellectual

disability are so high for a defendant on death row, establishing whether a defendant meets the state's criteria for intellectual disability is extraordinarily important and often hard fought by both the defense and prosecutor. There may be several experts testifying on both sides of the case.

In 2013, Freddie Lee Hall challenged his death penalty sentence before the Supreme Court. The issue before the court was whether it is constitutional for a state to use a fixed IQ score to determine whether a defendant is intellectually disabled and therefore exempt from the death penalty (*Hall v. Florida*, 2012). Mr. Hall had an IQ score of 71, and Florida required defendants to have an IQ score of  $\leq 70$  to be diagnosed with an intellectual disability. In the Supreme Court's ruling, set down in 2014, it is unconstitutional for a state to use a fixed IQ score. Mr. Hall was spared from execution.

Warren Hill, a defendant in Georgia, petitioned the Supreme Court to reverse the death penalty in his case the previous year, 2012. The state of Georgia requires a defendant to prove beyond a reasonable doubt that he or she is intellectually disabled to avoid execution, a different criteria than that established in Florida. However, several mental health clinicians agreed that Mr. Hill was intellectually disabled based on a "preponderance of the evidence," this fell short of the requirement that his intellectual disability be proven "beyond a reasonable doubt," a stricter standard. The Supreme Court declined to hear his case, and Warren Hill was executed in Georgia in January of 2015.

Prior to 2002, it was not unconstitutional to execute individuals with intellectual disabilities. In fact, in 1989, in *Perry v. Lynaugh*, the Supreme Court specifically ruled that execution of intellectually disabled individuals did not violate the Eighth Amendment. Thirteen years later, in *Atkins v. Virginia*, the Court decided otherwise, due to evolving standards of decency in the nation and changes in the point of view of state legislatures. The state of Georgia outlawed the execution of intellectually disabled people in 1986. Other states followed between 1989 and 2002, and by the time the Atkins case came before the Court, most states that allowed the death penalty did not allow it for individuals with intellectual disabilities.

This chapter considers the scientific issues relevant to the diagnosis of intellectual disability and the implications for public policy. In the case of Freddie Lee Hall, evaluation of intellectual disability was a matter of life and death. Diagnosing an individual with intellectual disability typically has milder, but still very important, ramifications. For example, individuals with intellectual disabilities are often eligible for financial support through the Social Security Administration and eligible for independent living, social, and vocational support through state agencies. Individuals who don't meet state established criteria for the diagnosis of intellectual disability (or for the purpose of obtaining Social Security benefits, criteria established by the Social Security Administration) may not be eligible for services even if they demonstrate a need for them.

## WHY DOES THE DEATH PENALTY VIOLATE THE EIGHTH AMENDMENT FOR DEFENDANTS WITH INTELLECTUAL DISABILITIES?

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The death penalty is highly controversial. Although it is lawful under the constitution, that has not always been the case. As of this writing, the death penalty is permitted in 32 states and by the federal government, a number that has been in decline in recent years. In 2013, 39 inmates were executed (see [www.bjs.gov](http://www.bjs.gov) for additional statistics). At the end of 2013, close to 3,000 inmates were in prison and sentenced to death in the United States. A small percentage have or might have an intellectual disability.

The constitution as interpreted by the Supreme Court permits the death penalty in a narrow range of circumstances. In any other circumstances, the death penalty violates the Eighth Amendment of the Constitution, the part of the Bill of Rights that bans cruel and unusual punishment.

The death penalty is reserved for the *worst of the worst* crimes. The crime must be so bad that it deserves the most extreme form of punishment. A case before the court in 1972, *Furman v. Georgia*, found that the death penalty could not be applied arbitrarily, to one person and not another who was convicted of a similar crime. Later cases before the Supreme Court found that the death penalty could only be applied for certain crimes or when there were aggravating circumstances, such as lack of remorse or prior convictions. In addition, a defendant could avoid the death penalty when it would otherwise apply if there were mitigating circumstances, such as a history of abuse.

Individuals who have intellectual disabilities are exempted from the death penalty because their limitations make them less culpable than those without limitations; they cannot be the worst of the worst. The intellectually disabled have a lower capacity for regulating their behavior than those without disabilities, and they have poorer capacities for decision making and moral reasoning. They also can't understand legal concepts as well as others, they are more vulnerable to outside pressures, and they are not as effective in assisting in their own defense (Haney, Weill, & Lynch, 2015). Juveniles and those defendants with mitigating factors, such as an abusive background, are exempt from the death penalty for similar reasons. The imposition of the death penalty is also not thought to be a deterrent to individuals with intellectual disabilities because they are less able to learn and make rational decisions based on abstract information.

## DEFINING INTELLECTUAL DISABILITY

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Intellectual disability is defined by three important entities, the American Association for Intellectual and Developmental Disabilities (AAIDD), the American Psychiatric Association (APA), and the Social Security Administration (SSA).

From the AAIDD (2017):

Intellectual disability is a disability characterized by significant limitations in both **intellectual functioning** and in **adaptive behavior**, which covers many everyday social and practical skills. This disability originates **before the age of 18**.

Intellectual functioning—also called intelligence—refers to general mental capacity, such as learning, reasoning, problem solving, and so on. One way to measure intellectual functioning is an IQ test. Generally, an IQ test score of around 70 or as high as 75 indicates a limitation in intellectual functioning. (para 1)

Adaptive behavior is the collection of conceptual, social, and practical skills that are learned and performed by people in their everyday lives.

Conceptual skills—language and literacy; money, time, and number concepts; and self-direction.

Social skills—interpersonal skills, social responsibility, self-esteem, gullibility, naïveté (i.e., wariness), social problem solving, and the ability to follow rules/obey laws and to avoid being victimized.

Practical skills—activities of daily living (personal care), occupational skills, healthcare, travel/transportation, schedules/routines, safety, use of money, use of the telephone. (para 4)

Standardized tests can also determine limitations in adaptive behavior. (para 5)

This condition is one of several developmental disabilities—that is, there is evidence of the disability during the developmental period, which in the US is operationalized as before the age of 18. (para 6)

The APA provides diagnostic criteria for intellectual disability in the *Diagnostic and Statistical Manual* (APA, 2013), as follows:

#### Intellectual disability

Deficits in intellectual functions, such as reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience, confirmed by both clinical assessment and individualized, standardized intelligence testing.

Deficits in adaptive functioning that result in failure to meet developmental and sociocultural standards for personal independence and social responsibility. Without ongoing support, the adaptive deficits limit functioning in one or more activities of daily life, such as communication, social participation, and independent living, across multiple environments, such as home, school, work, and community.

Onset of intellectual and adaptive deficits during the developmental period. (p. 33)

The Social Security Administration's definition of intellectual disability, or in their nomenclature, intellectual disorder, was recently revised. An individual applying for disability benefits on the basis of having an intellectual disorder, or claimant, must show "significantly subaverage general intellectual functioning; significant deficits in current adaptive functioning; and (that) the disorder manifested before age 22" (Social Security Administration, n.d., para 14). The determination of intellectual disorder for the Social Security Administration follows precise rules, depending on the level of cognitive inability. Claimants who are so cognitively disabled that they are unable to participate in standardized testing must show that they are dependent on caregivers for personal needs such as bathing. Individuals who are able to participate in testing must have a Full Scale IQ of 70 or below or a Full Scale IQ between 71–75 and a Performance or Verbal IQ below 70 on a standardized test of intellectual functioning. In addition, claimants must show

Significant deficits in adaptive functioning currently manifested by extreme limitation of one, or marked limitation of two, of the following areas of mental functioning:

- A. Understand, remember, or apply information (see 12.00E1); or
- B. Interact with others (see 12.00E2); or
- C. Concentrate, persist, or maintain pace (see 12.00E3); or
- D. Adapt or manage oneself (see 12.00E4);
- E. For all individuals, the condition must have manifested prior to age 22.

## LABELING AND DESCRIBING INTELLECTUAL DISABILITIES

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The labels for intellectual disability change over time, most recently from mental retardation to intellectual disability, which is less stigmatizing and reflects current usage by professional associations, including the American Psychiatric Association (APA), the American Psychological Association (APA), and the American Association for Intellectual and Developmental Disabilities (AAIDD), formerly known as the American Association for Mental Retardation (AAMR). In addition, labels for the severity of an intellectual disability are applied based on the individual's level of intellectual and adaptive functioning. Individuals with moderate or severe intellectual disability are not able to function without a lot of assistance. There would not typically be a question of their culpability for a crime.

Individuals who have mild intellectual disability, especially those with IQ scores at the upper ends of the IQ range used to establish the diagnosis (those with IQs

close to 70), are often able to function independently and might have basic academic and work skills. They might live on their own in the community and have a spouse and children. However, they learn more slowly and with more repetition than others, even if the material is simple and concrete, and they will be unable to grasp complex material or abstract concepts.

## DIAGNOSING INTELLECTUAL DISABILITY: IQ TESTING

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As is evident in the above definitions, no matter who sets the criteria or what the criteria are, determining if someone is intellectually disabled requires evidence of limitations in intellectual functioning, typically based on individual administration of a test of intellectual functioning, an IQ test. There are several options, but the Wechsler tests are widely used measures of intellectual functioning for children and adults. Other tests of intellectual functioning include the Stanford-Binet Intelligence Scales (SB5), the Kaufman Assessment Battery (KABC-II), and the Woodcock Johnson Tests of Cognitive Ability (W-J III NU Complete). The Wechsler scales, the Wechsler Intelligence Scale for Children-V (WISC-V) and the Wechsler Adult Intelligence Scale-IV (WAIS-IV), are the most widely used tests and are used here as an example. They have a great deal of empirical support.

The Wechsler scales assume a normal distribution of intelligence in the population, that is, that intelligence is distributed in the population on a bell curve with most people being in the average range, at the top of the curve, and fewer people well above or well below average, at the edges of the curve. The Wechsler scales include several different subtests, each measuring specific cognitive abilities, and results are combined into index scores and an overall score, or Full Scale IQ (Intelligence Quotient, a ratio between intellect and age). The mean score is 100, and the standard deviation is 15. Approximately 2.5% of the population scores two standard deviations above the mean, and the same percentage scores two standard deviations below the mean. The 2.5% of individuals who score approximately 70 or below are the group of people considered intellectually disabled, presuming they meet the other criteria for the diagnosis, deficits in adaptive functioning and onset in childhood or adolescence.

## MEASUREMENT ERROR

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For all tests of intellectual functioning, scores are estimates of a true score, rather than the exact true score, because of the presence of measurement error when testing human subjects. The true score lies within a range of scores. One can say with confidence, for example, that there is a 95% chance that a test subject's true score is between 94 and 106 if he or she obtains a Full Scale IQ of 100. On any given day, there is a 95% chance that he or she would score between a 94 and a 106, assuming all else is held constant.

Thus, an IQ score of 71, like that obtained by Freddie Lee Hall, is correctly interpreted as a true score which lies between 68 and 76, based on a 95% confidence interval (Wechsler, 2008). The lower end of the confidence interval falls in the range of mild intellectual disability. The upper end does not. However, an individual with an IQ of 71 meets DSM-5 diagnostic criteria for mild intellectual disability if he or she also has adaptive functioning deficits (see below) and the age of onset of low intellectual functioning was during childhood or adolescence.

The Supreme Court ruled against Florida in Freddie Lee Hall's case because Florida's criteria, which required a fixed score of 70 or below, did not account for measurement error and was inconsistent with standard practice.

## FLYNN EFFECT

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Another problem that arises when interpreting IQ scores that are close to 70 on an IQ test is the Flynn effect (see Miller, Lovler, & McIntire, 2013). Tests like the Wechsler scales are revised about every 20 years. They are normed correctly, with 100 as the mean and a standard deviation of 15, but over time test scores go up, and someone who would have obtained a score of 100 when the test was first administered will, in general, obtain a higher score in later years of the test.

Thus, if Jane obtains a score of 72 in year 20 of the revision, it would be equivalent to a score of 66 if the test was administered in earlier years (Trahan, Stuebing, Fletcher, & Hiscock, 2014), clearly in the range of mild intellectual disability. In practice, clinicians do not typically correct for the Flynn effect, but there is a great deal of controversy over whether they should in high-stakes situations, such as death penalty cases (Hagan, Drogin, & Guilmette, 2010).

## PRACTICE EFFECTS

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A third problem that comes up in death penalty and other high-stakes testing situations is the effect of practice. If an IQ test is repeated within a year, certain test scores typically increase because of the impact of practice. If a defendant is given an IQ test in January by the defense, and the same test is repeated six months later by a psychologist for the state, the score on the second administration is likely to be higher (Estevis, Basso, & Combs, 2012). In a case in which the IQ hovers around 70, the increase could make a difference in whether the defendant is exempt from the death penalty.

## MALINGERING

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Finally, defendants on death row are typically highly motivated to respond to IQ tests in such a way that they are diagnosed with an intellectual disability, so they can avoid execution. They can malingering, that is, make a poor effort and get a low



score. However, the diagnosis of intellectual disability is only made if there are deficits in adaptive functioning and if the age of onset was prior to adulthood (in addition to evidence of low intellectual functioning). School and other records might rule out the diagnosis of intellectual disability even when a defendant obtains a low score on an IQ test.

## DIAGNOSING INTELLECTUAL DISABILITY: ASSESSMENT OF ADAPTIVE FUNCTIONING

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In addition to a low IQ, the diagnosis of intellectual disability requires deficits in adaptive functioning, such as below average skills in communication, self-care, daily living skills, and social skills. Deficits in adaptive functioning can be determined on the basis of scores on standardized, norm-referenced measures of adaptive functioning. These are tests given to *informants* to complete about someone they know well: a parent could be an informant for a child or a caregiver could be an informant for an adult. Tests of adaptive functioning are administered by interview or in a paper and pencil format. The Vineland Adaptive Behavior Scales-II (VABS-II; Sparrow, Cicchetti, & Balla, 2005) is a good example of a measure of adaptive functioning, but there are others as well. The VABS-II assesses the following domains: communication, daily living skills, and socialization with supplemental scales for motor skills and maladaptive behavior. Each of the domains is subdivided into narrower areas of functioning. To meet diagnostic criteria for mild intellectual disability, the individual must receive a score in the deficit range in at least one area.

For defendants in death penalty cases there are unique problems associated with standardized measures of adaptive functioning. The skills for living in a prison environment are very different than those required for living in the community, so it may not be possible to assess adaptive functioning. In addition, informants may not be available to contribute to the assessment, and if they are available they may be highly motivated to portray the defendant as having a low level of adaptive functioning so he or she will be spared the death penalty.

## IS RANDI INTELLECTUALLY DISABLED? A BRIEF CASE STUDY

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In this imagined case, the court agreed with the state's position that Randi was not intellectually disabled because the evidence of intellectual disability in childhood was inconsistent, and her IQ score was in a range that could be interpreted as above the cutoff for intellectual disability. In addition, it was not clear that Randi had deficits in adaptive functioning. Randi's attorney was planning to appeal. She was obtaining more evidence of intellectual disability in childhood from Randi's family as well as more evidence that Randi had, and still has, adaptive-functioning

challenges consistent with intellectual disability. She also was going to have Randi reevaluated with a different assessment instrument because she believes that practice effects resulted in an increase in Randi's IQ score. She thinks she can make a good case.

## CONCLUSION

The assessment of intellectual disability for defendants on death row has extraordinary ramifications. Those inmates who fall in the *gray zone*, where the diagnosis is uncertain, present real problems for assessment, as described above. Psychological testing, especially for IQ, serves a uniquely important role in death penalty cases. There can be a lot of conflict over whether an individual has an intellectual disability, with the state arguing that he or she does not and the defense arguing otherwise. Very small differences in test scores can make a big difference in the outcome of the case, to a far greater extent than in other circumstances.

Even in less dramatic situations, the assessment of disability can be challenging. A few points on an IQ test or on another psychological test can determine if an individual is eligible for certain benefits or services. It is important to remember that the individual is not more or less disabled; instead, he or she meets or doesn't meet a legal standard for disability. The cutoff is socially determined, and to some extent, it is arbitrary.

### Discussion Questions

1. If you were asked to evaluate a defendant on death row would you do it? What factors would you consider in making your decision?
2. What are some of the challenges in measuring intellectual functioning in the general population? What additional challenges are there when the stakes are as high as they are for those facing the possibility of execution?
3. Can intelligence be measured fairly and accurately for everyone?

### Research Ideas

1. How have concepts of intellectual disability changed over time? Conduct a literature review and discuss the evolution of the concept of intellectual disability from the earliest writing about it until the present.
2. Examine at least two different theoretical views of intellectual functioning and discuss the implications for measurement.
3. What are the challenges in measuring adaptive functioning and how have they been addressed?

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