

[PUBLISH]

IN THE UNITED STATES COURT OF APPEALS

FOR THE ELEVENTH CIRCUIT

No. 14-15650

D.C. Docket No. 1:02-cv-01515-SCJ

J. W. LEDFORD, JR.,

Petitioner-Appellant,

versus

WARDEN, GEORGIA DIAGNOSTIC AND CLASSIFICATION PRISON,

Respondent-Appellee.

Appeal from the United States District Court
for the Northern District of Georgia

(March 21, 2016)

Before ED CARNES, Chief Judge, HULL and JORDAN, Circuit Judges.

HULL, Circuit Judge:

Petitioner J.W. Ledford, Jr., a Georgia death-row inmate, filed a 28 U.S.C.
§ 2254 petition for writ of habeas corpus, raising multiple challenges to his capital

conviction and death sentence. The district court conducted an evidentiary hearing on Ledford's claim that he is intellectually disabled and not subject to execution.¹ Ultimately, the district court found Ledford was not intellectually disabled. Subsequently, the district court denied Ledford's petition as to his multiple ineffective-assistance-of-counsel claims, but granted a certificate of appealability ("COA") as to his intellectual disability claim and several claims of ineffective trial counsel in the guilt and penalty phases.

Having considered the district court and state court records, the district court's thorough orders, and the parties' submissions, and with the benefit of oral argument, we affirm the denial of Ledford's § 2254 petition.

I. CRIME, CONFESSION, AND INDICTMENT

A. Murder of Dr. Johnston

On January 31, 1992, at some time during mid-afternoon, Antoinette Johnston saw her husband, Dr. Harry Johnston, Jr., a "feeble" 73-year-old physician, drive away in his truck with an unidentified person in the passenger seat. About 15 or 20 minutes after the truck left, Ledford appeared at Mrs. Johnston's front door, introduced himself, and asked if Dr. Johnston was home. Mrs. Johnston replied that Dr. Johnston was not home, and Ledford left. About ten

¹Although courts formerly employed the term "mental retardation," we now use the term "intellectual disability" to describe the same condition. Accord *Brumfield v. Cain*, 576 U.S. ___, ___, 135 S. Ct. 2269, 2274 n.1 (2015). However, we sometimes use the terms "mental retardation" and "mentally retarded" when quoting or discussing earlier judicial opinions, court orders, trial testimony, or medical reports because they used those terms at the time.

minutes later, Ledford returned to the Johnston residence and asked Mrs. Johnston to tell Dr. Johnston to come to his house later that night. Mrs. Johnston said she would relay the message, and Ledford left.

Approximately ten minutes later, Ledford appeared at Mrs. Johnston's front door again, but this time he brandished a knife belonging to Dr. Johnston and forced his way into the residence. Ledford put the knife to Mrs. Johnston's throat, told her that he would kill her, and demanded that she give him all of her money and guns. Mrs. Johnston retreated to the bedroom, got her wallet, and gave Ledford what money she had. Ledford then saw a pistol on the bedside table, which belonged to Mrs. Johnston, and took it.

Next, Ledford grabbed Mrs. Johnston's arm and forced her to walk to the kitchen and through the hallway, where Ledford spotted a rifle, a shotgun, and a second pistol, all belonging to the Johnstons, which he also took. Ledford forced Mrs. Johnston into the bedroom, told her to lie on the bed, threatened to kill her, and tied her hands together with rope. Ledford told Mrs. Johnston that he was doing this "for drugs." Finally, Ledford cut the telephone cord in the bedroom, told Mrs. Johnston not to move for ten minutes, gathered the money and guns, and left out the front door.

After Ledford left, Mrs. Johnston ran to the front door, locked it, and went to the kitchen where she got a knife and attempted to cut her bindings loose. She then

went back to the front living room, looked outside, and saw Ledford backing out of the driveway in Dr. Johnston's truck. Dr. Johnston was not in the truck with Ledford, and Mrs. Johnston was worried about his safety. At approximately 3:45 PM, Mrs. Johnston called the police to report the robbery, and to express worry that Ledford had harmed her husband.

After the robbery, Ledford went to a pawn shop and pawned the rifle that he stole from the Johnston residence. He then went to a different pawn shop and pawned the shotgun that he stole from the Johnston residence. Ledford then drove Dr. Johnston's truck to a convenience store, bought a pack of cigarettes, and left, heading southbound on the 411 highway. At approximately 4:15 PM, law enforcement officers pulled Ledford over on the side of the 411 highway and arrested him. They seized two handguns from the front seat of the truck, a buck knife and another small knife from the passenger's side floorboard, and \$245 from Ledford's pants pocket.

At approximately 6:00 PM, detectives arrived at the Johnston residence. Dr. Johnston's body was discovered near the garage of the residence, partially hidden under some tree limbs. A pool of blood was found in the garage, with a trail of blood leading to Dr. Johnston's body. Buckled to Dr. Johnston's belt was a sheath that would have held the buck knife recovered from the truck during Ledford's arrest.

B. Ledford's Confession

While in custody, law enforcement officers advised Ledford of his Miranda² rights in writing. Ledford then voluntarily provided a legible and coherent handwritten statement where he confessed to stabbing Dr. Johnston.

In his written confession, Ledford stated that he went to Dr. Johnston's house at 2:00 PM to ask for a ride to the grocery store, which Dr. Johnston agreed to provide. On their way, Dr. Johnston accused Ledford of stealing and then drove the truck back to his house. According to Ledford, Dr. Johnston got out of the truck, brought Ledford to the side of his garage, and started to "smack" Ledford with his hand, causing Ledford to fall to the ground.

Ledford stated that Dr. Johnston then pulled a knife from the sheath in his belt and cut Ledford's hand. In response, Ledford pulled out his own knife and "stuck" Dr. Johnston in the neck. Ledford got back on his feet and pulled the knife from Dr. Johnston's neck, which "went over and cut the shit out of him." Ledford dragged the body away and covered it up.

Next, Ledford stated that he entered the Johnston residence with a knife, tied up Mrs. Johnston, and stole a shotgun, a rifle, two pistols, and some money. He left the Johnston residence in Dr. Johnston's truck and, at some point, threw his pocket knife out of the window onto the side of the road.

²Miranda v. Arizona, 384 U.S. 436, 86 S. Ct. 1602 (1966).

Ledford subsequently took law enforcement officers to the site where he disposed of the knife, which the officers recovered.

C. Indictment, Appointment of Counsel, and Not-Guilty Plea

On February 10, 1992, a state grand jury returned a six-count indictment charging Ledford with the murder of Dr. Johnston, felony murder, burglary, kidnapping, and two counts of armed robbery. Ledford pleaded not guilty.

On February 19, 1992, the state trial court appointed Sam Little and Matthew Thames to represent Ledford. On March 18, 1992, the prosecutor filed a notice of intent to seek the death penalty, citing certain aggravating circumstances.

II. PRETRIAL MENTAL HEALTH EVALUATION

On April 28, 1992, attorneys Little and Thames filed a petition for a psychiatric evaluation of Ledford. The state trial court granted the petition and ordered the Georgia Department of Human Resources to examine and evaluate Ledford's mental health.

On June 10, 1992, Dr. Samuel Perri, a licensed psychologist, performed an initial psychological evaluation of Ledford at the county jail, and from June 25, 1992, through the middle of August 1992, Ledford was evaluated at Central State Hospital. Dr. Perri summarized his findings in a September 10, 1992 report.

During Dr. Perri's June 10, 1992 evaluation, Ledford was "alert" and "well oriented to person, place, time, and his . . . legal situation." His conversation was

“rational, logical and goal directed.” On the Weschsler Adult Intelligence Scale–Revised (“WAIS-R”), Ledford scored a 77, which placed him in the “upper part of the borderline range” for mental retardation. Dr. Perri opined that Ledford’s psychological profile suggested that “substance abuse [was] likely” for Ledford.

Dr. Perri stated that his evaluation of Ledford “did not reveal any information that would suggest that Mr. Ledford should not be considered legally responsible for his actions as they relate to the charges pending against him.” Dr. Perri found that Ledford had the “mental capacity to distinguish right from wrong.” Ledford informed Dr. Perri that on the day of Dr. Johnston’s murder, he drank a six-pack of 16-ounce beers, smoked ten joints, and maybe took some pills, though he was not sure, and was generally “messed up.”

While at Central State Hospital in 1992, Ledford received a skull series, an electroencephalogram, and a brain scan. Dr. Bonfante, a neurologist, reviewed the test results and determined Ledford was “well within normal limits.” During his stay at Central State Hospital, Ledford was “friendly, cooperative and at no time did he show any signs of psychosis or any other severe mental disorder.”

Ultimately, Dr. Perri concluded that Ledford was competent to stand trial, understood the charges against him and the potential consequences, had a “good understanding” of basic courtroom procedures and the role of key courtroom personnel, and would be capable of assisting his counsel in his defense. Dr. Perri

noted that Ledford had a long history of substance abuse problems, including regular consumption of marijuana, whisky, and beer, and experimental consumption of acid, cocaine, and Quaaludes. Dr. Perri characterized Ledford's substance abuse as his "most significant finding," which could be considered mitigating evidence at the penalty phase, if Ledford were found guilty.

III. TRIAL – GUILT PHASE

A. The State's Evidence of Guilt

The trial commenced on November 9, 1992. The state presented overwhelming evidence of Ledford's guilt. Mrs. Johnston gave her account of Ledford's home invasion, the surrounding circumstances, and how she observed Ledford drive away in her husband's truck. Two pawn shop employees testified that Ledford sold them the rifle and shotgun stolen from the Johnston residence.

Law enforcement officers gave their accounts of Ledford's arrest, the items seized from Dr. Johnston's truck, the discovery of Dr. Johnston's body, and the discovery of the murder weapon with Ledford's assistance. A state witness read Ledford's written confession to the jury. A forensic serologist testified that, according to a blood enzyme analysis, the blood found on Ledford's clothes, along with the blood on the knife recovered from the side of the highway, could not have been Ledford's, but could have been the blood of Dr. Johnston.

Dr. Floyd James, a pathologist, conducted an autopsy of Dr. Johnston's body. Dr. James testified that Dr. Johnston had a non-fatal inch-long stab wound on his back, a large and deep laceration across the side of his face, a large and deep laceration on the left side of his neck, and several other lacerations on his neck, including one that penetrated his windpipe. The wounds required a significant amount of force to inflict. When presented with the pictures of Dr. Johnston's wounds, Dr. James stated, "Well, I'm a pathologist and this is rather sickening." Defense counsel did not object to this testimony. When asked to describe the pictures further, Dr. James stated, "Well, I've seen a lot of really bad things in the numerous types of autopsies I've seen. . . ." At that point, the judge cut off Dr. James and instructed him not to compare Dr. Johnston's wounds with other wounds he had seen as a pathologist.

Dr. James testified that Dr. Johnston's death was not instantaneous. Dr. Johnston continued to bleed to death for approximately eight to nine minutes after the wounds were inflicted. Dr. James testified that Dr. Johnston suffered during that time and that it would have been "extremely painful." Ledford's counsel did not contemporaneously object. Rather, on cross-examination, Ledford's counsel attempted to demonstrate that Dr. Johnston could have died a lot quicker than Dr. James believed.

The next day, Ledford's counsel moved for a mistrial based on Dr. James's inflammatory testimony. The state trial court denied the motion as untimely. In its closing argument, the state, citing Dr. James's testimony, repeatedly asserted that Dr. Johnston suffered a brutal, long, and agonizing death.

B. Ledford's Defense

In his written confession, Ledford stated he acted in self-defense. Ledford's counsel did not rely on that theory at trial, but instead presented evidence of Ledford's long history of substance abuse. Counsel argued, primarily, that Ledford was intoxicated when he killed Dr. Johnston and that his intoxication was involuntary because he was coerced into becoming an alcoholic at a very young age. Ledford's counsel argued, in the alternative, that Ledford's intoxication, regardless of its voluntariness, negated the requisite mens rea for premeditated murder.

In the guilt phase, defense counsel presented unrefuted evidence of how Ledford began drinking heavily at age eight. Greg and Tony Headrick, who grew up with Ledford, testified that Ledford began drinking "a pretty good bit" of beer at the age of eight, and began smoking marijuana at the age of ten. Ronnie Jones, another childhood friend, testified that Ledford began drinking alcohol at the age of eight. Robert Lee Pack, Jr., another childhood friend, offered similar testimony and further testified that he had observed Ledford use "speed" and "acid."

Ledford's older sister testified that Ledford's mother was always at work, leaving the children with their alcoholic father. Ledford's sister "got [Ledford] to drinking" when he was eight years old. Ledford's sister would drink with the young Ledford nearly every weekend. Ledford's sister also testified that their father did not care that his children drank alcohol. In fact, Ledford's father dealt drugs out of the family home and exposed his children to marijuana and Quaaludes at an early age.

Nancy DeLoach, an employee at a Georgia substance abuse treatment facility, testified that for four days in November 1991, Ledford received treatment for detoxification from cocaine, marijuana, and alcohol.

The trial evidence indicated that Ledford consumed alcohol and drugs on the day of the murder. There was a general consensus that Ledford consumed three to six beers and smoked between two and ten marijuana joints between 11:00 AM and 1:00 PM on January 31, 1992. A pawn shop employee and one police detective smelled alcohol on Ledford's breath that afternoon.³

Defense counsel employed Dr. Dennis Lloyd Herendeen, a licensed psychologist, who testified about Ledford's mental health and that Ledford became involuntarily addicted to alcohol at age eight. Prior to the trial, Dr. Herendeen

³Mrs. Johnston, another pawn shop employee, and another police detective did not smell alcohol on Ledford's breath.

interviewed many of Ledford's family members and familiarized himself with various materials, including several transcribed statements of Ledford's acquaintances, reports concerning the murder of Dr. Johnston, transcripts of an interview with Ledford, a copy of Ledford's substance abuse treatment records, and Dr. Perri's September 10, 1992 report.

On November 8, 1992, the day before trial, Dr. Herendeen interviewed Ledford for approximately nine hours and performed a comprehensive psychological battery, including the Shipley Institute of Living Scale, on which Ledford scored an 85, and the revised version of the Wide Range Achievement Test. Dr. Herendeen performed various other tests and fed the results into a computer program that returned a psychological profile. Dr. Herendeen concluded that Ledford suffered from chemical dependency, antisocial personality disorder, and organic thought disorder induced by substance abuse. According to Dr. Herendeen, Ledford's substance abuse problems would have caused him to be in an "altered state" on the day of Dr. Johnston's death.

Dr. Herendeen recounted Ledford's family history to the jury. Ledford grew up "relatively unsupervised" with "inadequate parenting" and "a lot of neglect." When he was only six years old, Ledford tried to bring a loaded rifle to school. Importantly, Dr. Herendeen testified that Ledford became involuntarily addicted to alcohol at the age of eight. According to Dr. Herendeen, Ledford continued to

suffer from an involuntary alcohol addiction into adulthood, which affected certain practical life skills, such as the ability to get and hold a job.

Dr. Herendeen also testified that Ledford had an “extensive history of chemical abuse,” starting at age 11, which included the use of marijuana, LSD, amphetamines, barbiturates, cocaine, tranquilizers, prescription pills, and heroin. Dr. Herendeen testified that Ledford began selling personal property at a young age in order to sustain his drug habit. Dr. Herendeen opined that Ledford’s addictions would have interfered with his judgment.

Dr. Herendeen estimated that Ledford had an IQ of about 85, which would put him in the “low average range of intelligence.” While Ledford was 20 at the time of Dr. Johnston’s death, Dr. Herendeen opined that Ledford only had the intellectual and cognitive functioning of a 13-year-old.⁴

C. Testimony of Dr. Perri

After the defense rested, the state trial court called Dr. Perri, as a witness for the court, to testify about Ledford’s mental health. Dr. Perri’s testimony was consistent with his pretrial report. Namely, Dr. Perri testified that Ledford was cooperative, rational, logical, and able to answer questions “in a very good manner.” Dr. Perri testified that Ledford understood the charges pending against

⁴At trial, Dr. Herendeen testified that, due to Ledford’s chronic history of alcohol and drug abuse, Dr. Perri should have asked a colleague to perform an MRI, a CAT scan, an EEG, and neuropsychological testing to determine whether Ledford suffered from any organic neurological impairments. As a psychologist, Dr. Herendeen was unable to perform these tests.

him, suffered from no delusional compulsion, and understood that killing was wrong. Dr. Perri opined that Ledford was neither criminally insane nor mentally retarded. Dr. Perri testified that Ledford's IQ was between 70 and 80, which was on the "upper end" of the "borderline range," but did not indicate mental retardation.

Dr. Perri, in fact, supported Ledford's defense that he was a child-alcoholic and was impaired on the day of Dr. Johnston's murder. Dr. Perri testified that Ledford had a severe drug and alcohol problem that started at the age of ten. Ledford told Dr. Perri that he would not have killed Dr. Johnston if he "was not messed up." Ledford also told Dr. Perri that he had six 16-ounce cans of beer and ten marijuana joints on the morning of January 31, 1992.

During examination by the state, Dr. Perri testified that Ledford received a skull series, an electroencephalogram, and a brain scan while in state custody at Central State Hospital. Dr. Bonfante, the consulting neurologist, reviewed those tests and determined that Ledford did not suffer from any organic difficulties or neurological damage.

D. Closing Arguments

In closing, Ledford's attorneys argued that Ledford was intoxicated when he killed Dr. Johnston, which absolved him of guilt in two ways. Ledford's counsel first argued that because Ledford was intoxicated, he was behaving irrationally

and, therefore, lacked the requisite intent to commit murder. To support this contention, Ledford's counsel pointed out that Ledford took a chicken out of the freezer to defrost and later cook, which suggested that Ledford had not planned to kill Dr. Johnston that day. Ledford's counsel argued that Ledford performed a series of strange actions on the day of Dr. Johnston's murder—killing Dr. Johnston in a fairly sloppy manner, poorly hiding the body, introducing himself to Mrs. Johnston, taking Dr. Johnston's truck, and driving Dr. Johnston's truck into town—all of which suggested that Ledford was acting irrationally and without premeditation.

Second, Ledford's counsel argued that Ledford became involuntarily addicted to alcohol at the early age of eight and, therefore, was involuntarily intoxicated when he killed Dr. Johnston, which absolved him of guilt.

In closing, the prosecutor emphasized that Dr. Johnston was “butchered worse than you would butcher a hog,” and that he “lived eight or nine minutes . . . in . . . agony and pain.”

E. Jury Instructions and Verdict

The state trial court charged the jury with standard instructions, including several related to intoxication and criminal responsibility. On the one hand, the state trial court instructed the jury that voluntary intoxication was not an excuse for

any criminal act, and that alcoholism is not involuntary and is no defense to any criminal act.

On the other hand, the state trial court further instructed that “[i]f the influence of alcohol . . . impairs a person’s mind to the extent that the person is not able to form an intent to do the act charged, that person would not be criminally responsible for the act.”

The jury found Ledford guilty of murder, two counts of armed robbery, burglary, and kidnapping, and not guilty of felony murder.

IV. TRIAL – PENALTY PHASE

At the penalty phase, Ledford’s counsel resubmitted the evidence presented at the guilt phase and called Mattie Ledford, his mother, to testify. Mrs. Ledford testified that Ledford’s father abused drugs and alcohol when Ledford was young and that she was frequently away from home, working 12-hour shifts to provide for her seven children. Mrs. Ledford testified that her son drank as a child, though she did not know about it at the time. Mrs. Ledford testified that her son smoked marijuana and, in November 1991, sought treatment for his substance abuse problems. According to Mrs. Ledford, Ledford grew up with much love for those around him and would frequently help neighbors with chores. Mrs. Ledford stated

that she loved her son, believed that treatment would help him, and pleaded that he be spared the death penalty.⁵

At the penalty phase, trial counsel Little had several other witnesses lined up to testify on Ledford's behalf. But Ledford's mother testified first and her testimony made nine to eleven jurors cry, along with the rest of the courtroom. Little found Mrs. Ledford's testimony so emotionally compelling that no other witnesses were needed to present mitigating evidence.

On November 14, 1992, the jury unanimously recommended imposition of the death penalty. The jury found four statutory aggravating circumstances: (1) the offense of murder was committed while Ledford was engaged in the commission of another capital felony, namely armed robbery; (2) the offense of murder was committed while Ledford was engaged in the commission of aggravated battery; (3) the offense of murder was outrageously or wantonly vile, horrible, or inhumane in that it involved torture to the victim prior to the death of the victim; and (4) the offense of murder was outrageously or wantonly vile, horrible, or inhumane in that

⁵On cross-examination, Mrs. Ledford testified that Dr. Johnston was a nice man who would often provide her with free medical services. Dr. Johnston performed the Caesarean section that delivered Ledford when he was an infant.

it involved aggravated battery of the victim prior to the death of the victim. The state trial court sentenced Ledford to death.⁶

V. DIRECT APPEAL

On direct appeal, the Georgia Supreme Court affirmed Ledford's convictions and death sentence. Ledford v. State, 439 S.E.2d 917 (Ga. 1994). Ledford filed a certiorari petition with the U.S. Supreme Court, which was denied. Ledford v. Georgia, 513 U.S. 1085, 115 S. Ct. 740 (1995).

VI. STATE HABEAS PETITION

In 1995, Ledford, pro se, filed a petition for writ of habeas corpus, pursuant to Ga. Code Ann. § 9-14-41, in the Superior Court of Butts County, Georgia. Ledford subsequently obtained counsel and filed an amended petition in 1997.

Ledford alleged, among other things, that his trial attorneys were ineffective because they (1) failed to conduct an adequate pretrial investigation into Ledford's personal background, including his history of substance abuse, mental illness, and mental impairment, and potential related defenses; (2) failed to present mitigating evidence at the penalty phase; (3) failed to timely retain and properly prepare testifying expert witnesses; (4) failed to object to the admission of evidence and remarks by the prosecution; and (5) failed to present evidence that Ledford's

⁶Ledford was also sentenced to two consecutive terms of life in prison for each of the armed robbery counts, 20 years as to the burglary count, to run concurrent with the second armed robbery count, and 20 years as to the kidnapping count, to run concurrent with the second armed robbery count.

intoxication negated the mens rea necessary for murder and, instead, improperly relied upon the defense of involuntary intoxication. Ledford alleged that he is intellectually disabled, which would bar his death sentence.

VII. EVIDENTIARY HEARING IN STATE HABEAS COURT

On April 23, 1998, the state court held an evidentiary hearing on Ledford's amended habeas petition. Ledford submitted affidavits from 13 lay witnesses and three experts. He called trial counsel Little and Thames as witnesses. Ledford also submitted copious records, including his medical records, substance abuse treatment records, school records, court records, Georgia Department of Corrections records, Georgia Bureau of Investigation records, his inmate file, Dr. Johnston's autopsy report, and Mrs. Ledford's social services file.

A. Lay Witness Affidavits

Ledford introduced 13 affidavits from friends and family members to show available mitigating evidence at the penalty phase that his trial attorneys failed to present. While several trial witnesses had offered testimony regarding Ledford's background and upbringing, these affidavits provided more detail. Most of the affiants were never asked to testify at trial.

According to the affidavits, Ledford had a rough childhood. He grew up in a poor, rural, mountain community in Georgia with six sisters⁷ and little supervision. Ledford's father abused drugs and alcohol, was frequently absent, and when present, sold drugs out of the family home. Ledford's mother was typically away at work, leaving Ledford either unsupervised or with his father. Ledford's home was very unstable, and he would frequently stay with neighbors or other family members.

Ledford's father would occasionally enter into a drunken rage, chase the children around with a gun, and threaten to kill them. On one occasion, Ledford's father held a gun to his head and threatened to kill himself in front of Ledford. On another occasion, he chased Ledford's mother down the street and shot at her. He frequently beat the children, leaving bruises and welts.

While Ledford was a sweet, loving, and well-behaved child, he had no supervision. As a result, he began abusing drugs and alcohol at a very young age. Ledford's sister recalled that he vomited from drinking when he was eight years old. Ledford's father gave him drugs during his childhood. Eventually, Ledford would use any drug made available to him, including acid, crack, and cocaine, and was heavily into drugs as a teenager. On one occasion, Ledford accidentally shot off his finger while high. Despite his addictions, Ledford desperately wanted to

⁷As of January 2007, all six of Ledford's sisters had children, five of Ledford's sisters were married, and four of Ledford's sisters worked to earn a living.

get sober. At one point, Ledford told his mother that he would kill himself if he did not get help.

Ledford had several positive relationships with his neighbors and family members. He would frequently help neighbors with their chores, babysit for neighbors, commit acts of chivalry for his sisters, and was generally happiest when helping others. He expressed an interest in joining the Peace Corps. In 1989, Ledford's close friend was murdered, which he took "very hard."

Ledford was not very smart and had trouble with school. He had trouble reading, failed the first grade, and was twice held back a grade. During middle school, an older woman frequently signed him out of class so that they could drink together. Ledford dropped out when he was 16, during his freshman year of high school.

When he was 17, Ledford worked at a carpet mill counting spools of carpet. He also worked at a lumber mill where he loaded lumber into a mill to be cut. He was fired from the lumber mill because the foreman caught him smoking marijuana.

In the months leading up to Dr. Johnston's death, Ledford began acting very strangely. He was heavily abusing drugs and became increasingly irrational and paranoid. Family members were shocked that Ledford killed Dr. Johnston.

B. Affidavit of Dr. Herendeen

Dr. Herendeen's affidavit concerned his role as the expert psychologist at Ledford's trial. According to Dr. Herendeen, on October 28, 1992, Ledford's trial attorneys contacted him and asked him to evaluate Ledford for his upcoming death penalty trial. On November 8, 1992, Dr. Herendeen evaluated Ledford and briefly interviewed six of his family members. Dr. Herendeen was provided with some records but never received a medical history.

Dr. Herendeen performed a Rorschach evaluation and processed the results through a computer program, which indicated that Ledford required neuropsychological testing. While it was unusual for the computer to report such a finding, further tests were not performed. Dr. Herendeen testified that he did not have Ledford's school records, and he would have performed a comprehensive intelligence battery if he had had more time.

Dr. Herendeen believed that he had insufficient time and information to adequately assess Ledford's mental functioning. He testified that Ledford's attorneys never discussed their trial strategy with him, never asked how Ledford's mental health might impact the intent required to commit murder, never discussed the existence of an intellectual disability, and never went over the questions for his direct examination.

C. Dr. Herendeen's November 10, 1992 Draft Report

On November 10, 1992, the second day of trial, Dr. Herendeen prepared a draft report of Ledford's mental health, which he gave to counsel Little and Thames. According to the report, Ledford was cooperative, capable of reading and understanding test items, and had an eighth-grade reading level, a third-grade spelling level, and a seventh-grade arithmetic level. After he dropped out of school, Ledford held several unskilled jobs where he would "work on the job long enough to get a paycheck," but would then get "drunk or messed up" and lose the job. At the time of his arrest, Ledford was living with his grandmother and "taking care of her."

D. Affidavit and Supplemental Affidavit of Dr. Marc Zimmermann

On February 20, 1998, Marc Zimmerman, a licensed clinical psychologist, evaluated Ledford for five hours and concluded that Ledford is intellectually disabled. Dr. Zimmerman administered the Weschler Adult Intelligence Scale, Third Edition ("WAIS-III"). Ledford scored 76 on the verbal scale and 65 on the performance scale, yielding a full-scale score of 69, which indicates "significantly subaverage general intellectual function, and is within the range of mental retardation." Ledford's WAIS-III score was consistent with Dr. Zimmerman's clinical impressions.

Dr. Zimmerman administered additional neuropsychological evaluations and screening tests. Dr. Zimmerman testified that (1) the Short Category Test, which is a non-verbal test of learning ability, indicated that Ledford suffered from some degree of brain damage, (2) the Screening Test for the Luria-Nebraska Neuropsychological Battery indicated that Ledford suffered from “significant neurological deficiencies,” and (3) the Benton Visual Retention Test, which measures cerebral dysfunction, indicated that Ledford suffered from a type of brain dysfunction that is seen in the intellectually disabled.

Dr. Zimmerman recounted Ledford’s school records, which indicated that he was held back in first and third grades, received failing grades in fourth grade, and failed all subjects in high school before dropping out. Ledford had a “sketchy” work history, performing low level jobs that required minimal skill. Zimmerman found that Ledford “showed a substantial inability to demonstrate daily living skills at an age appropriate level.” Zimmerman concluded that Ledford suffered from “significant deficits in the adaptive skill areas of social/interpersonal skills, self-direction, functional academic skills, work, and health and safety.”

Dr. Zimmerman identified several potential causes of Ledford’s intellectual disability. He opined that (1) Ledford’s abuse of drugs and alcohol significantly retarded his developmental functions; (2) organic brain damage caused by two head injuries resulting in unconsciousness may have contributed to the

development of Ledford's intellectual disability; (3) Ledford's intellectual disability may be congenital, as records indicated that Ledford's mother had tested at the borderline or mild range of intellectual disability; and (4) Ledford's unsupervised upbringing in a low socio-economic class may have contributed to his deficient intellectual development.

On April 20, 1998, Dr. Zimmerman evaluated Ledford for approximately five hours and performed additional neuropsychological testing. Ledford achieved a composite IQ score of 66 on the Kaufmann Adult and Adolescent Intelligence Test. Dr. Zimmerman opined that under the Luria-Nebraska Neuropsychological Test, Ledford's brain dysfunction was diffuse and could not be localized in a particular area of the brain, which Dr. Zimmerman stated was typical of mental retardation.

E. Affidavit of Dr. Susan Fiester

On July 31, 1997, Dr. Susan Fiester, a psychiatrist, examined Ledford for six hours. At the outset of her affidavit, Dr. Fiester noted the following with respect to Ledford's background: (1) Ledford suffered "significant birth trauma," having been delivered by Caesarean section and having almost died at birth; (2) Ledford suffered more than 15 episodes of head trauma throughout his life, many of which involved significant trauma and loss of consciousness; (3) many of Ledford's family members suffered from substance abuse problems and psychiatric illness;

(4) Ledford himself had substance abuse problems and suffered “severe consequences” from his drug use, including job loss; and (5) in 1992, Ledford typically ingested eight to ten milligrams of Xanax per day, but had only taken two milligrams on the day of the murder.⁸ Dr. Fiester concluded that, due to Ledford’s acute intoxication and Xanax withdrawal, it was “highly unlikely, to a reasonable degree of medical certainty, that [he] formed an intent to kill his victim.”

Dr. Fiester opined that Ledford should have received more comprehensive neuropsychological testing by Dr. Herendeen and other professionals prior to trial. Dr. Fiester opined that Ledford’s rough childhood, academic problems, birth trauma, head trauma, and genetic predisposition to psychiatric and substance abuse disorders should have been presented as mitigating factors during the penalty phase.

F. Testimony of Sam Little (Trial Counsel)

Sam Little, one of Ledford’s trial attorneys, testified that prior to 1992 he had tried over 100 cases in state and federal court, including some murder cases. Ledford was his first death penalty case. In preparation for the penalty phase, Little interviewed Ledford, Ledford’s family members, Dr. Herendeen, Dr. Perri, members of law enforcement, and other witnesses. Little hired a private investigator to identify witnesses and investigate Ledford’s background, family

⁸It is not clear from the record whether Dr. Fiester discovered this information from her review of background documents, from Ledford himself, or from some other unknown source.

members, and history of substance abuse. The private investigator interviewed Ledford, who provided names of people who were familiar with his childhood and substance abuse problems. Based on Ledford's disclosures, the private investigator interviewed approximately 15-20 non-family witnesses.

Little asked Ledford's friends and family members to write down what they knew about Ledford, including his upbringing and family relationships, so that he could obtain information that he "couldn't find out from just talking to them cold." Little received written statements from all of Ledford's adult family members, including Ledford's mother and sisters.

Little read all the statements and learned that Ledford had a very tough childhood, with the onset of substance abuse problems at a very early age, caused primarily by the introduction of drugs and alcohol by his father and other family members. No family member ever informed Little that Ledford's birth was difficult or traumatic. One of Ledford's sister's written statements provided vague information regarding head injuries Ledford had suffered. Little testified that there was nothing "critical" or "significant" about the head injuries, otherwise he "would have looked into it."

After determining that self-defense was not a viable option, counsel Little decided that Ledford's primary defense would be that he involuntarily developed alcoholism when he was eight years old and, therefore, was involuntarily

intoxicated on the day he killed Dr. Johnston. Little knew that voluntary intoxication was not a defense to murder. Thus, it was critical to demonstrate that, because of his childhood, Ledford was involuntarily intoxicated on the day of Dr. Johnston's murder. Little wanted to show the jury that Ledford was "so far out of it [that he did] not know what he was doing." Little vetted the strategy in detail with attorney Mike Mears, a capital trial expert. While Mr. Mears did not seem to like the strategy, he also appeared to believe that it was "the only thing [Little] had going."

To prove Ledford's defense, Little retained Dr. Herendeen as an expert witness. Little informed Dr. Herendeen of Ledford's involuntary intoxication defense and asked him to evaluate Ledford. While Little contemplated retaining another expert to evaluate Ledford's "mental situation," he decided not to, as "the whole thing was about the involuntary intoxication." Still, Little asked Dr. Herendeen to evaluate Ledford's general mental health. Dr. Herendeen met with Little and Ledford's family members before trial. Dr. Herendeen never indicated to Little that he needed more time or additional records to complete his evaluation of Ledford.

G. Testimony of Matthew Thames (Trial Counsel)

Matthew Thames, Little's co-counsel, testified that prior to 1992, he had practiced law for four or five years, doing about five to ten civil trials per year. He

had never handled a murder case. Thames and Little conducted independent research. Thames agreed that the only plausible defense was to demonstrate that Ledford had a bad upbringing and history of chronic substance abuse, which would be applicable to all phases of the trial. In fact, the bulk of the background and substance abuse evidence was introduced in the guilt phase in order to get “that evidence out to the jury as soon as possible.” Thames agreed with Little that Mrs. Ledford’s penalty phase testimony was sufficiently compelling, such that calling more witnesses would be unnecessarily cumulative and potentially detrimental.

Counsel Thames held the primary responsibility for retaining and preparing a mental health expert for trial. At an October 7, 1992 strategy meeting, Mr. Mears provided Little with Dr. Herendeen’s name. On October 27, 1992, Little wrote a note to Thames, informing him that Mr. Mears suggested they contact Dr. Herendeen. By that point, Thames and Little had attempted to contact at least one other mental health expert. That expert could not provide an opinion beneficial to Ledford.

On October 28, 1992, approximately two weeks before trial, Thames contacted Dr. Herendeen, told him their theory of the case, and asked him to evaluate Ledford. Thames wanted to elicit testimony that would apply to both the guilt and penalty phases. After speaking with Dr. Herendeen, Little and Thames

were “very impressed.” The state trial court authorized funds to retain Dr. Herendeen.

To prepare for trial, Thames reviewed Dr. Herendeen’s draft report with him, went over which points would be covered at trial, took notes, and generally prepared him to testify. Dr. Herendeen never told Thames that he needed more time to evaluate Ledford or prepare his testimony.

Thames testified that he and Little agreed that their general trial strategy was to not object to “every little thing,” but only to “the big things,” as they both believed that frequent objections leave a bad impression with the jury.

VIII. STATE COURT’S EVIDENTIARY RULING AND DENIAL OF HABEAS CORPUS PETITION

On October 8, 1998, the state habeas court issued a two-page order ruling that the lay witness and expert witness affidavits were all inadmissible and would not be considered.⁹ The only admissible evidence was Little’s and Thames’s testimony and the background documents.

On July 27, 1999, the state habeas court denied Ledford’s amended habeas petition. The state habeas court found that the evidence did not show that Ledford was mentally retarded. The court addressed Ledford’s ineffective-assistance-of-counsel claims, as recounted below in relevant part.

⁹The state habeas court also held that three juror affidavits were inadmissible. See infra, n.25.

A. Guilt Phase Ineffective-Assistance Claims

The state habeas court found that trial counsel's decision to object only to flagrant misconduct or error and abstain from frequent objections was strategic in nature, did not amount to ineffective assistance, and, nevertheless, was not prejudicial. The state habeas court found that the medical examiner's gratuitous testimony was cured by the trial court's sua sponte instruction that he not continue his statement and, nevertheless, was not prejudicial.

The state habeas court concluded that trial counsel's delay in retaining Dr. Herendeen did not prejudice Ledford's case because Dr. Herendeen still examined Ledford, interviewed his family members, and obtained test results that mirrored Dr. Perri's. As to Dr. Herendeen's alleged unreadiness, the state habeas court found that trial counsel was not deficient because Dr. Herendeen had unfettered access to Ledford's records, met with trial counsel, and never stated that he needed more time or additional records to prepare for trial.

The state habeas court concluded that trial counsel did not render ineffective assistance by failing to investigate more, and present evidence of, Ledford's intellectual disability. The state habeas court noted that comprehensive psychological testing and evaluation from Dr. Perri and Dr. Herendeen revealed that Ledford's IQ fell within the borderline and low average range of intelligence, which indicated that Ledford did not suffer from an intellectual disability. The

state habeas court found that the neurological tests performed at Central State Hospital did not indicate that Ledford suffered from organic brain damage. The state habeas court found that it was not unreasonable for trial counsel to decide not to further investigate the issue or retain additional expert witnesses.

With respect to trial counsel's allegedly deficient intoxication defense, the state habeas court found that, after conducting research and exploring their options, trial counsel reasonably relied upon the only defense that they believed was viable. The state habeas court assumed arguendo that trial counsel had failed to argue that Ledford's intoxication tended to negate his intent to commit murder and concluded that this hypothetical deficiency did not prejudice the outcome of the trial because (1) there was "ample evidence in the record to support the jury's implicit conclusion that Ledford was not intoxicated on the day of Dr. Johnston's murder," and (2) the trial court nevertheless instructed the jury as to the relationship between intent and intoxication.

B. Penalty Phase Ineffective-Assistance Claims

The state habeas court concluded that trial counsel Little and Thames were deficient neither in investigating Ledford's background nor in presenting mitigating evidence in the penalty phase. The state habeas court found that trial counsel spent a considerable amount of time investigating potential mitigating evidence that might prove helpful at the penalty phase. The state habeas court

found that trial counsel interviewed family members and asked them to submit written statements containing everything they knew about Ledford, including his background and family life. The state habeas court found that trial counsel hired a private investigator to gather facts about Ledford's background.

The state habeas court concluded that trial counsel properly relied on the reports of Dr. Perri and Dr. Herendeen to determine the best mental health defense in mitigation of the death penalty. The state habeas court also concluded that trial counsel's decision to call no further witnesses after Mrs. Ledford's testimony, which made nine to eleven jurors cry, was a tactical one to be afforded considerable deference.

IX. DENIAL OF CERTIFICATE OF PROBABLE CAUSE TO APPEAL AND PETITION FOR WRIT OF CERTIORARI

In 1999, Ledford filed an application for a certificate of probable cause to appeal, which the Georgia Supreme Court denied in 2001. Ledford filed a petition for writ of certiorari with the U.S. Supreme Court, which was denied in 2002.

X. AMENDED 28 U.S.C. § 2254 PETITION

On February 28, 2003, Ledford filed an amended petition for writ of habeas corpus in the U.S. District Court for the Northern District of Georgia, pursuant to 28 U.S.C. § 2254. Ledford alleged, inter alia, that the state habeas court unreasonably ruled that his affidavits were inadmissible, which deprived him of a

fair hearing. Ledford asked the district court to conduct a new evidentiary hearing on all claims. The district court ordered the parties to brief the issue.

In an October 13, 2006 order, the district court granted Ledford's request for an evidentiary hearing on these claims: (1) whether Ledford is mentally retarded; and (2) whether trial counsel was unreasonable in failing to investigate and present evidence of Ledford's mental retardation at trial.

XI. SECTION 2254 EVIDENTIARY HEARING – LEDFORD'S EVIDENCE

On April 9, 2007, the three-day evidentiary hearing began. To show his intellectual disability, Ledford presented testimony from two lay witnesses (Wilson and Cooper) and five experts (Tasse, Eber, Fiester, Herendeen, and Zimmerman). Ledford also filed ten lay witness affidavits from teachers and employers. Both parties submitted numerous exhibits. We recount Ledford's lay witnesses and then his experts.

A. Testimony of Gordon Wilson

Gordon Wilson, a neighbor and greenhouse operator who had known Ledford since birth, testified that he hired Ledford to work for him as a seasonal employee after Ledford dropped out of high school. According to Wilson, Ledford worked hard, but his only duties were to move plant material into the greenhouse and to load and unload trucks. Wilson testified that he later moved Ledford to a permanent position on the landscape crew, which required him to move large

plants and dig holes. Wilson further testified that one morning, two months prior to Dr. Johnston's murder, Ledford became uncharacteristically disruptive while loading a truck, so Wilson fired him.

B. Testimony of Eddie Cooper

Eddie Cooper, an owner of a forestry equipment company, testified that he hired an 18-year-old Ledford as an intermittent part-time employee for a year or two. According to Cooper, Ledford's work duties involved cleaning equipment, washing equipment with a pressure washer, maintaining the landscape, and handing tools to mechanics. Ledford never ordered products, used the cash register, or helped with machinery repair, as Cooper believed that Ledford was "a little slow," and those tasks "would have been a little above what . . . he was capable of doing." Cooper testified that Ledford was a good employee who completed assigned tasks, but he was not proactive and always required instructions regarding what to do next. Cooper never detected that Ledford was abusing drugs or alcohol while at work. Cooper testified that on one occasion, a few weeks before Dr. Johnston's murder, Cooper ran into Ledford at a convenience store and suspected that he was on drugs.

C. Lay Witness Affidavits

Ledford submitted ten affidavits from teachers and employers about his intellectual functioning. In elementary school, Ledford had difficulty paying

attention, missed social cues, performed poorly, and was frequently absent. Still, he put forth his best effort but simply could not comprehend the work. Ledford would have been held back in the third grade more than once, but a county rule allowed only one retention for each grade. Ledford's fifth grade teacher referred him to "resource services," which were the services for mentally retarded students.

In middle school, Ledford paid attention, stayed out of trouble, tried hard, and was not excessively absent. He struggled with almost all subjects and received failing or near-failing grades across the board. Certain teachers would lower the achievement requirements for passing to the next grade so that Ledford would not fail out of school. Certain teachers would grade Ledford on effort rather than academic achievement. Ledford had difficulty counting money, reading, and doing math.

Among other jobs, Ledford worked for a roofer for about a year, on and off, performing manual labor. While he always did what he was told, his boss would often have to give him multiple instructions, and Ledford would still make repeated mistakes.

D. Testimony of Dr. Marc Tasse

Dr. Marc Tasse, a psychologist specializing in developmental disabilities, did not examine or evaluate Ledford, but he did provide general background information regarding the academic field of mental retardation. Dr. Tasse defined

mental retardation as a “disability characterized by significant limitations in both intellectual functioning and in adaptive behavior” that develops before the age of 18 years, which mostly mirrors Georgia’s legal definition of mental retardation. According to Dr. Tasse, most standardized IQ tests are standardized with a score of 100, and any score of 70 or below indicates “significant sub-average intellectual functioning.” Dr. Tasse noted that IQ tests are not perfect and, at a score of 70, there is typically a measurement of error of approximately 5 points, with a confidence interval of 95%.¹⁰

Dr. Tasse had taught classes on how to administer properly an IQ test. According to Dr. Tasse, when administering the WAIS-III, the examiner must write down all of the test-taker’s responses. The examiner must also record his or her clinical observations of the test-taker’s performance and strategies. The examiner does not score certain portions of the test until the entire test is complete. According to Dr. Tasse, if the responses are not clearly recorded, then the examiner may make mistakes when later scoring the test.

Dr. Tasse explained his opinion that IQ tests are subject to “the Flynn effect.” Dr. Tasse testified that the “Flynn effect,” named after political scientist Dr. James Flynn, is an empirical observation that IQ scores are rising over time,

¹⁰In other words, if an individual scored a 70 on a standardized IQ test, there is a 95% chance that he or she will score within the range of 65-75 in subsequent tests.

such that an individual who scored a 100 on an IQ test 20 years ago may score a 106 today if administered the same test. Dr. Tasse explained that, according to Dr. Flynn, IQ scores have been rising at a rate of approximately three points per decade, or 0.3 points per year, from the date on which the IQ test was normed. Thus, according to Dr. Tasse, if an individual takes an IQ test many years after it was normed, the resulting score is artificially inflated.¹¹ Dr. Zimmerman, another proponent of the Flynn effect, testified that in order to correct this artificial inflation, an individual's IQ score should be reduced by 0.3 points for every year that has passed between the date a test was normed and the date the individual took that test.

Dr. Tasse testified that, other than historical changes in intelligence norms, there is no consensus as to why this rise in IQs is occurring. Nevertheless, Dr. Tasse opined that the application of the Flynn effect to all IQ tests is generally accepted in the scientific community. Dr. Tasse testified that in order to offset the Flynn effect, test-makers frequently re-normalize standardized IQ tests, which can

¹¹Ledford submitted as exhibits a 2006 article by Dr. Flynn called "Tethering the Elephant," and an affidavit from Dr. Flynn. Dr. Tasse explained that those exhibits concern Dr. Flynn's belief that the WAIS-III IQ test was misnormed at its inception and, therefore, an additional 2.34 points should be deducted from a WAIS-III test-taker's score on top of the standard 0.3 per year Flynn effect deduction. Dr. Tasse testified that the publisher of the WAIS-III refutes Dr. Flynn's assertion.

Dr. Tasse took no position regarding the dispute. Dr. Tasse explained that the 2.34 point reduction for the WAIS-III is an issue "totally separate" from the Flynn effect. In any event, while Ledford does argue on appeal that his WAIS-III tests scores should be reduced by 0.3 points per year to account for the Flynn effect, he does not argue that an additional 2.34 points should be deducted.

take several years. According to Dr. Tasse, the Flynn effect applies equally, if not more, to mentally retarded individuals.

Dr. Tasse turned to adaptive behavior—the second prong of mental retardation. Dr. Tasse identified ten categories of adaptive behavior: communication, self-care, home living, social interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, and health and safety.

According to Dr. Tasse, various tests can measure an individual's adaptive behavior, which is measured against a social mean. Some tests involve self-reporting, while others involve interviews with friends and family members. Dr. Tasse opined that self-reporting individuals may overstate their abilities and, therefore, it is best to complement a self-reported test with family interviews and other corroborating evidence. Dr. Tasse opined that long-term incarceration can make an individual's adaptive behavior scores less accurate.

Dr. Tasse testified that while mentally retarded individuals often have significant impairments in intellectual functioning and adaptive behavior, those impairments may co-exist with strengths in certain areas, such as communication, social skills, and practical skills. Dr. Tasse opined that these strengths often appear in individuals who fall within the borderline range of mental retardation.

E. Affidavit of Dr. Herbert Eber

Dr. Herbert Eber, a prison psychologist, averred that in 1992, Ledford scored an 86 on a modified Culture Fair Intelligence Test (“Culture Fair”). The Culture Fair was part of a test battery administered by non-psychologists to inmates in a large room in groups of 30 or more inmates at a time. According to Dr. Eber, the Culture Fair performed on Ledford was not designed to measure his individual IQ, but rather to “assess [his] general aptitude . . . so as to more appropriately place him in a prison program.” Dr. Eber testified that the 1992 Culture Fair did not measure reading skills, was untimed, and was not properly normed, meaning “the scores obtained . . . ha[d] absolutely no validity in determining general intellectual functioning” and were “not valid for the purpose of diagnosing or ruling out mental retardation.”

F. Testimony of Dr. Fiester

Dr. Fiester testified that, since her 1998 affidavit, she had reviewed additional medical records, test results, and affidavits, and had personally interviewed a number of Ledford’s family members and teachers. Relying on this additional information and Dr. Zimmerman’s tests, Dr. Fiester concluded that Ledford was mentally retarded. Dr. Fiester concluded that Dr. Zimmerman’s tests indicated that Ledford suffers from significantly subaverage general intellectual functioning. Dr. Fiester opined that Ledford suffers from limitations in three of the

ten domains of adaptive functioning: work, functional academics, and self-direction.¹²

According to Dr. Fiester, Ledford's work history reflected that he had difficulty keeping a job for a long period of time. And when working, Ledford only performed jobs that required "absolutely minimal skills." Dr. Fiester understood that Ledford required repeated instruction on how to carry out simple tasks and, even then, he made mistakes. These problems indicated to Dr. Fiester that Ledford suffered from an adaptive deficit in the work domain.

From school records, Dr. Fiester observed that Ledford failed the first grade, avoided a repeat failure but for a "social promotion," failed the third grade, again avoided a repeat failure due to a "social promotion," and twice failed ninth grade before dropping out. Dr. Fiester noted that Ledford struggled with math and reading and had no motivation to complete assignments. She noted that Ledford was not placed in a special education program, but said those classes were reserved for students with severe physical and mental disabilities. Still, Dr. Fiester concluded that Ledford's school performance indicated adaptive deficits in functional academics.

Dr. Fiester understood that Ledford never had a long-term job, never advanced within a job, had no long-term goals, never saved money, and simply

¹²For a diagnosis of mental retardation, the DSM-IV requires limitations in at least two of the ten domains of adaptive functioning.

lived on a day-to-day basis. All of this indicated to Dr. Fiester that Ledford had a significant adaptive deficit in self-direction.

Dr. Fiester testified that Ledford suffers from certain adaptive deficits that did not necessarily qualify as significant. For example, Dr. Fiester believed that (1) Ledford has problems communicating, especially in writing; (2) as a child, he could not perform complex leisure activities, such as playing games and dancing; and (3) as a child, he had poor social skills and would easily be taken advantage of.

G. Testimony of Dr. Herendeen

Dr. Herendeen testified that trial counsel first contacted him regarding Ledford's case on October 28, 1992—twelve days before Ledford's trial. Dr. Herendeen personally evaluated Ledford the day before the trial began. Dr. Herendeen stated that Thames and Little never asked him to determine whether Ledford was mentally retarded.

Dr. Herendeen testified that on November 10, 1992, which was the second day of trial, he provided Little and Thames with the written draft report regarding his evaluation of Ledford. According to Dr. Herendeen, after receiving the report, Little and Thames did not ask him whether Ledford was mentally retarded. Dr. Herendeen testified that Little and Thames did not prepare him for his trial testimony. Still, Dr. Herendeen admitted that, while he did not meet Little and Thames face to face, they did have a telephone conversation.

H. Testimony of Dr. Zimmerman

Dr. Zimmerman began his testimony by recounting the information contained in his 1998 affidavits, including Ledford's score of 69 on the WAIS-III, his score of 66 on the Kaufman test, and his ultimate conclusion that Ledford is mentally retarded. He testified that he administered the WAIS-III test in 1998 because it was only out for a year and was recently normed. He then administered the Kaufman test to corroborate the WAIS-III test. According to Dr. Zimmerman, there was no evidence of malingering during the 1998 evaluation.

Dr. Zimmerman addressed the higher IQ scores that Ledford obtained in tests administered by other psychologists and opined that they did not contradict his conclusion that Ledford is mentally retarded, either because of the Flynn effect or because the particular test is not a proper measure of IQ for mental retardation. Dr. Zimmerman did admit, upon examination by the court, that it is not a typical practice to incorporate the Flynn effect into someone's IQ score when drafting a clinical report. Still, he asserted that the Flynn effect is an accepted phenomenon in the psychological community.

Dr. Zimmerman indicated that he was aware that Dr. Perri administered a WAIS-R test in 1992, on which Ledford scored a 77. Dr. Zimmerman discounted that test because (1) it was administered 14 years after it was normed and (2) when Dr. Zimmerman adjusted for the Flynn effect, Ledford would have scored

approximately a 73, which was within the standard error of measurement for intellectually disabled individuals.

Similarly, Dr. Zimmerman opined that Ledford's score of 85 on Dr. Herendeen's Shipley test was not contrary to his findings, as the Shipley test had not been normed in over 50 years and, regardless, the Shipley test is a group test that is not a good measure of IQ. Dr. Zimmerman recognized that a prison psychiatrist administered a Culture Fair test on Ledford, which yielded a score of 85. According to Dr. Zimmerman, the Culture Fair is not an appropriate test to measure IQ, as it is not properly normed or individually administered.

In 2005 and 2006, Dr. Zimmerman interviewed five of Ledford's sisters and his parents, reviewed all post-1998 lay witness and expert affidavits, and administered the Vineland Adaptive Behavioral Scales ("Vineland") to one of Ledford's sisters to assess Ledford's adaptive functioning. Dr. Zimmerman determined that Ledford suffered from adaptive functioning deficits in the areas of functional academics, work, and self-direction.

Dr. Zimmerman noted that Ledford had difficulty in school and performed poorly on standardized tests. Ledford was twice held back in elementary school and went forward because students could not be held back for two consecutive years. Dr. Zimmerman understood that Ledford tried very hard, but just could not

quite catch on. These facts indicated to Dr. Zimmerman that Ledford suffers from adaptive deficits in the area of academic functioning.

Dr. Zimmerman acknowledged that Ledford performed simple jobs for short periods of time. These jobs included tying carpet threads together, feeding lumber into a machine, and working at a gas station. Dr. Zimmerman concluded that Ledford would not stay at these jobs for a long period of time because he did not have good adaptive skills. While one of Ledford's sisters indicated that he did not go into work because he was hung over all the time, Dr. Zimmerman believed that Ledford generally did not work while intoxicated. Rather, Dr. Zimmerman opined that the real reason Ledford would leave jobs was due to his adaptive functioning deficit in the area of work. Ledford did nothing to benefit or improve himself and had no goals, which indicated to Dr. Zimmerman an adaptive deficit in the area of self-direction. Dr. Zimmerman testified that Ledford's subaverage intellectual functioning and adaptive deficits had their onset prior to the age of 18.

On cross-examination, the state presented Dr. Zimmerman with the raw data from his evaluation and Dr. Zimmerman admitted that he was missing two pages from the Luria-Nebraska test, as well as the first page of the Wide Range Achievement Test. Dr. Zimmerman admitted that it was "extremely" difficult to read his own handwritten recordings of Ledford's responses to the vocabulary, similarities, information, and comprehension sections of the WAIS-III, which

would have made it “very difficult” to accurately score that test. The state confronted Dr. Zimmerman with evidence suggesting that he underscored Ledford’s adaptive functioning abilities on the Vineland test he administered to Ledford’s sister. The state provided multiple examples of Ledford’s documented abilities that directly contradicted Ledford’s sister’s responses on the Vineland. For example, Ledford’s sister reported that Ledford did not speak in full sentences, which was clearly contradicted by record evidence. Dr. Zimmerman could not account for these discrepancies. Dr. Zimmerman’s response was simply, “That’s what was reported to me.”

XII. SECTION 2254 EVIDENTIARY HEARING – STATE’S EVIDENCE

A. Testimony of Dr. Glen King

Dr. Glen King, a psychologist and attorney, testified that Ledford is not mentally retarded. In forming his opinion, Dr. King interviewed Ledford, performed psychological testing on Ledford, and reviewed medical records, school records, prison records, lay witness affidavits, and previous psychological tests, including Dr. Zimmerman’s. Dr. King looked at Ledford’s family history, which revealed that Ledford’s mother may be borderline retarded, though he testified that this fact would not have much of an effect on his evaluation of Ledford.

On January 10, 2007, Dr. King evaluated Ledford for approximately three hours. Ledford performed “very well” during Dr. King’s initial clinical evaluation,

wherein he recited vital personal information, provided an accurate background narrative, and correctly self-reported the existence of certain documents. Dr. King administered the WAIS-III to Ledford. Ledford scored an 86 verbal IQ, which, according to Dr. King, would place him in the “low average range of ability with verbal IQ scores,” and a much lower 76 performance IQ, for a total IQ of 79. Dr. King administered the Wide Range Achievement Test-4 (WRAT-4) to Ledford. Ledford scored an 85 on the verbal comprehension index, an 80 in the perceptual organizational index, and an 85 on the reading composite portion.

Dr. King testified that the discrepancy between Ledford’s verbal and performance IQs indicated the presence of a learning disability that would have hindered his academic functioning, such as poor processing speed, but did not indicate an overall intellectual disability. In fact, Dr. King “[didn’t] know of any psychologist who would diagnose someone with mental retardation who generates a [verbal IQ] score [of 86].” Dr. King opined that Ledford’s past performance on the Shipley test and Culture Fair bolstered his conclusion that Ledford was not mentally retarded.

Dr. King addressed the Flynn effect, testifying that Dr. Flynn’s methodology was flawed and should not be applied to IQ tests. Dr. King reviewed Dr. Flynn’s data and expressed doubt that IQ inflation was an observable phenomenon. Based on Dr. Flynn’s data, Dr. King believed that some IQ scores may actually decrease

over time. Dr. King testified that the Flynn effect “is not accepted in the general community” and is only seen in capital punishment litigation.

Beyond the objective metrics, Ledford displayed a level of general knowledge to Dr. King that suggested he was not mentally retarded. For example, Ledford knew that Einstein’s name is associated with the theory of relativity, knew the capital of Italy, knew what the Koran is, knew the president during the U.S. Civil War, knew the approximate population of the world, and was familiar with then current events, such as the execution of Saddam Hussein and the number of American troops who had died in Iraq. According to Dr. King, while some mentally retarded people may have known some of these facts, it was very unlikely that they would know all the ones Ledford did.

Dr. King noted that many of Ledford’s functional skills were far greater than other experts reported. For example, Ledford could add, subtract, and multiply three-digit numbers. Ledford had a long history of writing letters and poetry, which demonstrated effective reading, writing, and communication skills.

While Ledford’s IQ scores demonstrated that “he did not meet the first hurdle to be diagnosed [with] mental retardation,” Dr. King nevertheless “went ahead and did the [adaptive functioning] evaluation just to be more thorough,” though that “probably wasn’t necessary.” To that end, Dr. King administered the Adaptive Behavior Assessment System II Test, which consisted of a self-reporting

“structured interview” with Ledford, designed to assess his adaptive functioning skills. Ledford’s general adaptive composite was 83, which would be in the “high borderline range of functioning.” Ledford performed poorly in specific categories, such as functional academics and health and safety, though that may have been because Ledford had “not as much data to draw on to make some of those assessments.” Dr. King abstained from measuring Ledford’s work component, as he did not have a long work history. Dr. King concluded that Ledford may have somewhat impaired adaptive functioning skills, but none of them constituted “significant adaptive functioning deficits.”

On cross-examination, Dr. King admitted that he may have made certain minor errors in scoring the WAIS-III, but stated that those errors, if corrected, would have yielded an IQ score of 78, rather than 79.

XIII. DENIAL OF LEDFORD’S § 2254 PETITION

In a 2008 order, the district court denied Ledford’s § 2254 petition as to his intellectual disability claim. In a 2014 order, the district court denied his § 2254 petition as to his ineffective-trial-counsel claim and other claims. On March 2, 2015, the district court granted a COA as to Ledford’s intellectual disability claim and ineffective-trial-counsel claims. We review below what the district court ruled on each claim in conjunction with our analysis of that claim.

XIV. INTELLECTUAL DISABILITY CLAIM

A. District Court Finds that Ledford is Not Intellectually Disabled

On March 19, 2008, the district court issued a 30-page order finding, by a preponderance of the evidence,¹³ that Ledford is not mentally retarded. The district court reviewed de novo whether Ledford was mentally retarded, based on the evidence presented at the evidentiary hearing. The district court recounted all of Ledford's IQ test results as follows: (1) Dr. Herendeen's 1992 Shipley Scale, on which Ledford scored an 85; (2) Dr. Perri's 1992 WAIS-R, on which Ledford scored a 77; (3) the 1992 prison psychologist-administered Culture Fair, on which Ledford scored an 86; (4) Dr. Zimmerman's 1998 Kaufman, on which Ledford scored a 66; (5) Dr. Zimmerman's 1998 WAIS-III, on which Ledford scored a 69; and (6) Dr. King's 2007 WAIS-III, on which Ledford scored a 79.

The district court disregarded the Shipley Scale (85) and Culture Fair (86) based on the experts' testimony regarding the unreliability of those tests. It disregarded Dr. Zimmerman's tests of the 1998 Kaufman (66) and WAIS-III (69) on the grounds that "it [was] impossible to verify the accuracy or reliability of the scores" because (1) the written portion of the test administered was illegible,

¹³Under Georgia law, a petitioner is required to prove his mental retardation "beyond a reasonable doubt." See Ga. Code Ann. § 17-7-131(c)(3). The district court rejected Ledford's argument that Georgia's standard is unconstitutional. Nevertheless, the district court first considered whether Ledford proved his mental retardation by a preponderance of the evidence, and since he could not prove it by that preponderance standard, then he necessarily could not meet the reasonable doubt standard. Because the district court used the preponderance of the evidence standard, there is no issue raised in this appeal as to the reasonable doubt standard.

(2) portions of the tests were missing pages, and (3) several of Ledford's responses were not recorded, including mandatory "query" questions that are required for accurate IQ scoring. The district court found that Dr. Zimmerman's cross-examination testimony suggested that he mis-scored several items. But for those scoring mistakes, Ledford's IQ score would have been higher. The district court found that these scoring errors were significant considering that Ledford's 69 on the WAIS-III was just below the level generally considered to indicate mental retardation. The district court pointed out Dr. Zimmerman's acknowledgment that it was "extremely" difficult for him to read the responses that he did record.

On the other hand, the district court found Dr. King's testimony credible. The district court found that the IQ score obtained by Dr. King's test (79) was within a few points of Dr. Perri's 1992 test (77), and Dr. King explained his methodology in detail. The district court credited Dr. Perri's score because (1) he was court-appointed with no discernable bias or interest in the case and (2) neither party presented evidence to suggest that Dr. Perri's evaluation was not reliable or accurate. Accordingly, the district court credited only Ledford's scores of 77 and 79.

The district court was "not impressed" by Ledford's evidence concerning the Flynn effect. The district court found that Dr. Zimmerman (Ledford's expert) and Dr. King (the state's expert) both agreed that the Flynn effect was not used in

clinical practice to reduce IQ scores, and neither had seen the Flynn effect applied to IQ scores outside the context of capital litigation. The district court noted that, according to an article by Dr. Flynn and testimony by Dr. Tasse, the Flynn effect may not apply to the WAIS-III test, and, if it does, the suggested yearly gain is closer to 0.17 points than 0.3 points. The district court found that even if Ledford's scores were subject to the full force of the Flynn effect, a four-point deduction would yield scores of 73 and 75, which are still above the level generally considered indicative of "significantly subaverage" intellectual functioning under Georgia law.

Similarly, the district court found that Ledford's measurement-error argument—that the standard error of measurement places him within the "range" of a mentally retarded person—failed. The district court recognized that the standard error of measurement is a "generally accepted scientific concept." The district court, however, observed that the standard error of measurement means that an IQ score can overestimate or underestimate a person's true level of intellectual functioning. It found "no basis for assuming that the standard error of measurement lowered [Ledford's] score enough to meet Georgia's mental retardation standard." It explained that Ledford's IQ "could just as likely be 80 as 68" and that Ledford's "IQ score is more likely than not above 70."

In addition, the district court found that measurement error is more of a factor when only a single IQ test is given and that Ledford's score of 79 on Dr. Perri's test corroborated his score of 77 on Dr. King's test, which "reduce[d] the likely impact of the standard error of measurement," stating:

[T]here is evidence that measurement error is more of a factor when only one IQ test is given. Specifically, Flynn notes that the possibility of measurement error is "much reduced" when more than one IQ test is given and the scores corroborate each other. (*Tethering the Elephant* at 186.) In this case, petitioner received a 77 on the WAIS-R administered by Dr. Perri in 1992 and a 79 on the WAIS-III administered by Dr. King in 2007. These two scores corroborate each other, and thus reduce the likely impact of the standard error of measurement.

"[E]ven applying the Flynn effect" and "factoring in the possibility of measurement error," the district court found that Ledford did not prove, by a preponderance of the evidence, that he suffered from "significantly subaverage intellectual functioning."

The district court found that Ledford also failed to prove, by a preponderance of the evidence, that his impairments in intellectual functioning "resulted in" or are "associated with" deficits in adaptive behavior. As to academics, the district court noted that "[n]one of the experts addressed the specific meaning of 'functional academics.'" The district court reasoned that "if functional academics refers to basic literacy and numeracy skills sufficient to

function in the world, the evidence does not support a diagnosis of mental retardation” because:

(1) After administering the WRAT-4, Dr. King determined that Ledford “possessed adequate literacy skills with some specific difficulty in arithmetic, where he functions below what would ordinarily be expected”;

(2) Dr. King testified that Ledford “knew: Einstein was associated with the Theory of Relativity; the President during the Civil War; the capital of Italy; what is the Koran; and the population of the world,” and in Dr. King’s opinion, these were not the responses of a mentally retarded person;

(3) The standardized achievement test results in Ledford’s school records indicated that he “was reading and performing mathematics on a fourth grade level when he was in the fifth grade”;

(4) While Ledford’s performance on those tests was “generally below average, it was not two standard deviations below the norm”; and

(5) Ledford instead generally scored “between the 10th and the 20th percentiles, with the exception of math computation, in which he scored between the 1st and 10th percentiles, and capitalization and punctuation in which he scored between the 40th and 70th percentiles.”

On the other hand, the district court observed that if “functional academics” refers to school performance, Ledford had “presented substantial evidence that he

functioned significantly below the norm in this domain.” Several of his former teachers testified that he had difficulty doing school work, even when he tried. They uniformly testified that he was below grade level in almost every subject. His school records show that he failed first and third grades. He tried twice to complete the ninth grade, but dropped out both times because of failing grades. He had “particular difficulty with math and reading.” The district court said: “Based on the substantial evidence concerning petitioner’s problems functioning in school, the Court will assume that petitioner has demonstrated deficits in the area of functional academics.”

The district court then found that Ledford did not suffer from deficits in the areas of work and self-direction. As to his work history, the district court found that Ledford’s former employers testified that he was a good employee who followed directions and performed well at assigned tasks. Employer Wilson said Ledford worked hard and was a good employee. Employer Cooper described Ledford as full of energy and ready to work and was glad to have Ledford as an employee. The district court observed that Ledford did not have a mature work history, which negated the importance of his performing only unskilled labor. It found that Ledford’s inability to keep a job was more a function of his drug and alcohol abuse, rather than some deficit in adaptive functioning. The court also determined that Ledford’s failure to save money and set life goals was a function

of his young age in his late teens, and not of some significant deficit in the area of self-direction.

The district court found that Ledford's performance on two standardized measures of adaptive functioning did not reveal any significant deficit in adaptive behavior. Dr. King's Adaptive Behavior Assessment System test placed Ledford in the low-average range of functioning, which corresponded with his IQ scores. Dr. King opined that Ledford did not have the requisite adaptive functioning deficits to be diagnosed as mentally retarded. While Dr. Zimmerman's administration of the Vineland test on Ledford's sister indicated significant deficits, Dr. Zimmerman conceded that her Vineland responses conflicted with record evidence establishing the contrary.

B. In 2014, District Court Denies Ledford's Motion to Reconsider

On November 6, 2012, Ledford filed a motion to reconsider the district court's March 2008 intellectual disability ruling. Ledford argued that, in the intervening four years, judicial opinions and medical authorities confirmed that both the Flynn effect and the standard error of measurement must be taken into account in determining whether an IQ test establishes significantly subaverage intellectual functioning.

In a February 27, 2014 order, the district court denied Ledford's motion to reconsider. After reviewing the cases cited by Ledford, the district court remained

unconvinced that it must apply the Flynn Effect to reduce Ledford's IQ scores. The district court noted that the Flynn effect was "gaining traction with some courts," while other courts "continued to reject the practice." "Given the prevailing uncertainty in the law," the district court remained "hesitant to apply" the Flynn effect.¹⁴

Though the district court remained unconvinced that the Flynn effect must be used to reduce Ledford's credible IQ scores, it nevertheless was "willing to investigate whether application of the Flynn Effect to [Ledford's] IQ scores would have a material impact on the ultimate issue of whether [Ledford] is mentally retarded." Accordingly, the district court afforded Ledford's credible IQ scores (77 and 79) full four-point reductions, yielding scores of 73 and 75, and noted that those scores were "still above the score of 70 that is generally considered to demonstrate 'significantly subaverage' intellectual functioning under Georgia law."

The district court then considered whether the standard error of measurement would bring Ledford's Flynn-adjusted scores into the range of significantly subaverage intellectual functioning. The court acknowledged that other states had set the benchmark for significantly subaverage intellectual

¹⁴The district court acknowledged this Court's opinion in Thomas v. Allen, 607 F.3d 749 (11th Cir. 2010), where we held that a district court's application of the Flynn effect to reduce a petitioner's IQ score did not amount to clear error. The district court correctly noted, however, that Thomas did "not mandate[] [the Flynn effect's] application."

functioning at an IQ score of 75 to account for the standard error of measurement. However, the district court iterated that the standard error of measurement “merely provides a range within which [Ledford’s] IQ might be somewhat higher or lower than the score he achieved.” Thus, according to the court, “[Ledford’s] IQ is just as likely to be 78 or 80 rather than 68 or 70.” It cited expert testimony that the potential for measurement error was “much reduced” due to Ledford’s corroborating credible IQ scores of 77 and 79.

The district court also revisited the adaptive functioning prong of its intellectual disability findings and again concluded that Ledford did not suffer from an adaptive deficit in the area of work. According to the court, while Ledford “was not a highly accomplished individual before his incarceration,” he nevertheless was a “good employee” who was “full of energy and ready to work.”

Finally, the district court noted that the U.S. Supreme Court had granted certiorari in Hall v. Florida, 572 U.S. ___, 134 S. Ct. 1986 (2014),¹⁵ a case involving Florida’s strict IQ cutoff law that potentially implicated the standard error of measurement issue. In contrast to Hall, the district court stressed that it had “not appl[ied] a bright-line IQ score cut-off of 70, but rather considered all of the evidence to determine that [Ledford] did not demonstrate ‘significantly sub-average’ intellectual functioning.” The district court found that the standard error

¹⁵See infra Section XIV.H.

of measurement “is less significant a factor” in Ledford’s case because of the corroborating results on two separate IQ tests. The court found that, in any event, Ledford “failed to meet his burden of proving that he has adaptive deficits in two or more of the relevant areas.”

C. Standard of Review

“A determination as to whether a person is [intellectually disabled] is a finding of fact.” Fults v. GDCP Warden, 764 F.3d 1311, 1319 (11th Cir. 2014); see also Conner v. GDCP Warden, 784 F.3d 752, 761 (11th Cir. 2015) (“The intellectual-disability determination is fact-intensive, requiring careful consideration of the petitioner’s intellectual functioning, adaptive skills, and age of onset, with the assistance of qualified experts.”). We review for clear error a district court’s finding that an individual is not intellectually disabled. Conner, 784 F.3d at 761.

When reviewing for clear error, we must give due regard to the trial court’s opportunity to judge the witnesses’ credibility. Id. at 765. In that sense, the clearly erroneous standard is “very deferential.” Id. (quotation marks omitted). A finding is clearly erroneous when, although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed. Id. “If the district court’s account of the evidence is plausible in light of the record viewed in its entirety, the court of appeals may not

reverse it even though convinced that had it been sitting as the trier of fact, it would have weighed the evidence differently.” Anderson v. Bessemer City, 470 U.S. 564, 573-574, 105 S. Ct. 1504, 1511 (1985).

On appeal, Ledford argues that the district court erred in finding that he was not intellectually disabled.¹⁶ Before examining Ledford’s arguments, we review federal and Georgia law relevant to Ledford’s intellectual disability claim.

D. Atkins and Georgia’s Definition of Intellectual Disability

In Atkins v. Virginia, the U.S. Supreme Court held that the execution of intellectually disabled individuals violates the Eighth Amendment of the United States Constitution. 536 U.S. 304, 321, 122 S. Ct. 2242, 2252 (2002). Although the U.S. Supreme Court in Atkins recognized a national consensus in the states against executing mentally retarded persons, it said that there was a notable lack of consensus on how to determine which offenders are mentally retarded:

To the extent there is serious disagreement about the execution of mentally retarded offenders, it is in determining which offenders are in fact retarded. . . . Not all people who claim to be mentally retarded will be so impaired as to fall within the range of mentally retarded offenders about whom there is a national consensus.

¹⁶In its order granting Ledford’s request for an evidentiary hearing, the district court concluded that the state habeas court’s findings regarding Ledford’s intellectual disability claim were based on an unreasonable determination of the facts and, therefore, satisfied the conditions of 28 U.S.C. § 2254(d). The State of Georgia does not contest that part of the district court’s order. Thus, we assume the district court was correct and, accordingly, we afford no deference to the state habeas court’s finding that Ledford is not intellectually disabled. See Panetti v. Quarterman, 551 U.S. 930, 953, 127 S. Ct. 2842, 2858 (2007).

Id. at 317, 122 S. Ct. at 2250. The Supreme Court added that although the states’ “statutory definitions of mental retardation are not identical, [they] generally conform to the clinical definitions” established by the American Association on Mental Retardation, now known as the American Association on Intellectual and Developmental Disabilities (“AAIDD”) and the American Psychiatric Association (“APA”). Id. at 317 n.22, 122 S. Ct. at 2250 n.22. The Supreme Court concluded that various definitions of mental retardation all contain three basic requirements: (1) significantly subaverage general intellectual functioning; (2) limitations in adaptive functioning; and (3) onset before age 18. Id. at 308 n.3, 122 S. Ct. at 2245 n.3.

As to the first requirement, the Supreme Court noted that “an IQ between 70 and 75 or lower . . . is typically considered the cutoff IQ score for the intellectual function prong of the mental retardation definition.” Id. at 309 n.5, 122 S. Ct. at 2245 n.5. As to the second requirement, the Supreme Court explained that limitations in adaptive functioning means “limitations in two or more of the following applicable adaptive-skill areas: communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, health and safety, functional academics, leisure, and work.” Id. at 308 n.3, 122 S. Ct. at 2245 n.3.

Other than these three basic requirements, Atkins “did not provide definitive procedural or substantive guides for determining when a person” is intellectually disabled. Bobby v. Bies, 556 U.S. 825, 831, 129 S. Ct. 2145, 2150 (2009). Although the Atkins Court alluded to two clinical definitions of intellectual disability, the Atkins Court left “to the States the task of developing appropriate ways to enforce the constitutional restriction upon its execution of sentences.” Atkins, 536 U.S. at 317, 122 S. Ct. at 2250 (quotation marks omitted). In particular, “[i]t left to the states the development of standards for courts to employ in making a determination of whether an offender is mentally retarded.” Thomas v. Allen, 607 F.3d 749, 752 (11th Cir. 2010). Accordingly, federal courts must look to Georgia law to determine whether a Georgia inmate is intellectually disabled. See Holladay v. Allen, 555 F.3d 1346, 1353 (11th Cir. 2009).

Georgia’s definition of intellectual disability “essentially tracks the . . . definitions mentioned in Atkins.” Hill v. Humphrey, 662 F.3d 1335, 1341 (11th Cir. 2011) (en banc). Under Georgia law, a defendant must establish three things beyond a reasonable doubt to prove that he or she is intellectually disabled: (1) “significantly subaverage general intellectual functioning,” (2) “resulting in or associated with impairments in adaptive behavior,” (3) “which manifested during the developmental period.” Ga. Code Ann. § 17-7-131(a)(3), (c)(3). The third prong of the test means that the disability originates before the age of 18. In re

Hill, 715 F.3d 284, 286 n.2 (11th Cir. 2013). The district court here concluded that Ledford had not proven his intellectual disability by a preponderance of the evidence and, therefore, necessarily he had not proven it beyond a reasonable doubt.¹⁷

Georgia’s test for intellectual disability does not use a strict IQ-cutoff. In re Hill, 777 F.3d 1214, 1224 (11th Cir. 2015); see also Ga. Code Ann. § 17-7-131(a)(3). And while in Georgia an IQ score of approximately 70 or below generally shows significantly subaverage intellectual functioning, the Georgia Supreme Court has recognized that, “[a]t best, an IQ score is only accurate within a range of several points, and for a variety of reasons, a particular score may be less accurate.” Stripling v. State, 401 S.E.2d 500, 504 (Ga. 1991); see also Head v. Stripling, 590 S.E.2d 122, 124 n.1 (Ga. 2003).

With this background, we address Ledford’s arguments on appeal.

E. Credibility of Dr. Zimmerman

On appeal, Ledford argues that he established the existence of his significantly subaverage general intellectual functioning through four IQ tests with scores of 66, 69, 77, and 79. Ledford contends that the district court clearly erred by discrediting Dr. Zimmerman’s IQ scores of 66 and 69. Although Dr. Zimmerman admitted that his test data was difficult to read, Ledford argues that

¹⁷Given how the district court ruled, this case does not involve an issue concerning Georgia’s “beyond a reasonable doubt” standard.

Dr. Zimmerman “never testified that he may have mis-scored any questions and he was consistent in his testimony that he had full confidence in the scores.”

Giving “due regard” to the district court’s assessment of the expert witnesses, we conclude that the district court did not clearly err in crediting Dr. King’s expert testimony over Dr. Zimmerman’s. Conner, 784 F.3d at 765. On cross-examination, Dr. Zimmerman admitted that his IQ tests were missing pages and that Ledford’s responses were not clearly recorded, making the test extremely difficult to read. Dr. Zimmerman admitted that these issues would make it “very difficult” to accurately score the test. Dr. Tasse corroborated Dr. Zimmerman’s adverse admissions by testifying that an examiner may make scoring mistakes if the examinee’s responses are not clearly recorded.

On the other hand, Dr. King explained his methodology in detail and only admitted to minor scoring errors that, cumulatively, would have only decreased Ledford’s IQ by one point. Dr. King’s IQ results were substantively corroborated by Dr. Perri—a court-appointed expert witness with no discernable bias. The district court did not clearly err in concluding that Dr. Zimmerman’s IQ scores of 66 and 69 were suspect, while Dr. King and Dr. Perri’s IQ scores of 77 and 79 were credible. See id. at 766 (“[W]here . . . there are two permissible views of the evidence, the factfinder’s choice between them cannot be clearly erroneous.”)

F. Flynn Effect

Ledford next argues that even if the district court did not err in discrediting Dr. Zimmerman's scores, it clearly erred in failing to apply the Flynn effect to Ledford's credible IQ scores. Ledford contends that the Flynn effect has become a "widely accepted" phenomenon in medical literature and judicial decisions. As such, Ledford asserts that his true IQ scores were 73 and 75 if Dr. Perri and Dr. King's scores of 77 and 79 are each reduced by four points to account for the Flynn effect. He argues that his Flynn-adjusted scores of 73 and 75 would bring his IQ within the standard error of measurement for establishing significantly subaverage general intellectual functioning.

The U.S. Supreme Court has never discussed the Flynn effect, nor has any Georgia state court. Several federal circuit courts have discussed the Flynn effect, including our Court. We review what other circuits have done and then our decisions about the Flynn effect.

The Fifth Circuit does not recognize the Flynn effect's scientific validity. See Brumfield v. Cain, 808 F.3d 1041, 1060 n.27 (5th Cir. 2015) ("The State correctly points out that the Fifth Circuit has not recognized the Flynn effect."); Maldonado v. Thaler, 625 F.3d 229, 238 (5th Cir. 2010) ("As the district and state habeas courts recognized, . . . neither this court nor the [Texas Court of Criminal Appeals] has recognized the Flynn effect as scientifically valid."); Gray v. Epps,

616 F.3d 436, 447 n.9 (5th Cir. 2010) (“[T]he Flynn Effect has not been accepted in this Circuit as scientifically valid.”) (quotation marks omitted); In re Mathis, 483 F.3d 395, 398 n.1 (5th Cir. 2007) (concluding that the Flynn effect has not been accepted as scientifically valid).

The Seventh Circuit has held that lower courts have “no obligation to accept and apply the Flynn Effect in the face of conflicting expert testimony about its acceptability and reliability.” Pruitt v. Neal, 788 F.3d 248, 267 & n.2 (7th Cir. 2015) (quotation marks omitted) (noting that “[f]our highly qualified experts with extensive experience with the intellectually disabled” offered conflicting testimony about the Flynn effect). One expert in Pruitt testified that “the application of the Flynn effect was contentious in the professional community,” and “that he ha[d] never adjusted an IQ score in the clinical setting to account for the effect.” Id. at 267 n.2. The Seventh Circuit emphasized that “nothing in Atkins suggests that IQ test scores must be adjusted to account for the Flynn Effect in order to be considered reliable evidence of intellectual functioning.” Id. (quoting McManus v. Neal, 779 F.3d 634, 653 (7th Cir. 2015)).

Similarly, other circuits have looked on the Flynn effect with disfavor. See, e.g., Hooks v. Workman, 689 F.3d 1148, 1170 (10th Cir. 2012) (“Atkins does not mandate an adjustment for the Flynn Effect. Moreover, there is no scientific consensus on its validity.”); Richardson v. Branker, 668 F.3d 128, 152 (4th Cir.

2012) (noting that Atkins does not require that the Flynn effect be accounted for in determining intellectual disability).

On the other hand, two circuits have indicated that the fact-finding court must allow a party to present Flynn effect evidence for consideration by the court. In Black v. Bell, the Sixth Circuit held that, under Tennessee law, a Tennessee state court must allow a party to present Flynn effect evidence and then at least consider that evidence, and not summarily reject such evidence, in assessing a defendant's functional IQ. 664 F.3d 81, 96 (6th Cir. 2011). Similarly, in Walker v. True, the Fourth Circuit, applying Virginia law, faulted a district court for summarily refusing to consider at all the Flynn effect evidence when the intellectual disability claim was never adjudicated on the merits by a state court and was brought in the first instance in district court for de novo review. 399 F.3d 315, 319, 322-23 (4th Cir. 2005); see also Richardson, 668 F.3d at 152 n.26 (discussing the "unusual procedural posture" of the Atkins claim in Walker and how the petitioner in Walker had exhausted his state remedies before Atkins was decided). Notably, the Fourth Circuit later concluded that "neither Atkins nor Virginia law appear[ed] to require expressly that the Flynn effect . . . be accounted for in determining mental retardation status." Richardson, 668 F.3d at 152 (quoting Green v. Johnson, 315 F.3d 290, 300 n.2 (4th Cir. 2008)).

More importantly, our Court addressed the Flynn effect in Thomas v. Allen. We observed that the Flynn effect is recognized in some courts, but not in others. Thomas, 607 F.3d at 757-58. We pointed out that there is “no uniform consensus regarding the application of the Flynn effect in determining a capital offender’s intellectual functioning.” Id. at 758. The above survey of cases confirms that assessment. However, Thomas was an easier case because at the hearing, “all the experts acknowledged that the Flynn effect is a statistically-proven phenomenon, although no medical association recognizes its validity.” Id. at 757. The parties in Thomas also agreed that “the Flynn effect is an empirically proven statistical fact; however, they disagree[d] on the extent to which an individual test subject’s IQ score should be adjusted to take into consideration this phenomenon.” Id. at 753.

Accordingly, this Court held in Thomas that, based on the expert testimony in the record, the district court did not clearly err by applying the Flynn effect to lower a § 2254 petitioner’s IQ score. Id. at 757-58. We stressed: “The district court considered the Flynn effect just as it considered the other evidence in the record presented by the parties regarding [the petitioner’s] intellectual functioning.” Id. at 758. That court’s application of the Flynn effect simply amounted to an exercise of discretionary fact-finding based on the expert testimony in that particular record. See id. Based on the factual record and medical

testimony in that case, the Thomas Court could not say that the district court had clearly erred in deciding to apply the Flynn effect.

To be clear, nothing in Thomas requires a district court, when presented with conflicting expert testimony, to accept and apply the Flynn effect. All of our post-Thomas decisions mentioning the Flynn effect cite Thomas for the proposition that mental health evaluators may consider the Flynn effect, or that expert Flynn effect testimony is subject to a credibility determination by the district court. See Conner, 784 F.3d at 763 n.11 (“[T]he Flynn effect can be applied by a test evaluator in arriving at an individual’s final test score.”) (emphasis added); Burgess v. Comm’r, 723 F.3d 1308, 1321-22 (11th Cir. 2013) (holding that a § 2254 petitioner was entitled to an evidentiary hearing because an expert affidavit discussing the Flynn effect and standard error of measurement may entitle the petitioner to habeas relief “[i]f the district court were to find [the expert’s] testimony to be credible”); see also Hill, 662 F.3d at 1373 n.15 (citing Thomas and stating that “this circuit has recognized that the statistical phenomenon known as the Flynn Effect . . . can be applied by a test administrator to an individual’s raw IQ test score”) (emphasis added) (Barkett, J., dissenting).

In sum, our Circuit, like a few others, leaves it to the fact-finder court to hear and consider the Flynn effect evidence and to make its own fact-findings about the credibility and weight of the expert evidence regarding the Flynn effect. That is

exactly what the district court did here. Given the evidence in the record, the district court was not required to adjust for the Flynn effect or to accept IQ scores that had been adjusted for the Flynn effect.

G. New Evidence as to the Flynn Effect

Regardless of the legal community's treatment of the Flynn effect in the past, Ledford also argues that the medical community now has reached a general consensus endorsing the practice of reducing IQ scores pursuant to the Flynn effect. To support his argument, Ledford cites the fifth edition of the Diagnostic and Statistical Manual of Mental Disorder, published in 2013 by the APA (hereinafter "DSM-V"),¹⁸ and an article by psychologist Kevin McGrew titled Norm Obsolescence: The Flynn Effect, which appears in a 2015 compilation published by the AAIDD (hereinafter "Norm Obsolescence").¹⁹

On appeal, Ledford acknowledges, as he must, that the DSM-V and McGrew's article were published well after the district court's 2008 intellectual disability order.²⁰ Because this evidence was not before the district court, we

¹⁸American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (5th ed. 2013).

¹⁹Kevin S. McGrew, Norm Obsolescence: The Flynn Effect, in *American Association of Intellectual and Developmental Disabilities, The Death Penalty and Intellectual Disability* (Edward A. Polloway ed., 2015).

²⁰Although the district court adjudicated Ledford's motion to reconsider in 2014, after the DSM-V was published, it does not appear that the parties ever submitted any portion of the DSM-V as evidence for the district court to consider. The district court's 2014 reconsideration order pre-dated the publication of McGrew's article.

cannot consider it. See Selman v. Cobb Cty. Sch. Dist., 449 F.3d 1320, 1332 (11th Cir. 2006) (“In deciding issues on appeal we consider only evidence that was part of the record before the district court.”).

Ledford asks this Court to remand his intellectual disability claim to the district court for an additional evidentiary hearing in light of this new evidence. We should not, and do not, remand for two independently adequate reasons. First, district courts do not need to revisit rulings every time the APA publishes a revised DSM or the AAIDD publishes a new article. Hall tells us that “[t]he legal determination of intellectual disability is distinct from a medical diagnosis,” though that legal determination “is informed by the medical community’s diagnostic framework.” Hall, 572 U.S. at ___, 134 S. Ct. at 2000. While medical literature informs a court’s legal analysis, it does not control it. See id. (concluding that the views of medical experts inform, but “do not dictate,” a court’s decision).

Second, these new items do not show a general consensus in the medical community about the Flynn effect. Ledford overstates and misconstrues the DSM-V’s discussion of the Flynn effect. Far from mandating numerically specific Flynn-effect reductions to all IQ scores, the DSM-V does little more than acknowledge the possibility that the Flynn effect is a “factor” that “may” impact an individual’s IQ score. In its only reference to the Flynn effect, the DSM-V provides: “Factors that may affect [intelligence] test scores include practice effects

and the ‘Flynn effect’ (i.e., overly high scores due to out-of-date test norms).”

DSM-V at 37 (emphasis added). While the DSM-V states that the Flynn effect “may” affect intelligence scores, it does not provide any guidance as to how a clinician should actually apply the Flynn effect, let alone mandate any 0.3 point-per-year reduction for IQ scores obtained from tests with outdated norms. See id.

In similar fashion, Ledford misconstrues McGrew’s article. Based on his survey of various academic studies conducted between 2007 and 2012, McGrew asserts that “there is . . . a consensus that individually obtained IQ test scores derived from tests with outdated norms must be adjusted to account for the Flynn effect, particularly in Atkins cases.” Norm Obsolescence at 160. But McGrew qualifies this assertion by stating that “[t]he use of the Flynn effect correction in clinical settings is less of an issue.” Of course, it is less of an issue because, as Dr. King testified in this case, the Flynn effect is not used in clinical settings, and ipso facto, there is no medical consensus at all. McGrew even undercuts the imperative quality of his original assertion by later stating that “best practices require recognition of a potential Flynn effect when older editions of an intelligence test . . . are used.” Norm Obsolescence at 160 (emphasis added).

McGrew states that the Flynn effect should be considered in Atkins cases because courts are often required to focus on “specific ‘bright-line’ cutoff scores.”

Id. at 161. Georgia, however, has no bright-line cutoff score for a finding of significantly subaverage intellectual functioning. See In re Hill, 777 F.3d at 1224.

Even though McGrew endorses reducing IQ scores pursuant to the Flynn effect, he still concedes that “a minority of scholars have offered a different approach to the issue of correcting IQ test scores due to the Flynn effect.” Norm Obsolescence at 161. For example, McGrew cites one scholar who “advocates that experts should simply inform the fact finder of what the research shows and the trier-of-fact should evaluate and decide if and how to apply it when interpreting individual scores.” Id. By acknowledging the competing views of scholars, albeit what he calls a minority, McGrew’s own article directly contravenes Ledford’s assertion that the medical community has reached a consensus regarding the application of the Flynn effect. Indeed, experts in Ledford’s own case testified that the Flynn effect is not scientifically sound and not used in clinical practice.

Included in a compilation of articles published by the AAIDD, McGrew’s article is merely another expert opinion in the ongoing debate regarding the application of the Flynn effect in capital punishment cases. While future fact-finders grappling with the Flynn effect will have to decide what expert medical testimony to credit, McGrew’s article is a far cry from evincing a definitive and universal proclamation that the medical community has reached a consensus regarding this highly controversial topic. And even if McGrew’s article more fully

supported Ledford's position, we conclude that an article written by one psychologist does not dictate the views of the medical community at large and certainly does not control the courts with respect to the Flynn effect.

H. Hall and Brumfield Do Not Concern the Flynn Effect

Ledford also claims that Hall and Brumfield v. Cain, 576 U.S. ___, 135 S. Ct. 2269 (2015), require courts to apply Flynn effect adjustments to IQ scores due to the medical community's alleged general acceptance of the Flynn effect.

Ledford misreads those opinions.

In Hall, the Supreme Court held that Florida's strict IQ score cutoff of 70 was unconstitutional. Hall, 572 U.S. at ___, 134 S. Ct. at 1990. Florida's death penalty statute had defined "significantly subaverage general intellectual functioning" as "performance that is two or more standard deviations from the mean score on a standardized intelligence test." Fla. Stat. § 921.137. The Florida Supreme Court had interpreted this statute to mean that a defendant must show an IQ test score of 70 or below before he could present any additional evidence of his intellectual disability or adaptive functioning. See Hall v. State, 109 So. 3d 704, 707 (Fla. 2012); Cherry v. State, 959 So. 2d 702, 712-13 (Fla. 2007).

The U.S. Supreme Court emphasized that Florida's "strict IQ test score cutoff of 70 is the issue," and that in Florida, "[i]f, from test scores, a prisoner is deemed to have an IQ above 70, all further exploration of intellectual disability is

foreclosed.” Id. at ____, ____, 134 S. Ct at 1990, 1994. That combination is what the Hall case was about.

The Florida Supreme Court’s strict 70 IQ score cutoff did not take into account the standard measurement error of an IQ test. Because “an IQ test score represents a range rather than a fixed number,” the U.S. Supreme Court observed that “when a defendant’s IQ test score falls within the test’s acknowledged and inherent margin of error, the defendant must be able to present additional evidence of intellectual disability, including testimony regarding adaptive deficits.” Hall, 572 U.S. at ____, 134 S. Ct. at 2001 (emphasis added). Thus, in Hall, the Supreme Court concluded that because of a plus or minus 5-point standard of error, “an individual with an IQ test score ‘between 70 and 75 or lower’ . . . may show intellectual disability by presenting additional evidence regarding difficulties in adaptive functioning.” Id. at ____, 134 S. Ct. at 2000 (quoting Atkins, 536 U.S. at 309 n.5, 122 S. Ct. at 2245 n.5) (emphasis added).

Notably, Hall did not mention the Flynn effect. Rather, the Supreme Court in Hall relied upon the uncontroverted opinions of medical experts to recognize the “established medical practice” of acknowledging the existence of a standard error of measurement inherent in every IQ test. Hall, 572 U.S. at ____, 134 S. Ct. at 1995. There is no “established medical practice” of reducing IQ scores pursuant to

the Flynn effect. The Flynn effect remains disputed by medical experts, which renders the rationale of Hall wholly inapposite.

Nor is Ledford helped by Brumfield. In that case, the Louisiana state court found that the petitioner's IQ score of 75 conclusively demonstrated that he could not possess subaverage intelligence and that the petitioner's evidence was insufficient to raise a question as to his adaptive impairments; therefore, the court rejected the petitioner's request for an Atkins evidentiary hearing. Brumfield, 576 U.S. at ___, 135 S. Ct. at 2276-82. The Supreme Court noted that because of the standard error of measurement, an IQ score had a margin of error. Id. at ___, 135 S. Ct. at 2278. The Brumfield Court, quoting Atkins, observed that "an IQ between 70 and 75 or lower . . . is typically considered the cutoff IQ score for the intellectual function prong of the mental retardation definition." Id. (quoting Atkins, 536 U.S. at 309 n.5, 122 S. Ct. at 2245 n.5). "Accounting for [the] margin of error," the petitioner's reported IQ score of 75 "was squarely in the range of potential intellectual disability," and the petitioner should have been allowed to present evidence of his adaptive impairments. Id. Here, the district court allowed Ledford to present evidence of his adaptive functioning. And like Hall, the Brumfield Court made no mention of the Flynn effect.

I. Conclusions Regarding the Flynn Effect

We hold: (1) a district court is not required to apply a Flynn effect reduction to an individual's IQ score in a death penalty case; (2) a district court should consider all of the expert medical testimony, including evidence about the Flynn effect, and make its own fact findings; and (3) as in Thomas, a district court's application or rejection of the Flynn effect constitutes a fact-finding subject to review only for clear error. The district court should consider and weigh the expert testimony presented in each case. The assessment of an individual's intellectual functioning is a fact-specific inquiry that often requires the fact-finder to weigh competing expert opinions. See Connor, 784 F.3d at 766. As long as the district court's ultimate determination regarding the Flynn effect is plausible in light of the record viewed in its entirety, there will be no clear error.

Given the conflicting medical evidence in this record, we readily conclude that the district court did not clearly err by (1) discrediting Ledford's Flynn effect evidence or (2) alternatively finding that, even applying the Flynn effect, Ledford is not intellectually disabled.

J. Standard Error of Measurement

Ledford also argues that the Hall Court's discussion of the standard error of measurement "makes clear that an IQ score of 75 or below satisfies the 'significantly subaverage general intellectual functioning' prong of the intellectual

disability standard.” Ledford asserts that his Flynn-adjusted IQ scores of 73 and 75 are at or below 75 and, pursuant to Hall, necessarily satisfy the significantly subaverage general intellectual functioning prong. Ledford argues that the district court clearly erred in finding otherwise. Once again, Ledford misconstrues Hall.

As an initial matter, our conclusion that the district court committed no clear error by discrediting Ledford’s Flynn effect evidence essentially nullifies Ledford’s argument. Without adjusting for the Flynn effect, Ledford’s IQ scores are 77 and 79, which are both above the 75 threshold that Ledford advocates.

Even if the Flynn effect were credited and found to exist, Ledford’s argument about the standard error of measurement fails. The standard error of measurement accounts for a margin of error both below and above the IQ test-taker’s score. As the Fifth Circuit recently concluded, the U.S. Supreme Court’s consideration of the standard error of measurement “is not a one-way ratchet.” Mays v. Stephens, 757 F.3d 211, 218 n.17 (5th Cir. 2014). We agree with the Fifth Circuit that the standard error of measurement is merely a factor to consider when assessing an individual’s intellectual functioning—one that may benefit or hurt that individual’s Atkins claim, depending on the content and quality of expert testimony presented. Further, the standard error of measurement is a bi-directional concept that does not carry with it a presumption that an individual’s IQ falls to the bottom of his IQ range.

While Hall requires lower courts at least to consider the standard error of measurement when evaluating intellectual functioning, it does not, as Ledford contends, require lower courts to find that an IQ score of 75 or below necessarily satisfies the significantly subaverage intellectual functioning prong. In fact, the Supreme Court steers us away from such rigid assertions by emphasizing that an IQ score represents a “range, not a fixed number.” Hall, 572 U.S. at ____, 134 S. Ct. at 1999.

A district court’s actual application of the standard error of measurement—i.e. whether the concept would make a finding of significantly subaverage intellectual function more likely, less likely, or have no effect on the court’s determination—is a matter of fact-finding informed by testimony from expert witnesses. See Connor, 784 F.3d at 766; Thomas, 607 F.3d at 758. So long as the district court’s findings regarding how the standard error of measurement informs its ultimate intellectual functioning determination are plausible in light of the record evidence viewed in its entirety, there will be no clear error.

Here, the district court committed no error in its consideration of the standard error of measurement. Ledford’s IQ scores of 77 and 79 would yield a standard error of measurement IQ range of 72-82 and 74-84, respectively. The experts disagreed as to whether Ledford’s intellectual functioning may be higher or lower than his overall IQ score indicated. For example, Dr. King testified that

Ledford's sophisticated knowledge of historical and cultural facts suggested that he was not intellectually disabled. Dr. King testified that Ledford had a verbal IQ score of 86, and that he "[didn't] know of any psychologist who would diagnose someone with mental retardation who generates a [verbal IQ] score [of 86]." Dr. Flynn himself noted in a 2006 article that taking multiple IQ tests "means the possibility of measurement error is much reduced." Accordingly, Ledford's corroborating scores of 77 and 79 would tend to negate the margin of error associated with the standard error of measurement. In light of the expert testimony presented at the evidentiary hearing, we conclude that the district court did not clearly err in how it accounted for the standard error of measurement.

K. Adaptive Deficits

The district court also committed no clear error in finding that Ledford failed to prove that he suffered from significant deficits or impairments in adaptive functioning. Ledford failed to demonstrate "significant or substantial deficits in adaptive behavior" in "two . . . adaptive skill areas." *Atkins*, 536 U.S. at 308 n.3, 122 S. Ct. at 2245 n.3. While the district court assumed that Ledford suffered from adaptive deficits in the area of functional academics, it found that he did not suffer

from adaptive deficits in the area of work.²¹ Given the record evidence, this finding was not clearly erroneous.

Generally, Ledford was a hard worker and a good employee. The fact that his work history involved menial labor is unremarkable, as many young people, particularly teenagers, have such simple jobs. The district court was presented with ample evidence that Ledford's inability to keep a job was primarily due to his substance abuse problems. Both Dr. Herendeen and Dr. Fiester acknowledged that Ledford's substance abuse problems would have interfered with his ability to maintain employment. Dr. Zimmerman learned from one of Ledford's sisters that he would go to work hung over. It was not clear error, therefore, for the district court to find that Ledford's work problems resulted from his substance abuse, rather than a limitation in an "adaptive skill area." Atkins, 536 U.S. at 308 n.3, 122 S. Ct. at 2245 n.3. The court did not err, much less clearly err, in finding that Ledford failed to meet the second criteria for establishing intellectual disability under Georgia law.

L. Conclusion as to Intellectual Disability

The district court found that Ledford was not intellectually disabled because (1) even taking into account expert testimony regarding the Flynn effect and the

²¹In his post-hearing brief, Ledford asserted that he suffered from adaptive deficits in the area of self-direction, but the district court ultimately rejected this claim. On appeal, Ledford argues only that he suffers from adaptive deficits in the areas of functional academics and work. Accordingly, Ledford has abandoned any claim that he suffers from adaptive deficits in the area of self-direction. Holland v. Gee, 677 F.3d 1047, 1066 (11th Cir. 2012).

standard error of measurement, Ledford did not establish that he suffered from significantly subaverage intellectual functioning, and (2) Ledford did not suffer from significant deficits or impairment in adaptive functioning. We are not left with the “definite and firm conviction that a mistake has been committed.”

Conner, 784 F.3d at 765. Rather, the district court’s findings and conclusions are supported by the record and are not clearly erroneous. Anderson, 470 U.S. at 573-574, 105 S. Ct. at 1511.

XV. INEFFECTIVE ASSISTANCE OF COUNSEL

On August 29, 2014, the district court issued a 67-page order denying Ledford’s ineffective-assistance-of-trial-counsel claims. We discuss the applicable law and then each claim separately.

A. AEDPA Deference

A state prisoner’s § 2254 habeas petition is governed by the Antiterrorism and Effective Death Penalty Act of 1996 (“AEDPA”). “AEDPA recognizes a foundational principle of our federal system: State courts are adequate forums for the vindication of federal rights.” Burt v. Titlow, 571 U.S. ___, ___, 134 S. Ct. 10, 15 (2013). Accordingly, AEDPA “erects a formidable barrier to federal habeas relief for prisoners whose claims have been adjudicated in state court.” Id. at ___, 134 S. Ct. at 16. “The purpose of AEDPA is to ensure that federal habeas relief functions as a guard against extreme malfunctions in the state criminal justice

systems, and not as a means of error correction.” Greene v. Fisher, 565 U.S. ____, ____, 132 S. Ct. 38, 43 (2011) (quotation marks omitted). Accordingly, federal review of final state court decisions under § 2254 is “greatly circumscribed” and “highly deferential.” Hill v. Humphrey, 662 F.3d 1335, 1343 (11th Cir. 2011) (quotation marks omitted).

A § 2254 petitioner may obtain federal habeas relief only if (1) the state court’s adjudication “resulted in a decision that was contrary to, or involved an unreasonable application of, clearly established Federal law, as determined by the Supreme Court of the United States,” or (2) the state court’s adjudication “resulted in a decision that was based on an unreasonable determination of the facts in light of the evidence presented in the State court proceeding.” Id. § 2254(d)(1)-(2). The petitioner carries the burden of proof under § 2254(d), and our review is limited to the record before the state court. Cullen v. Pinholster, 563 U.S. ____, ____, 131 S. Ct. 1388, 1398 (2011).

Under AEDPA, “[a] state court’s determination that a claim lacks merit precludes federal habeas relief so long as fairminded jurists could disagree on the correctness of the state court’s decision.” Harrington v. Richter, 562 U.S. 86, 101, 131 S. Ct. 770, 786 (2011) (quotation marks omitted). “We may not characterize . . . state-court factual determinations as unreasonable merely because we would

have reached a different conclusion in the first instance.” Brumfield, 576 U.S. at ____, 135 S. Ct. at 2277 (quotation marks omitted).

B. The Strickland Standard

We evaluate claims of ineffective assistance of counsel under the two-prong test set forth in Strickland.²² Hunt v. Comm’r, Ala. Dep’t of Corr., 666 F.3d 708, 721 (11th Cir. 2012). To establish constitutionally ineffective assistance of counsel, a petitioner must show that (1) his attorney’s performance was deficient and (2) the deficient performance prejudiced the petitioner. Strickland v. Washington, 466 U.S. 668, 687, 104 S. Ct. 2052, 2064 (1984).

Our review of counsel’s performance is not measured against what “some hypothetical ‘best’ lawyer would do.” LeCroy v. United States, 739 F.3d 1297, 1313 (11th Cir. 2014). Instead, we “reconstruct the circumstances of counsel’s challenged conduct and evaluate the conduct from counsel’s perspective at the time.” Id. (quotation marks omitted).

The petitioner satisfies the performance prong “only if [he] shows that counsel’s representation fell below an objective standard of reasonableness.” Hunt, 666 F.3d at 721 (quotation marks and alterations omitted). Because there are “countless ways” to provide effective assistance in any given case, the range of what might be a reasonable approach at trial “must be broad.” Id. The

²²Strickland v. Washington, 466 U.S. 668, 104 S. Ct. 2052 (1984).

performance prong “entails a deferential review of counsel’s conduct,” as “courts must indulge a strong presumption that counsel’s conduct falls within the wide range of reasonable professional assistance.” Rose v. McNeil, 634 F.3d 1224, 1241 (11th Cir. 2011) (quotation marks omitted). To overcome this presumption of reasonableness, “a petitioner must establish that no competent counsel would have taken the action that his counsel did take.” Hunt, 666 F.3d at 721 (quotation marks omitted).

The petitioner satisfies the prejudice prong if he demonstrates that there is a reasonable probability that, but for counsel’s deficient performance, the outcome at trial would have been different. Id. “A reasonable probability is a probability sufficient to undermine confidence in the outcome.” Strickland, 466 U.S. at 694, 104 S. Ct. at 2068. “The likelihood of a different result must be substantial, not just conceivable.” Harrington, 562 U.S. at 112, 131 S. Ct. at 792.²³

XVI. INVOLUNTARY INTOXICATION DEFENSE

As to his conviction, Ledford argues that trial counsel’s primary defense—that Ledford was involuntarily intoxicated due to his early onset alcoholism—was foreclosed by Georgia law. Ledford contends that trial counsel’s presenting a

²³Because the Georgia Supreme Court summarily affirmed the lower state court’s denial of Ledford’s habeas petition, this case touches upon the issue currently before our en banc court in Wilson v. Warden, Ga. Diagnostic Prison, 774 F.3d 671 (11th Cir. 2014), reh’g en banc granted, opinion vacated (July 30, 2015), which concerns whether we look through a summary affirmance to a lower state court opinion when considering a habeas petition. However, the outcome in Wilson will not affect this decision. Regardless of whether we look through the Georgia Supreme Court’s summary affirmance, Ledford’s claims fail.

legally precluded defense was deficient performance in the guilt phase. He claims that trial counsel should have argued instead that Ledford's voluntary intoxication negated his intent to commit murder because it was the only legally cognizable defense available to Ledford. We discuss Georgia law and trial counsel's performance.

A. Georgia Intoxication Law

Under Georgia law, “[a] person shall not be found guilty of a crime when, at the time of the act, omission, or negligence constituting the crime, the person, because of involuntary intoxication, did not have sufficient mental capacity to distinguish between right and wrong in relation to such act.” Ga. Code Ann. § 16-3-4(a). “Involuntary intoxication means intoxication caused by: (1) [c]onsumption of a substance through excusable ignorance; or (2) [t]he coercion, fraud, artifice, or contrivance of another person.” Id. § 16-3-4(b).

In Georgia, chronic alcoholism does not amount to involuntary intoxication. See, e.g., Sanford v. State, 671 S.E.2d 820, 823 (Ga. 2009) (approving charge stating that alcoholism is not involuntary and is no defense to a criminal act); McEver v. State, 373 S.E.2d 624, 625 (Ga. 1988); McLaughlin v. State, 224 S.E.2d 412, 414 (Ga. 1976).

Additionally, “[v]oluntary intoxication shall not be an excuse for any criminal act or omission.” Ga. Code Ann. § 16-3-4(c). Still, “Georgia juries may

be instructed as to whether evidence of intoxication negated intent to commit murder.” Lobosco v. Thomas, 928 F.2d 1054, 1058 (11th Cir. 1991).

B. Performance Prong

The overwhelming evidence of Ledford’s guilt made defending Ledford a difficult and daunting task. See Florida v. Nixon, 543 U.S. 175, 191, 125 S. Ct. 551, 562 (2004) (“Attorneys representing capital defendants face daunting challenges in developing trial strategies, not least because the defendant’s guilt is often clear.”). Understandably, trial counsel could not rely on a theory of factual innocence or other typical defense theories. Rather, with the help of a capital trial expert, trial counsel developed a novel defense—that Ledford’s early-onset alcoholism at age eight, which developed well prior to the age of majority, amounted to “involuntary intoxication” under Georgia law.

While ordinary alcoholism does not constitute involuntary intoxication under Georgia law, trial counsel was not arguing that Ledford was an ordinary alcoholic. Instead, trial counsel argued that Ledford suffered from a peculiar type of alcoholism—one that developed due to forced exposure to alcohol and drugs at such a young age—that rendered his addiction and intoxication involuntary. While this defense is novel and a difficult one, the state argues that it by no means was necessarily doomed to fail. The state also argues that trial counsel’s involuntary intoxication defense was quite strategic because it allowed trial counsel to

introduce significant mitigating evidence early on in the guilt phase. See Nixon, 543 U.S. at 192, 125 S. Ct. at 563 (“[I]n a capital case, counsel must consider in conjunction both the guilt and penalty phases in determining how best to proceed.”). Rather than just introducing evidence of intoxication on the day of the murder, trial counsel in the guilt phase was able to introduce evidence of Ledford’s difficult and horrific childhood and his forced exposure to alcohol at age eight.

Trial counsel still argued to the jury that Ledford’s intoxication, regardless of its voluntariness, negated the mens rea required for malice murder. Ledford concedes that was a viable defense strategy. Thus, at best, Ledford argues that trial counsel’s strategy focused too much on the novel involuntary intoxication theory and too little on the negation of mens rea. The state argues that this is precisely the type strategic consideration that we do not second guess. See Hunt, 666 F.3d at 726 (“There is a strong presumption that counsel’s attention to certain issues to the exclusion of others reflects trial tactics rather than sheer neglect.”) (quotation marks and alterations omitted).

We need not decide this performance prong issue because Ledford has not carried his burden on the prejudice prong in any event.

C. Prejudice Prong

The state court’s decision finding no prejudice was not contrary to or an unreasonable application of clearly established federal law. In closing, trial

counsel did argue, albeit briefly, that Ledford's intoxicated state negated his intent to murder Dr. Johnston. And even if trial counsel exclusively relied on its novel involuntary intoxication defense, which they did not, the state trial court unambiguously instructed the jury that intent is an "essential element" of the crime, and that a defendant is not criminally responsible if "alcohol, drugs or narcotics impairs a person's mind to the extent that the person is not able to form an intent to do the act charged." Evidence of Ledford's consumption of drugs and alcohol on the day of the murder and his long history of substance abuse supported the claim that he was intoxicated at the time he killed Dr. Johnston. The court's charge to the jury regarding intent cured any prejudice resulting from trial counsel's alleged failure to present a more fulsome mens rea argument. In other words, because the jury was presented with and instructed on the very defense that Ledford contends trial counsel neglected, there is little chance, let alone a "substantial" chance, that the trial outcome would have been any different had trial counsel more fervently supported a mens rea defense. See Harrington, 562 U.S. at 112, 131 S. Ct. at 792.

On this prejudice prong, we also consider that the state presented overwhelming evidence of Ledford's factual guilt at trial, including his written confession, his assistance in recovering the murder weapon, Mrs. Johnston's account of seeing him in her husband's truck, her account of the robbery and being tied up by him, the pawn shop employees' testimony as to the guns, and the

forensic serologist's testimony. Despite consuming a large amount of drugs and alcohol, Ledford was able to inflict wounds that required a significant amount of force, hide Dr. Johnston's body (albeit crudely), force his way into the Johnston residence, cut the phone line, tie up Mrs. Johnston, drive away, and discard the murder weapon. All of this is ample evidence demonstrating that, despite his consumption of drugs and alcohol, Ledford maintained some cognitive faculties during and after Dr. Johnston's murder.

Even if Ledford's trial counsel had exclusively focused on attempting to convince the jury that Ledford did not have the requisite intent to kill Dr. Johnston because he was intoxicated, it is fair to conclude that Ledford still would have been found guilty of murder based on the state's overwhelming evidence presented at trial. Thus, Ledford failed to demonstrate a "reasonable probability" that but for trial counsel's deficient performance, the outcome at trial would have been different. Hunt, 666 F.3d at 721. Because the state court's decision finding no prejudice was not unreasonable, the district court properly denied relief on this ineffective counsel claim.²⁴

²⁴In reaching our conclusion, we do not rely on the state habeas court's alternative finding that a jury could have reasonably inferred that Ledford was not actually intoxicated at the time of the murder.

XVII. PENALTY PHASE MITIGATION

As to the penalty phase, Ledford argues that trial counsel rendered deficient performance by failing to adequately investigate and present a wealth of mitigation evidence that was readily available. Ledford contends trial counsel's failure to adequately investigate his background rendered unreasonable their decision to have only Ledford's mother testify at the penalty phase.

The district court found that the state habeas court did not explain why it excluded from evidence several lay witness affidavits that Ledford filed to support his ineffective-counsel claim as to mitigation evidence.²⁵

Therefore, the district court considered Ledford's mitigation claim de novo and reviewed all record evidence, including that excluded by the state habeas court.²⁶

A. Performance Prong

Ultimately, the district court concluded that trial counsel's penalty phase performance was not deficient as to their investigation of mitigation evidence

²⁵The district court noted that juror affidavits were properly excluded by the state habeas court. See United States v. Siegelman, 640 F.3d 1159, 1185 (11th Cir. 2011) (“[F]or nearly a century, the [U.S.] Supreme Court has recognized a near-universal and firmly established common-law rule flatly prohibiting the use of juror testimony to impeach a verdict.”).

²⁶The state does not appeal the district court's decision to review Ledford's mitigation claim de novo, and, therefore, we do not review it. Rather, we assume the district court was correct about that, and, accordingly, we afford no deference to the state habeas court's finding that trial counsel did not render constitutionally deficient performance with respect to Ledford's mitigation claim. With respect to Ledford's mitigation claim, we review de novo the district court's conclusions on legal questions and mixed questions of law and fact, and review the district court's findings of fact for clear error. Terrell v. GDCP Warden, 744 F.3d 1255, 1261 (11th Cir. 2014).

because trial counsel (1) conducted a thorough investigation into Ledford's background; (2) solicited and received statements from all of Ledford's adult family members; (3) hired a private investigator who interviewed numerous individuals and collected a great deal of information concerning Ledford's background; and (4) in doing so, learned all about Ledford's troubled upbringing. The record also shows that trial counsel interviewed Ledford, Ledford's family members, Dr. Herendeen, Dr. Perri, members of law enforcement, and other witnesses.

As to presentation of mitigation evidence, the district court found that trial counsel made a strategic decision to conclude the penalty phase following powerful testimony by Ledford's mother that left nine to eleven of the twelve jurors in tears. The district court could not say that trial counsel's strategic choices in the penalty phase amounted to ineffective performance.²⁷

With ineffective-counsel claims like Ledford's, this Court must consider whether trial counsel: (1) "reasonably investigated possible mitigating factors," and (2) "made a reasonable effort to present mitigating evidence to the sentencing court." Barwick v. Sec'y, Fla. Dep't of Corr., 794 F.3d 1239, 1244 (11th Cir. 2015) (quotation marks omitted). In doing so, we apply "a heavy measure of

²⁷The district court also briefly addressed Ledford's argument that his trial counsel was ineffective during the penalty phase for failing to object to testimony that Dr. Johnston delivered Ledford as an infant. In doing so, the district court summarily concluded that "the comments cited by [Ledford] are not improper and thus [trial] counsel cannot be faulted for failing to object to them."

deference to counsel's judgments." Puiatti v. Sec'y, Fla. Dep't of Corr., 732 F.3d 1255, 1280 (11th Cir. 2013) (quotation marks omitted).

When conducting an investigation, "no absolute duty exists to investigate particular facts or a certain line of defense." Id. at 1279. "Instead, a court's assessment of an attorney's investigation hinges on whether that investigation—or the decision to limit it—was reasonable." Id. at 1279-80. "[T]o be effective a lawyer is not required to pursue every path until it bears fruit or until all hope withers." Id. at 1280. Rather, an investigation into mitigating evidence is adequate if it "comprise[s] efforts to discover all reasonably available mitigating evidence and evidence to rebut any aggravating evidence that may be introduced by the prosecutor." Wiggins v. Smith, 539 U.S. 510, 524, 123 S. Ct. 2527, 2537 (2003) (quotation marks omitted).

An attorney's strategic choices made after thorough investigation of the law and facts "are virtually unchallengeable." Strickland, 466 U.S. at 690, 104 S. Ct. at 2066. "Which witnesses, if any, to call, and when to call them, is the epitome of a strategic decision, and it is one that we will seldom, if ever, second guess." Waters v. Thomas, 46 F.3d 1506, 1512 (11th Cir. 1995) (en banc). When mitigation evidence presented at the guilt stage would be unnecessarily cumulative if presented again at the penalty phase, then the failure to present that cumulative

evidence at the penalty phase does not amount to deficient performance. See McNabb v. Comm’r Ala. Dep’t of Corr., 727 F.3d 1334, 1343 (11th Cir. 2013).

This Court recognizes the “common practice [of] petitioners attacking their death sentences to submit affidavits from witnesses who say they could have supplied additional mitigating circumstance evidence, had they been called, or, if they were called, had they been asked the right questions.” Waters, 46 F.3d at 1513-14. However, “the existence of such affidavits, artfully drafted though they may be, usually proves little of significance,” or, put differently, the fact that “other witnesses could have been called or other testimony elicited usually proves at most the wholly unremarkable fact that with the luxury of time and the opportunity to focus resources on specific parts of a made record, post-conviction counsel will inevitably identify shortcomings in the performance of prior counsel.” Id. at 1514.

Here, the district court did not err in concluding that trial counsel’s investigation and presentation of mitigating evidence did not amount to deficient performance. Ledford’s trial counsel conducted a thorough investigation into Ledford’s background. They interviewed Ledford, his family members, his friends, and mental health experts. Trial counsel asked Ledford’s family members and friends to write down what they knew about him, including his upbringing and family relationships, and almost all of them provided the requested written

statements. Trial counsel hired a private investigator to identify witnesses and investigate Ledford's background, family members, and history of substance abuse. The private investigator did that and also interviewed approximately 15 to 20 non-family witnesses. From all of this, trial counsel learned that Ledford experienced a very rough upbringing and developed substance abuse problems at an early age.

Based on this record, we cannot say that trial counsel's investigation fell below an objective standard of reasonableness. In fact, this Court has previously held investigations similar to that of Ledford's trial counsel to be reasonable. See, e.g., Puiatti, 732 F.3d at 1280 (attorneys met with petitioner, interviewed family members, hired a private investigator, and retained mental health experts); Housel v. Head, 238 F.3d 1289, 1295 (11th Cir. 2001) (attorney asked petitioner to recount his upbringing and contacted witnesses mentioned by petitioner).

Ledford's lay witness affidavits do not show that trial counsel's investigation was unreasonable. The lay witness affidavits primarily discussed Ledford's difficult childhood, absent mother, alcoholic and abusive father, and early exposure to drugs and alcohol—all of which were mitigating factors that trial counsel discovered in the course of their own investigation. While Ledford argues that these lay witnesses provided a “wealth” of mitigating evidence, “[t]he mere fact that other witnesses might have been available . . . is not a sufficient ground to

prove ineffectiveness of counsel.” Waters, 46 F.3d at 1514 (quotation marks omitted).

Not only did trial counsel’s investigation comprise an effort to discover all reasonably available mitigating evidence, but trial counsel actually discovered the same general information that Ledford deems critical. Wiggins, 539 U.S. 524, 123 S. Ct. 2527, 2537. The fact that trial counsel may not have uncovered every shred of potential mitigating evidence does not render their performance constitutionally deficient. See Puiatti, 732 F.3d at 1279-80.

Trial counsel’s presentation of the available mitigation evidence also did not fall below an objective standard of reasonableness. Ledford’s penalty phase defense was not, as he contends, limited to the testimony of his mother. While only his mother testified at the penalty phase, many of the guilt phase witnesses, such as Dr. Herendeen and Ledford’s sister, offered compelling mitigation testimony regarding Ledford’s difficult background. Trial counsel stated in front of the jury that the evidence submitted in the guilt-innocence phase could also be used in the sentencing phase. Trial counsel’s penalty phase closing recounted the mitigating evidence presented at the guilt phase.

It is misleading to assert that trial counsel only called one mitigation witness on Ledford’s behalf because several witnesses offered mitigation testimony throughout both stages of the trial. Trial counsel’s strategic decision to present the

bulk of its mitigation evidence during the guilt phase rather than the penalty phase does not constitute deficient performance. See McNabb, 727 F.3d at 1343. And because trial counsel adequately investigated potential mitigating factors, their penalty phase strategy is “virtually unchallengeable.” Strickland, 466 U.S. at 690, 104 S. Ct. at 2066.

We also afford substantial deference to trial counsel’s strategic decision to present Ledford’s mother as the only penalty phase witness. Puiatti, 732 F.3d at 1280. According to trial counsel, Mrs. Ledford’s testimony made nine to eleven jurors cry, along with the rest of the courtroom. Counsel found Mrs. Ledford’s testimony so emotionally compelling they decided that no other mitigation witnesses should be called. The decision to call no further witnesses “is the epitome of a strategic decision . . . that we will seldom, if ever, second guess.” Waters, 46 F.3d at 1512. We will not do so here.

B. Prejudice Prong

Alternatively, Ledford failed to show that “there is a reasonable probability that, absent the errors, the [jury] would have concluded that the balance of aggravating and mitigating circumstances did not warrant death.” Puiatti, 732 F.3d at 1286 (quotation marks omitted). In assessing prejudice, this Court considers “the totality of the available mitigation evidence—both that adduced at trial, and

the evidence adduced in the habeas proceeding—and reweigh it against the evidence in aggravation.” Id. (quotation marks omitted).

“[A] petitioner cannot satisfy the prejudice prong of the Strickland test with evidence that is merely cumulative of evidence already presented at trial.” Rose, 634 F.3d at 1243. Generally, “evidence presented in postconviction proceedings is ‘cumulative’ or ‘largely cumulative’ to or ‘duplicative’ of that presented at trial when it tells a more detailed version of the same story told at trial or provides more or better examples or amplifies the themes presented to the jury.” Tanzi v. Sec’y, Fla. Dep’t of Corr., 772 F.3d 644, 660 (11th Cir. 2014). Prejudice is also not established when the evidence offered in mitigation is not clearly mitigating or would open the door to powerful rebuttal evidence. Evans v. Sec’y, Dep’t of Corr., 703 F.3d 1316, 1327 (11th Cir. 2013) (en banc).

Alternatively, even assuming that trial counsel’s investigation and presentation were deficient, which they were not, Ledford nevertheless has failed to demonstrate the requisite prejudice. At trial, the jury heard testimony regarding Ledford’s unsupervised upbringing, early onset drug and alcohol addiction, absent mother, and alcoholic, abusive, and drug-dealing father. It also heard testimony that Ledford loved those around him and would frequently help others.

Ledford’s post-conviction lay witness affidavits do little more than provide “a more detailed version of the same story told at trial.” Tanzi, 772 F.3d at 660.

That is, the affidavits either repeat the substance of the trial testimony or provide anecdotes to “amplify the theme” that Ledford was a good kid who suffered a rough upbringing riddled with alcoholism and substance abuse. Id. Because those affidavits tell the same story that was told to the jury, albeit in more detail, they are cumulative of the evidence presented at trial. Id. And because Ledford’s post-conviction evidence is “merely cumulative of evidence already presented at trial,” he “cannot satisfy the prejudice prong of the Strickland test.” Rose, 634 F.3d at 1243.

Even if trial counsel had called more witnesses to testify after Ledford’s mother, those witnesses would have offered mitigating testimony largely duplicative of the background information provided in the guilt phase (e.g. information regarding Ledford’s loving nature, rough upbringing, and history of substance abuse). But no prejudice can result from the exclusion of cumulative evidence, which means that trial counsel’s failure to present cumulative evidence was not prejudicial. See McNabb, 727 F.3d at 1343; Rose, 634 F.3d at 1243. Because there is not a “reasonable probability” that, but for the exclusion of cumulative evidence, the jury “would have concluded that the balance of aggravating and mitigating circumstances did not warrant death,” trial counsel’s allegedly deficient presentation of mitigation evidence did not prejudice Ledford. Puiatti, 732 F.3d at 1286 (quotation marks omitted).

And there is a real danger that additional mitigation evidence, particularly if presented by testifying family members, would have been a “double-edged sword,” which argues against a showing of prejudice. See, e.g., Evans, 703 F.3d at 1327-29 (collecting cases); Ponticelli v. Sec’y, Fla. Dep’t of Corr., 690 F.3d 1271, 1296 (11th Cir. 2012) (same); Cummings v. Sec’y for the Dep’t of Corr., 588 F.3d 1331, 1367 (11th Cir. 2009) (same). For example, had Ledford’s sisters testified in mitigation, the state could have demonstrated on cross-examination that Ledford’s sisters grew up in the same dysfunctional and difficult environment and yet turned out not to be murderers, but rather reasonably well-adjusted individuals with careers, marriages, and children. Such testimony could have tempered the jury’s sympathy for Ledford and, thus, likely would have been more harmful than helpful. See Grayson v. Thompson, 257 F.3d 1194, 1227 (11th Cir. 2001) (concluding that the mitigating effect of petitioner’s “horrible childhood” may be undermined by evidence that petitioner’s 11 siblings never committed any violent crimes). This kind of consideration is precisely why we do not typically second guess the strategic decisions of trial counsel.

For all these reasons, we conclude that trial counsel’s investigation and presentation of penalty phase mitigation evidence was not deficient and, in any event, Ledford has not shown the requisite prejudice. The district court properly denied relief on these claims.

XVIII. OTHER INEFFECTIVE-COUNSEL CLAIMS

We also conclude that the state court did not unreasonably apply clearly established federal law, or unreasonably determine the facts, in rejecting Ledford's remaining ineffective-assistance-of-counsel claims. As to Ledford's failure-to-object claims, trial counsel's decision to refrain from making certain objections in both the guilt and penalty phases constitutes a strategic decision that does not amount to deficient performance. See Bates v. Sec'y, Fla. Dep't of Corr., 768 F.3d 1278, 1295 (11th Cir. 2014) (holding that "[d]ecisions about whether to object . . . are tactical choices consigned by Strickland to a lawyer's reasoned professional judgment," and that "[g]ood lawyers . . . serve their clients best when they are judicious in making objections"). Due to the overwhelming evidence of Ledford's guilt and the violent nature of Dr. Johnston's murder, there is not a reasonable probability that, but for trial counsel's failure to object, Ledford would not have been convicted of murder and sentenced to death. See id. at 1300 n.9.

As to Dr. Herendeen, the state court reasonably concluded that trial counsel was not ineffective by failing to present adequate mental health evidence. After a diligent but unfruitful attempt to locate a favorable expert witness, trial counsel was referred to Dr. Herendeen by an experienced capital defense attorney. See Hinton v. Alabama, 571 U.S. ___, ___, 134 S. Ct. 1081, 1089 (2014) (noting that the selection of an expert witness is a paradigmatic example of the type of strategic

choice that is “virtually unchallengeable”). The state court found that Dr. Herendeen never informed trial counsel that he was unprepared or needed more time or records. Under these circumstances, it is reasonable to conclude that trial counsel’s performance was not constitutionally deficient with respect to the retention and preparation of Ledford’s mental health expert.

Despite his delayed retention, Dr. Herendeen adequately examined Ledford, and trial counsel had an opportunity to speak with Dr. Herendeen about his testimony. He offered testimony beneficial to Ledford’s defense, telling the jury that Ledford had a significant substance abuse problem that would “definitely” have an effect on his actions at the time of the murder.²⁸ Dr. Herendeen testified that, because of his childhood history, Ledford’s alcohol addiction could not be considered “voluntary,” which supported trial counsel’s primary defense.

The vast majority of Dr. Herendeen’s expert opinion was beneficial to Ledford. It is true that his antisocial personality diagnosis was more aggravating than mitigating. Reed v. Sec’y, Fla. Dep’t of Corr., 593 F.3d 1217, 1248 (11th Cir. 2010) (stating that the petitioner’s antisocial personality disorder diagnosis and narcissistic personality disorder diagnosis “was more harmful to [him] than mitigating”). Defense counsel thus was faced with a difficult choice in presenting

²⁸Ledford makes no contention that his intoxication and history of substance abuse was an aggravating factor. In fact, he argues that trial counsel should have focused more on how his intoxication negated mens rea.

mental health evidence because some of it was mitigating and some aggravating. That is often the case with mental health evidence. Trial counsel's decision to call Dr. Herendeen, despite his antisocial personality disorder diagnosis, was the "epitome of a strategic decision" we decline to second guess. Waters, 46 F.3d at 1512.

XIX. CONCLUSION

For all of these reasons, we affirm the district court's denial of Ledford's § 2254 petition.

AFFIRMED.