Summer 2022

Judicial Responses to Age and Other Mitigating Evidence: An Exploratory Case Study of Juvenile Life Sentences in Pre-Miller Cases

José B. Ashford

Katherine Puzauskas

Robert Dormady

Follow this and additional works at: https://scholarlycommons.law.northwestern.edu/jclc

Part of the Criminology Commons

Recommended Citation

This Article is brought to you for free and open access by Northwestern Pritzker School of Law Scholarly Commons. It has been accepted for inclusion in Journal of Criminal Law and Criminology by an authorized editor of Northwestern Pritzker School of Law Scholarly Commons.
JUDICIAL RESPONSES TO AGE AND OTHER MITIGATION EVIDENCE: AN EXPLORATORY CASE STUDY OF JUVENILE LIFE SENTENCES IN PRE-MILLER CASES

JOSÉ B. ASHFORD*, KATHERINE PUZAUSKAS** & ROBERT DORMADY***

This study describes how judges in Maricopa County, Arizona responded to age and other mitigation evidence in imposing “life” versus “natural life” sentences for juvenile offenders convicted of homicide in pre-Miller cases. Maricopa County was selected for this case study because of its history of adhering to “restrictive interpretations” of various kinds of mitigation evidence and because of the characteristics of this county’s local court community. The study employed a mixed-methods design consisting of a content analysis of relevant case documents and a quantitative analysis of the findings from the qualitative analyses of legal case documents. It

* José B. Ashford is a Professor of Social Work and Law and Behavioral Science at the Arizona State University. He is the Director of the Office of Offender Diversion and Sentencing Solutions and the joint graduate certificate in Criminology, Criminal Justice and Social Work on criminal sentencing and sentencing advocacy. His research lab is located at the Arizona Justice Project in the Sandra Day O’Connor College of Law.

** Katherine Puzauskas is the Supervising Legal Clinic Attorney for the Post-Conviction Clinic at the Sandra Day O’Connor College of Law.

*** Robert J. Dormady is Director of Graduate Admissions and Clinical Attorney for the Post-Conviction Clinic at the Sandra Day O’Connor College of Law.

The authors would like to thank Regent’s Professor Michael Saks of the Sandra Day O’Connor College of Law, Tess Neal Associate Professor of Psychology in ASU’s New College, Lindsay Herf, Director of the Arizona Justice Project, and Shawnee Ziegler, Operations Manager of the Arizona Justice Project, for providing comments on earlier drafts of this Article. The authors would also like to thank Husain Lateef and students from the Arizona Justice Project for assisting in the completion of this study.
examined 82% of the juveniles given natural life sentences and 72% of the juveniles given a sentence of life (25-to-life) in Maricopa County. The findings of this study indicated that judges referenced age as a statutory mitigating factor in 17% of both “life” and “natural life” cases, and age as a reason for the sentences imposed in 46% of both “life” and “natural life” cases. However, the age-relevant and other mitigating reasons referenced by judges lacked statistically significant associations with the sentences that the judges imposed. The only judicial reason with a statistically significant association with the imposed sentences was “emotional impact of the crime on the victim’s family.” The implications of this and other findings for “full responsibility” and “mitigation” approaches for blaming juvenile lifers were discussed, as well as the need for future research on post-Miller sentencing and resentencing processes.

INTRODUCTION ................................................................. 594
I. COMPETING INTERPRETATIONS OF
   BLAMEWORTHINESS ............................................. 599
II. CONSIDERING MITIGATION IN EVALUATING
   BLAMEWORTHINESS ........................................... 602
III. METHODS ................................................................. 606
    A. Research Procedures ....................................... 606
    B. Context .............................................................. 608
    C. Participants ..................................................... 611
    D. Measures ........................................................... 613
    E. Data Analysis Design ......................................... 615
IV. FINDINGS .................................................................. 616
CONCLUSION ................................................................ 624

INTRODUCTION

Prior to the Supreme Court’s decision in Roper v. Simmons,¹ juvenile offenders above 16 years of age were subject to discretionary capital punishment. In Roper, the Court reversed its previous position in Stanford v. Kentucky² and held the death penalty unconstitutional as applied to juveniles.³ Nonetheless, the Stanford decision did contain arguments in the concurring and the dissenting opinions about the need for proportionality

¹ 543 U.S. 551 (2005).
³ Roper, 543 U.S. at 574–75.
analyses addressing developmental differences between juveniles and adults in deciding on a juvenile death or life sentence. Some of the reasoning in those opinions in Stanford was adopted in Roper, which has served as the progenitor of a subsequent line of decisions in juvenile jurisprudence that recognize important differences between juvenile and adult offenders in sentencing processes.

The U.S. Supreme Court extended its reasoning in Roper to justify the invalidation of mandatory juvenile life without parole (JLWOP) sentences in its landmark decision in Miller v. Alabama. This decision introduced new substantive and procedural requirements for the imposition of JLWOP sentences. The Court held that it is unconstitutional not to consider age and its attendant characteristics as a special status in determining the proportionality of a natural life sentence for juveniles convicted of a homicide offense.

Juvenile offenders sentenced in Arizona prior to Miller sought post-conviction relief for the retroactive application of the new constitutional standards and procedures prescribed in Miller. However, the Arizona courts largely rejected these initial petitions because of the belief that the sentencing framework in Arizona for natural life sentences already complied with the Miller decision. Retroactivity of Miller was also challenged in jurisdictions

---

4 Stanford, 492 U.S. at 382 (O’Connor, J., concurring); see also Stanford, 492 U.S. at 393–94 (Brennan, J., dissenting).
5 Roper, 543 U.S. at 562, 570.
7 See Miller, 567 U.S. at 465.
8 Id. at 475–76.
9 Id. at 476–77.
11 See, e.g., id. (holding that Arizona’s JLWOP sentencing structure is not of the mandatory kind prohibited by Miller because it provides courts an option to sentence a juvenile offender to “25-to-life” or “natural life.”). Although Najar contended that neither sentencing option was constitutional after Arizona abolished parole for all offenses, the court found that the Arizona State Legislature remedied this constitutional defect in 2014 when it enacted Ariz. Rev. Stat. Ann. § 13-716 (Westlaw through the First Session of the 55th Leg.) with a provision that allowed parole eligibility for juveniles sentenced to “25-to-life.” Najar, 2015 WL 3540196, at *1–2; see also Michael Kiefer & Jackee Coe, Arizona Inmates Sentenced to Life with Chance of Parole—After Parole was Abolished, AZCENTRAL (Mar. 19, 2017, 6:02 AM), https://www.azcentral.com/story/news/local/arizona-investigations/2017/03/19/arizona-inmates-sentenced-to-life-with-chance-of-parole-after-parole-abolished/99305162/ [https://perma.cc/8EKN-W6RT] (discussing how Arizona judges continued to sentence
The approach of these courts was found unconstitutional in *Montgomery v. Louisiana*. The court reaffirmed the need for legal limits on judicial discretion in evaluating mitigation evidence because juveniles as a class require special consideration of their developmental status when imposing life sentences.

Before *Miller* and *Montgomery*, there were no legal standards regulating consideration of mitigation evidence in selecting juvenile life sentences. In addition, there were no empirical studies that examined how age and other mitigating factors were considered in assessing the blameworthiness of juveniles facing LWOP sentences. One social science perspective used to guide investigations of sentencing disparities based on sex, race, ethnicity, and age is the focal concerns perspective first utilized by Steffensmeier and his colleagues. Ulmer and Johnson, for example, write that “[a]ccording to focal concerns theory, judges and other court community actors therefore make situational imputations about defendants’ character and expected future behavior, and assess the implications of these imputed characteristics in terms of three focal concerns: defendant blameworthiness, defendant dangerousness and community protection, and practical constraints and consequences connected to the punishment decision.”

The focal concerns theory allows for investigations of variations in the factors considered and employed by judges when they evaluate questions of blameworthiness. Notwithstanding the presence and use of this perspective in sentencing research, there was limited research on how age and other mitigating evidence were evaluated in local court communities with a history of legal customs that employed what Atiq and Miller called “restrictive consideration” of mitigation evidence.


12 E.g., Louisiana v. Tate, 130 So. 3d 829, 831 (La. 2013); *In re Morgan*, 717 F.3d 1186 (11th Cir. 2013) (mem.) (denying the suggestion of rehearing en banc whether *Miller* is retroactively applicable in cases on collateral review).


14 *Id.* at 208–11.


The inhabited institutions perspective, with roots in organizational sociology, assumes that focal concerns in sentencing are “empirically indeterminate.” The concerns are indeterminate because the perspective recognizes that the formal rules can be transformed by local community rules and norms among organizational workgroups and institutional participants. Arizona is a state court system with a history of adopting restrictive consideration of mitigation evidence. Trial and appellate courts in Arizona often would exclude mitigation evidence for consideration not on the basis of its relationship to moral principles of punishment and culpability, but because the evidence lacked a causal nexus with the crime.

The Ninth Circuit Court of Appeals found the use of the causal connection practice in capital sentencing in Arizona unconstitutional in McKinney v. Ryan. This decision addressed existing disputes in case law about consideration of non-statutory evidence of mitigation when imposing the death penalty. However, divisions remained among judges on the Ninth Circuit, as well as among the justices of the Arizona Supreme Court, about what “consideration” means when sentencing an offender convicted of first-degree murder. Judge Carlos Bea of the Ninth Circuit Court of Appeals, for instance, challenged in his dissenting opinion the assumption in the majority opinion in McKinney that the trial judge had not considered the mitigating evidence given the fact that the judge when sentencing the offender used the word “considering” in examining the case’s mitigation evidence. He opined that “giving little or no weight to such evidence [after consideration] . . . is perfectly permissible under Eddings.”

The concurring opinion in the post-Miller Arizona case of State v. Valencia reflected different concerns about the manner in which Montgomery addressed the degree of blameworthiness for juvenile offenders. Justices Bolick and Pelander argued that,

---

19 See Atiq & Miller, supra note 17, at 170.
20 Id. at 173–75.
21 813 F.3d 798, 802–04 (9th Cir. 2015) (en banc).
22 Atiq & Miller, supra note 17, at 169.
23 McKinney, 813 F.3d at 843–44 (Bea, J., dissenting); see also Eddings v. Oklahoma, 455 U.S. 104, 114–15 (1982) (finding that a trial judge may determine the weight to give mitigation evidence in the individualization of a death sentence, but not exclude mitigation evidence from consideration in selecting an appropriate punishment).
By announcing in advance that most murders committed by juveniles “reflect the transient immaturity of youth,” the Court trivializes the killers’ actions and culpability. “Transient immaturity” is when my adolescent daughter slugs her big brother. It may even describe peer pressures that influence reckless behavior. But it is not apt rationalization for cold-blooded murder.

A similar viewpoint was reflected in a report utilized by the Maricopa County Attorney’s Office to contest the science in future cases associated with assumptions about the diminished moral culpability of juveniles reflected in Miller and Montgomery. Indeed, Maricopa County represents a court culture with a long history of placing restrictive conditions on its consideration of personally mitigating factors. Moreover, the prosecutors in Maricopa County have shown institutional rejection of the scientific evidence relied on by the Supreme Court in Roper v. Simmons, Graham v. Florida, Miller v. Alabama, and Montgomery v. Louisiana.

Inasmuch as the Supreme Court introduced in Miller the importance of considering age and its attendant characteristics when sentencing juveniles to life without parole, some judges in Arizona have denied post-conviction relief to offenders on the basis that age was considered when sentencing juveniles to LWOP sentences prior to Miller. Yet, these post-conviction decisions came without any supporting empirical evidence of such consideration of age and attendant circumstances by the sentencing courts. For this reason, this study examined the percentage of pre-Miller cases in Maricopa County in which judges referred to age and other mitigation when giving their reasons for sentencing juveniles to “life” (25-to-life) or “natural life.” The study also examines the odds ratios of life or natural life sentences when variables measuring the characteristics of the crime and judicial findings of aggravating and mitigating circumstances were present. Additionally, the study computes the odds ratios of specific life sentences for each of the proffered reasons for these sentences and whether age-related reasons correlated with other variables that show a statistical association with life sentences in this county.

25 Id. at 398 (Bolick, J., concurring).
27 See Atiq & Miller, supra note 17, at 170.
28 See Melzer, Salsberg & Seward, supra note 26, at 13, 18, 140–41.
I. COMPETING INTERPRETATIONS OF BLAMEWORTHINESS

Mitigating and aggravating circumstances did not become relevant considerations in criminal sentencing until the emergence of the neoclassical philosophy of crime and punishment. The neoclassical schools of criminology and punishment challenged legal codes that assume all persons who violate a given abstract criminal classification are equally culpable. The neo-classicists contended that “[c]hildren, persons under duress, and individuals who were suffering from mental illness were seen as having characteristics that differentially affected their moral culpability.” This reform in criminal jurisprudence challenged classical principles of punishment that originated in the writings of Cesare Beccaria and Jeremy Bentham. Beccaria and Bentham stressed selecting punishments that were proportional to the seriousness of the offense. Their philosophies of punishment have left an important legacy that continues to influence sentencing frameworks that give primacy to the nature of the offense in selecting an appropriate punishment. Beccaria considered discretionary applications of punishment suspect because they contributed to differential treatment of persons from different backgrounds and social classes, as well as excessive punishments that were inconsistently applied to individuals with convictions for the same offenses. Consequently, the classicists

---

31 Id.
32 Id.
33 Cesare Beccaria, On Crimes and Punishments 8, 62–66 (Henry Paolucci trans., 1963) (1764) (arguing that choice and free will require courts to ignore the offender’s previous history and any forms of provocation or character to eliminate biases associated with social status and other individual considerations); Montague Crackanthorpe, Crime and Punishment from the Comparative Point of View, 3 J. Soc’y. Compar. Legis. 17, 18–19 (1901) (identifying similarities between Beccaria’s view that punishments should be proportional to the seriousness of the crime and the position of Jeremy Bentham); Jeremy Bentham, An Introduction to Principles of Morals and Legislation 178–87 (1780). These two critics of pre-classical legal codes assumed that justice required adherence to principles of consistency and proportionality in selecting appropriate punishments. But the treatment of offenders as an abstraction by the classicists is what was contested by the neo-classical theorists of punishment. See Raymond Saleilles, The Individualization of Punishment 5–13 (Rachel Szold Jastrow trans., 1911). See generally Gabriel Tarde, Penal Philosophy (Edward Lindsey trans., 1912).
34 See Ashford & Kupferberg, supra note 30, at 19.
35 Id. at 19–20.
recommended treating all individuals as equally culpable for committing specifically defined crimes and their corresponding punishments. A consequence of this opinion was that no distinctions in culpability were applied to persons convicted of homicide offenses based on personally mitigating factors.

The assumptions about moral responsibility adopted by the classicists “were eventually nullified by juries because they were at variance with common-sense principles of fairness and the emerging social science assumptions about human behavior. Jurors in capital cases who were asked to implement classical principles of punishment observed that some crimes of murder involved less culpability than others.” Jurors were especially reticent to select a sentence of death in cases involving children and women because of perceived differences in their moral culpability.

The prior issues with classical approaches resulted in penal codes in Europe and in the United States that adopted neoclassical principles of punishment. These newer penal codes did not focus on just fitting the punishment to the crime, but also on considering the circumstances of the offense, and the personal characteristics of the offender. These developments in penal jurisprudence introduced important binary categories in criminal sentencing, “which have dominated the scholarly and reform epistemologies of the sentencing decision process” (for example, offense versus offender, rules versus discretion, and consistency versus individualization).

The pendulum in sentencing policies has swung back and forth about how to treat the binary categories of offense and offender even though “‘the fullest information possible concerning the defendant’s life and characteristics’ came to define the American approach to sentencing: namely that ‘the punishment should fit the offender and not merely the crime.’”

---

36 Crackanthorpe, supra note 33, at 17–19.
37 Ashford & Kupferberg, supra note 30, at 19–20.
38 Id. at 19.
39 Id.
40 Id.; Crackanthorpe, supra note 33, at 19–20.
41 Ashford & Kupferberg, supra note 30, at 20; Crackanthorpe, supra note 33, at 19–21.
43 Brief for The National Association of Criminal Defense Lawyers & Families Against Mandatory Minimums as Amici Curiae in Support of Petitioner at 2, 14, Dean v. United States, 137 S. Ct. 1170 (2017) (No. 15-9260) (“[T]he punishment imposed must always fit the crime—and the offender.”); see also Ashford & Kupferberg, supra note 30 at 19–20;
Over the years, this viewpoint influenced a number of sentencing policies, but this assumption about considering offender information in selecting a just punishment has not gone without opposition from reformers promoting principles of just deserts (retribution) and proportionality in sentencing. These reformers contributed to the following movements in sentencing that challenged individualized approaches to sentencing: determinate sentencing, mandatory minimum sentences, presumptive sentences, and the use of sentencing guidelines. A central aim of many of these reforms was to reduce abuses of judicial discretion by placing increased attention on the nature of the offense to ensure consistency in sentencing practices.

Indeed, developments in sentencing frameworks introduced in the late 1970s and the mid-1980s adopted a narrow view of moral culpability when addressing questions of proportionality in non-capital sentencing. The result of these sentencing reforms was that many individuals received sentences for mandatory minimums that did not balance offender characteristics with offense characteristics. When offenders sought relief for disproportionate sentences (associated with various presumptive and determinate sentencing practices), the U.S. Supreme Court took a jaundiced view of performing proportionality analyses when these claims involved non-capital cases. In such cases, the Court chose to defer to legislators about questions surrounding just sentencing lengths and just sentences for

---


46 See id. at 3.


recidivist offenders convicted of a minor offense for their second or third strike.50

II. CONSIDERING MITIGATION IN EVALUATING BLAMEWORTHINESS

In a brief per curiam opinion, the Supreme Court found capital punishment unconstitutional in certain cases, with several justices writing concurrences to emphasize their concerns about the arbitrary and capricious application of the death penalty.51 In response, states implemented different strategies for addressing abuses of discretion in capital cases. North Carolina and Louisiana chose to eliminate discretionary abuses by making the death penalty mandatory.52 While this approach addressed the problems of unfettered discretion identified in Furman,53 the Court in Woodson v. North Carolina addressed “for the first time the question of whether a death sentence returned pursuant to a law imposing a mandatory death penalty for a broad category of homicidal offenses constitutes cruel and unusual punishment within the meaning of the Eighth and Fourteenth Amendments.”54 In the Woodson decision, the Court affirmed the viewpoint that took issue with automatic death sentences for “like legal categories” because automatic sentences of death do not allow for consideration of “the past life and habits of a particular offender.”55 Furthermore, the Court confirmed the need for individualized sentencing in death penalty cases because of the qualitative difference between a sentence of death and even a 100-year sentence.56 Namely, a “penalty of death differs from all other forms of criminal punishment, not in degree but in kind.”57


51 Steiker & Steiker, supra note 50, at 40 (“In the Court’s landmark capital decision, Furman v. Georgia, various opinions supporting the invalidation of prevailing [death penalty] statutes condemned the ‘standardless discretion’ of the status quo.”); see also Furman v. Georgia, 408 U.S. 238, 295 (1972) (Brennan, J., concurring) (writing that the death penalty was unconstitutional because the prevailing statutes lacked sufficient procedure to prevent the arbitrary administration of capital sentences).


53 Furman, 408 U.S. at 295.

54 Woodson, 428 U.S. at 287.

55 Id. at 296–97.

56 See id. at 305.

57 Furman, 408 U.S. at 306 (Stewart, J., concurring).
The need for considering offender characteristics in death sentences was further clarified in *Lockett v. Ohio*.58 *Lockett* addressed the petitioner’s challenge to an Ohio statute that did not allow the sentencing judge to consider and give effect to relevant personal forms of mitigation besides the presence of a psychotic mental illness or mental deficiency.59 Moreover, *Lockett* concluded that trial judges should not be precluded from considering any mitigating evidence proffered by the defense in support of a sentence less than death.60 However, the Court in *Lockett* did not clarify what degree of consideration of mitigating factors it would require in selecting a death sentence.61

Indeed, what constituted consideration of mitigation evidence continued to present issues for the Court in death cases. For instance, the Oklahoma capital punishment statute did not preclude specific types of mitigation evidence, which was the problem the Court addressed in *Lockett*; instead, it was the exclusion from consideration, as a matter of law, of the background information proffered by the defense as mitigation evidence.62 The Court in *Eddings v. Oklahoma* held that “[j]ust as the State may not by statute preclude the sentencer from considering any mitigating factor, neither may the sentencer refuse to consider, as a matter of law, any relevant mitigating evidence.”63 The principle voiced in *Eddings* was that a trial judge may determine the weight to give to mitigation evidence in the individualization of a death sentence, but not exclude mitigation evidence from consideration in selecting an appropriate punishment.64 In spite of the decisions in *Eddings*, *Lockett*, and *Woodson*, the Court continued to encounter frameworks whereby the decision process did not allow for consideration of all mitigation evidence in proportionality assessments of an offender’s moral culpability in capital cases.65

Associate Justice O’Connor introduced in *Franklin v. Lynaugh* a conceptualization of diminished moral culpability that was eventually

59 *Id.* at 594.
60 *Id.* at 604.
61 *Id.*
63 *Id.* at 113–14.
64 See *id.*
65 *Id.* at 111–14 (recognizing statutory and discretionary barriers to considering mitigation evidence in *Woodson* and subsequent cases); Atiq & Miller, *supra* note 17, at 170–71.
applied to persons with intellectual disabilities and juveniles as a class. Justice O’Connor wrote:

“Evidence about the defendant’s background and character is relevant because of the belief, long held by this society, that defendants who commit criminal acts that are attributable to a disadvantaged background, or to emotional and mental problems, may be less culpable than defendants who have no such excuse... Thus, the sentence imposed at the penalty stage should reflect a reasoned moral response to the defendant’s background, character, and crime.”

In Justice O’Connor’s view, assessments of culpability required consideration of other types of mitigation besides the circumstances of the offense, the offender’s record, and the offender’s character. O’Connor’s dissent in Enmund v. Florida also reiterated the reasoning in Franklin that an individualized assessment of “proportionality requires a nexus between the punishment and the defendant’s blameworthiness.” In Enmund, she concluded that the diminished moral culpability of persons with intellectual disabilities required an individualized assessment of the connection between the offender’s intellectual disabilities and the offender’s personal culpability.

The current criminal justice process incorporates many different conceptualizations of blameworthiness. Insofar as individualized assessments of culpability are required in death and JLWOP cases, presumptive sentencing frameworks typically require the sentencer to consider the offense, its circumstances, and the offender’s criminal record in determining the offender’s culpability. In these frameworks, the sentencer can also consider evidence for deciding mitigated and aggravated sentences, which was also true of the sentencing framework employed in Arizona prior

---


68 Id. (O’Connor, J., concurring).


70 See id. (O’Connor, J., dissenting).

71 Some sentencing frameworks in the social science literature have adopted definitions of culpability that focus primarily on offense characteristics with minimal consideration of the contribution of personal mitigating factors. For instance, the Focal Concerns framework operationalized blameworthiness as representing the seriousness of the offender’s crime and the offender’s criminal history. See Steffensmeier, Ulmer & Kramer, supra note 15, at 766.

to *Miller.* In life imprisonment sentencing cases, Arizona law prior to *Miller* required the judge to consider fourteen aggravating factors and five mitigating factors. Age was the fifth statutory mitigating factor listed among the state’s statutory mitigating circumstances. Yet, the way in which age was evaluated in the mitigation context lacks close empirical scrutiny and case law prior to *Miller* did not require judges to consider youth and its attendant characteristics in their evaluations of age as a mitigating factor. Evaluations of these attendant characteristics were left to the discretion of the sentencer.

*Miller* reaffirmed the important developmental differences between juvenile and adult offenders previously articulated in *Roper* and *Graham.* These differences specifically pertain to the level of culpability that should be attributed to juvenile offenders vis-à-vis adult offenders when making sentencing decisions. Associate Justice Kagan wrote:

Those cases [*Roper* and *Graham*] relied on three significant gaps between juveniles and adults. First, children have a “lack of maturity and an underdeveloped sense of responsibility,” leading to recklessness, impulsivity, and headless risk-taking. *Roper,* 543 U.S. at 569, 125 S. Ct. 1183. Second, children “are more vulnerable . . . to negative influences and outside pressures,” including from their family and peers; they have limited “contro[l] over their own environment” and lack the ability to extricate themselves from horrific, crime-producing settings. *Ibid.* And third, a child’s character is not as “well formed” as an adult’s; his traits are “less fixed” and his actions less likely to be “evidence of irretrievable[ly] deprav[ity].” *Id.* at 570.

Consequently, the Court concluded that sentencers needed to evaluate whether the crime reflected a juvenile’s transient immaturity or their irreparable corruption in deciding whether a juvenile deserved a JLWOP sentence. Indeed, the Court held in *Miller* that the qualities that diminish a juvenile’s culpability cannot be ignored when selecting a sentence of natural life.

---

73 ARIZ. REV. STAT. ANN. § 13-751 (Westlaw through the First Session of the 55th Leg.).
74 *Id.*
75 *Id.* The Arizona code specifies that in deciding on a sentence the judge “shall take into account the aggravating and mitigating circumstances that have been proven.” *Id.* These principles in deciding a sentence also apply in death sentences. *Id.*
76 See *id.*
80 *Id.* at 479–80.
81 *Id.* at 481–83.
The purpose of this study was to examine whether judges were adopting a “full responsibility,” or a “mitigation model” for blaming juveniles as advanced by Scott and Steinberg. These authors contended that contemporary practices in criminal law departed from an excuse-based approach employed prior to the 1980s for addressing juvenile crime to a full-responsibility approach. In full-responsibility approaches, the analyses of juvenile blameworthiness did not recognize the diminished culpability of youth and treated juveniles like adults in criminal sentencing processes. Consequently, Maricopa County provided a perfect opportunity for exploring how judges responded to age as a proxy for considering the diminished culpability of juveniles in pre-Miller cases because it did not have mandatory life sentences for juvenile homicide offenders. Additionally, Maricopa County employed individualized sentencing for juveniles convicted of a homicide offence and judges were required to consider the defendant’s age in selecting an appropriate punishment. Yet Maricopa has had a history of legal challenges because of restrictive interpretations of mitigation evidence. For these reasons, we described associations among age-related and other mitigating factors to determine the role of a mitigation approach, or lack thereof, when judges from a court community with a history of restrictive interpretations of mitigation evidence sentenced pre-Miller juveniles to 25-to-life or JLWOP sentences.

III. METHODS

A. RESEARCH PROCEDURES

We examined the formal documents in the legal case files of juvenile lifers in Maricopa County, Arizona who granted researchers permission to obtain documents for review from the Clerk of the Courts. The study employed a mixed-methods design consisting of a content analysis of the relevant documents and a quantitative analysis of the findings from the content analysis. Mark Hall and Ronald Wright have referred to this method

---

82 Elizabeth S. Scott & Laurence Steinberg, Blaming Youth, 81 TEX. L. REV. 799, 800, 829 (2003).
83 Id.
84 See id. at 833. Scott and Steinberg introduced a framework that clarified how immaturity mitigates the blameworthiness of juveniles. Id. This framework’s approach to the diminished culpability of juveniles as a class is reflected in the Miller decision. See Miller, 567 U.S. at 479–80.
85 See Atiq & Miller, supra note 17, at 170.
in legal scholarship as “Systematic Content Analysis.” Hall and Wright contend that content analysis “could form the basis for a uniquely legal empirical methodology.” Moreover, it is their contention that content analysis is a valuable addition to legal scholarship because it offers opportunities for “objective, falsifiable, and reproducible knowledge.”

Content analysis is also widely employed in criminology, criminal justice, political science and sociological research.

This study coded content in each case file. The coders of the relevant documents were law and graduate social work students. Before becoming a coder for the study, each student coded two pilot cases and had to meet a standard of reliability in completing the coding instrument of eighty percent or higher. The percent agreement of coders calculated across items after training for this phase of the process was ninety-three percent. Two coders were then assigned to each case and the lead researcher checked for any differences in judgements on subsequently coded items. The coders revisited the cases to develop a consensus about the correct interpretation when differences were identified. Variables with low reliabilities were eliminated from the study when we initially coded for inter-rater-reliability.

Information examined in the study was contained in different parts of the case files. For this reason, students had a list of documents for the review of a defendant’s case file. The list of documents included content on characteristics of the offense (indictment, arraignment, state’s complaint and initial charges, other charging documents, and presentence investigation); judicial findings of aggravating and mitigating circumstances (sentencing hearing transcripts, plea and change of plea documents); and reasons for sentence (copies of sentencing judgment and reasons for the sentence proffered by the judge).

---

87 Id. at 64.
88 Id.
89 Id. at 63; see Michael G. Maxfield & Earl R. Babbie, Basics of Research Methods for Criminal Justice and Criminology 197 (4th ed. 2016) (discussing the use of content analysis in many of the social sciences). Hall and Wright also describe that content analysis is an accepted method employed by political scientists and sociologists. Hall & Wright, supra note 86, at 64.
90 Students were asked to determine whether the offense was premeditated. This variable only achieved sixty percent agreement across coders. For this reason, it was eliminated from the study’s analysis.
B. CONTEXT

Maricopa County is the fourth largest county in the United States.\footnote{Maricopa County Quick Facts, MARICOPA CNTY., https://www.maricopa.gov/3598/County-Quick-Facts [https://perma.cc/R6HD-SFDN].} It covers 9,200.14 square miles and has a population of about 4,496,588 as of 2021.\footnote{Quick Facts: Maricopa County, Arizona, US CENSUS (July 1, 2021), https://www.census.gov/quickfacts/maricopacountyarizona [https://perma.cc/XD5F-AHJY].} It has more than half of Arizona’s population. Eighty-five percent of all the juveniles serving life without parole were convicted in Maricopa and Pima Counties.\footnote{A State-By-State Look at Juvenile Life Without Parole, ASSOCIATED PRESS (July 31, 2017), https://apnews.com/article/9debc3bdc7034ad2a68e62911fba0d85.} Arizona eliminated parole for all offenders on January 1, 1994 under ARIZ. REV. STAT. § 41-1604.09.\footnote{ARIZ. REV. STAT. ANN. § 41-1604.09 (1994).} However, the Arizona Legislature passed House Bill 2593 after the Miller decision, which made juveniles eligible for release after 25 to 35 years, depending on the age of the victim.\footnote{H.R. 2593, 51st Leg., 2d Reg. Sess., 2014 Ariz. Sess. Laws 1140; Kiefer & Coe, supra note 11; ARIZ. REV. STAT. ANN. § 13-751–13-752 (Westlaw through First Session of the 55th Leg.).} The juvenile offenders serving life sentences in Arizona were identified by the Arizona Justice Project post-Miller in an effort to assist juveniles serving 25-to-life sentences to obtain a meaningful opportunity for release from prison, and to assist natural lifers pursuing opportunities for resentencing.\footnote{The Arizona Justice Project takes cases of actual innocence or wrongful conviction and cases of some clear manifest injustice in sentencing. It has a special component providing legal assistance in Miller cases. ARIZ. JUST. PROJ., https://www.azjusticeproject.org/mission-and-vision [https://perma.cc/RYU9-BAF4]; José B. Ashford & Husain Lateef, Field Note—Serving Miller Youth: An Interprofessional Initiative for Educating Law and Social Work Students, 57 J. SOC. WORK EDUC., 405, 407–08 (2021) (discussing the special component providing assistance to juvenile lifers seeking release to the community before the parole board).} The list of these offenders was provided to the researchers for the purposes of this study. Only the names of juvenile offenders who consented to be involved in the study were provided.

of the outlier death penalty counties given that its prosecutors seek the death penalty at one of the highest rates in the country.\textsuperscript{98} Moreover, “70 percent of cases that the Arizona Supreme Court decided on direct appeal since 2006 involve defendants with the type of severe mitigation evidence that strongly suggests excessive punishment.”\textsuperscript{99} The Fair Punishment Project supported the prior observation about the harsh and excessive nature of punishments in Maricopa County by citing types of mitigation evidence in cases that sought relief from their excessive sentences. The Fair Punishment Project gave as one example, “11 percent of the cases involved a defendant not old enough to buy a beer.”\textsuperscript{100} The prior indicators of the presence of punitive customs in Arizona toward juveniles and other offenders suggests that the legal culture in Arizona might conflict with Justice Kagan’s conclusion that because juveniles as a class have diminished culpability and hold increased prospects for reform, “they are less deserving of the most severe punishments.”\textsuperscript{101}

Moreover, many of the scientific arguments supporting the diminished culpability of juvenile offenders were challenged in a report that prosecuting attorneys in Maricopa County have introduced to rebut evidence of immaturity proffered by defense attorneys in sentencing, resentencing, and clemency hearings.\textsuperscript{102} This report authored by The Forensic Panel on homicide and immaturity focuses primarily on connecting the person’s background and other types of mitigation evidence to the crime rather than the questions of desert or moral culpability.\textsuperscript{103} This report did not accept the principle that most juveniles are less deserving of JLWOP sentences than adults.\textsuperscript{104} Indeed, a consistent theme throughout this report was that homicide offenses require culpability assessments that focus on the nexus between the mitigation evidence and the crime regardless of whether the offender is an

\textsuperscript{100} Id. at 12.
\textsuperscript{101} Miller v. Alabama, 567 U.S. 460, 471 (2012) (quoting Graham v. Florida, 560 U.S. 48, 68 (2010)). Justice Kagan also said that the Court’s prior conclusions about juveniles as a class was predicated not only on common sense, but also on science. Id. at 471–72 (citing Roper v. Simmons, 543 U.S. 551, 569 (2005)).
\textsuperscript{102} Melzer, Salsberg & Seward, supra note 26, at 56–63.
\textsuperscript{103} Id.
\textsuperscript{104} Id. at 141.
adult or juvenile.\textsuperscript{105} In addition, much of the forensic wisdom proffered in this report recommends identifying variables associated with the mitigation of criminal responsibility or guilt and not the mitigation of moral culpability and punishment.\textsuperscript{106} The authors wrote that these variables “impact consideration of whether a murder is borne of immaturity or a maturity no different from others who murder. . . . Ultimately, however, murder is too heterogeneous a crime to allow presumption based on age alone.”\textsuperscript{107} Thus, this report solicited by prosecutors in Maricopa County is consistent with a “bottom up” interpretation of age as a mitigating circumstance that conflicts with what sociologists would consider “[a] top down [view]” of the role of age in sentencing reflected in \textit{Miller} and \textit{Montgomery}.\textsuperscript{108}

We selected Maricopa County to complete this study because it represents an organizational field within a specific court culture that adheres to restrictive interpretations of mitigation evidence.\textsuperscript{109} After the Ninth Circuit Court of Appeals found the causal nexus test unconstitutional in \textit{McKinney v. Ryan}, the state requested that the Arizona Supreme Court perform an independent review of the aggravating and mitigating circumstances in this case.\textsuperscript{110} The Arizona Supreme Court “granted the State’s motion to conduct a new independent review of McKinney’s death sentences.”\textsuperscript{111} Justice Gould wrote the opinion in this case and reaffirmed the need for considering and weighing:

\begin{itemize}
\item \textsuperscript{105} \textit{Id.} at 141.
\item \textsuperscript{106} \textit{Id.} at 56–63.
\item \textsuperscript{107} \textit{Id.} at 7.
\item \textsuperscript{108} Ulmer, \textit{supra} note 18, at 483.
\item \textsuperscript{109} See, e.g., McKinney \textit{v. Ryan}, 813 F.3d 798, 805, 821–22 (2015). An organizational field refers to “‘sets of interacting groups, organizations, and agencies oriented around a common . . . interest.’ They are bounded by the presence of a common regulatory system or shared normative (systems of formal or informal social norms) or cultural cognitive frameworks (systems of cultural and cognitive meanings).” Jeffery T. Ulmer & Brian D. Johnson, \textit{Organizational Conformity and Punishment: Federal Court Communities and Judge-Initiated Guidelines Departures}, 107 J. CRIM. L. & CRIMINOLOGY 253, 257 (2017) (quoting H\textsc{oward} E. A\textsc{l}drich & M\textsc{artin} R\textsc{euf}, \textsc{O}rg\textsc{anizations Evolving 4}0 (2d ed. 2006)).
\item \textsuperscript{110} State \textit{v. McKinney}, 426 P.3d 1204, 1206 (Ariz. 2018).
\item \textsuperscript{111} \textit{Id.} at 1205.
\end{itemize}
[A]ll mitigation evidence regardless of whether it bears a causal nexus to the underlying murders. *State v. Newell*, 212 Ariz. 389, 405 ¶ 82, 132 P.3d 833, 849 (2006) . . . However, the lack of “a causal connection may be considered in assessing the quality and strength of the mitigation evidence.” *Newell*, 212 Ariz. at 405 ¶ 82, 132 P.3d at 849; cf. *Eddings*, 455 U.S. at 114-15, 102 S. Ct. 869 (“The sentencer, and the Court of Criminal Appeals on review, may determine the weight to be given relevant mitigating evidence.”).\(^{112}\)

Clearly, the causal nexus principle has continued to play a significant role in the evaluation of mitigation evidence in adult death cases in Arizona. However, it is unclear if the courts in Arizona have adopted a similar framework when evaluating age as a mitigating factor in pre-*Miller* cases. We assumed that the courts in Maricopa County, like courts in other counties, must negotiate the formally-structured rules of the U.S. Supreme Court and the evolving standards of a society with the informal normative expectations of its own court culture.\(^{113}\) In keeping with this assumption, we wanted to describe how the Maricopa County courts negotiated customs and informal expectations in considering age and other mitigation evidence when deciding juvenile life sentences prior to *Miller*.\(^{114}\) By doing so, we can discern if the court culture in Arizona did see important differences between adults and juveniles in assessing issues of culpability when considering questions of age in deciding on appropriate sentences prior to the *Miller* decision.

C. PARTICIPANTS

There were twenty-three male juveniles given natural life sentences in Maricopa County, Arizona prior to the *Miller* decision. No females had a natural life sentence. The researchers obtained consents from nineteen (82%) of the pre-*Miller* juveniles serving natural life sentences from Maricopa County, Arizona to review their case files. We also requested permission to review the case files of juveniles who received a sentence of 25-to-life prior to *Miller*. There were twenty-five male juveniles in Maricopa County with a 25-to-life sentence. We did not include females in the 25-to-life sample because only one female received a sentence of 25-to-life. Eighteen (72%) of the population of males serving a 25-to-life sentence agreed to allow us to review their case files for the purposes of this study.

The average age of the 25-to-life group at the time of their respective offense(s) was 16.22. The 25-to-life group had a racial make-up of 16.7%

\(^{112}\) Id. at 1206.

\(^{113}\) See generally Ulmer & Johnson, supra note 16, at 490.

\(^{114}\) See generally Ulmer & Johnson, supra note 16, at 486-87.
non-minority and 83.3% minority group membership.\textsuperscript{115} This group had 88.9% of its offenders with a charge of first-degree murder and 5.6% had a charge of felony murder as their most serious offense. The prosecutor sought death in 16.7% of the cases for this group. Twenty-two percent of these 25-to-life sentences resulted from a plea-bargain. The average number of felonies besides the homicide offense for the 25-to-life group was 1.18 and the average number of victims was 1.18. The mean number of perpetrators for the 25-to-life group was 2.28, and membership in a gang for this group was 22.2%.

The average age of the group receiving a natural life sentence was 16.16. The non-minority group received the highest percentage of natural life sentences, 52.6%, whereas the minority group had 47.4% of the natural life sentences. For type of homicide or most serious charge, the natural life group had a charge of first-degree murder in 89.5% of the cases and a charge of felony murder in 10.5% of the cases. Prosecutors sought death in 33.3% of the cases in this group and a natural life sentence resulted from a plea-bargain in 32% of the cases.\textsuperscript{116} The mean number of other felonies besides a charge of murder was 2.53 and the number of victims for this group had a mean of 1.16. The average number of perpetrators was 2.63 and membership in a gang for this group was 31.3%. The sizes of our two samples were reasonably representative of the study’s target populations.\textsuperscript{117}

\textsuperscript{115} Insofar as 16.7% of the White juveniles received a sentence of 25-to-life, larger percentages of the minority group offenders received a sentence of 25-to-life: African American offenders 44.4% and Latino offenders 38.9%. When we examined the statistical association for the overall racial/ethnic measure, it was not statistically significant (\textit{Phi}=329, \textit{p}=.135). However, there was a statistically significant difference between minority and non-minority youth (\textit{Phi}=-.328, \textit{p}=.046), but this finding was not supported by the results for the odds ratio computed to evaluate this association OR .22 95 CI (.05-1.03). That is, the confidence interval crossed one and did not meet the established confidence interval of 95%. Nonetheless, this finding indicates that the odds of a minority group member receiving a natural life sentence was 78\% less than for a non-minority group member.

\textsuperscript{116} The overall number of sentences due to a plea bargain was twenty-seven percent. There was no statistically significant association between the type of life sentence and whether the sentence went to trial or a plea bargain.

\textsuperscript{117} We limited our analysis to Maricopa County because we did not receive sufficient consents to have a representative sample of juveniles sentenced across Arizona. For this reason, we decided to perform a case study of pre-Miller cases in Maricopa County, Arizona. The protocol for this study and its measures were approved by the University’s Institutional Review Board.
D. MEASURES

We used the information in charging documents and presentence reports to code seventeen dichotomous variables to describe the characteristics of the offense.\footnote{118} Information in the sentencing hearing documents were employed to code fourteen variables that described judicial findings for any statutorily specified aggravating circumstances. The statutory aggravating circumstances examined in this study are described in ARIZ. REV. STAT. § 13-751 for sentences of death or life in prison.\footnote{119} The five statutory mitigating circumstances were: (1) the defendant’s capacity to appreciate the wrongfulness of his conduct or to conform his conduct to the requirements of law; (2) the defendant was under substantial duress; (3) relatively minor participation in the offense; (4) did not know the likelihood of causing the harm; and (5) age.\footnote{120} (The only variables actually included in the subsequent data analyses had to have responses in at least 5% of the cases).

Initially, sentencing transcripts were coded to construct measures for the non-statutory mitigating circumstances. The initial categories for coding the documents were taken from the literature and a review of a small sample of cases. The next phase of the process involved reclassifying the initial categories of information found in the documents into similar themes. In this phase of the process, two professionals with experience with Miller cases reclassified the initial information into six themes that represented the non-statutory variables examined in this study: circumstances of the offense; sentencing considerations; mental health considerations; brain/cognitive developmental considerations; family environment considerations; and social connection/disconnection.\footnote{121} The coders achieved 83% agreement for

\footnote{118} We used ones and zeros to capture the group membership of sixteen dichotomous variables measuring offense characteristics. The victim’s race was not included in the final analyses because for the majority of the cases the race of the victim was missing. We also attempted to locate the victim’s race by reviewing newspaper accounts of the offense, but were unable to do so.

\footnote{119} These aggravating circumstances were coded No=0, Yes=1: (1) convicted of another offense with a sentence of life or death; (2) prior conviction of serious offense; (3) knowingly created a grave risk; (4) procured to commit offense; (5) pecuniary gain; (6) especially heinous, cruel, or depraved manner; (7) convicted of one or more homicide; (8) victim under 15; (9) victim unborn child; (10) victim peace officer; (11) promote objectives of street gang; (12) prevent cooperation with law enforcement or with other criminal justice process; (13) used remote stun gun; and (14) victim an elder.

\footnote{120} ARIZ. REV. STAT. ANN. § 13-751 (Westlaw through the First Session of the 55th Leg.).

\footnote{121} The definitions and indicators that represent each of these variables were: (1) Circumstances of the offense are specific offense related considerations that can mitigate a juvenile’s degree of culpability (level of participation, felony murder, and lack of specific intent); (2) Sentencing considerations is a category reflecting factors considered by a judge
these variables and the Kappa for the non-statutory mitigating circumstances was ($\text{Kappa}=0.75, 3.80, p < .0001$) which falls within the established range of 0.61–0.80 considered as substantial agreement in the literature.\textsuperscript{122}

The coders also examined the sentencing transcripts to classify the types of reasons judges gave to justify the sentences that they imposed. The second phase of this coding process also involved reclassifying any reasons represented in the transcripts to identify similar themes employed by judges to explain the sentences they imposed. This phase resulted in eight themes and five items that were not classified by the coders as fitting any specific theme identified by the coders. The eight themes employed in the data analyses for reasons were: nature of the crime; emotional aggravators; dangerousness; criminal history; family environment; impulsivity; role in the offense; and age/age attendant characteristics.\textsuperscript{123} The percentage agreement when evaluating diminished culpability in selecting an appropriate sentence (remorse/grief, sentencing disparity, immunity to other participants in the crime, and follower); (3) Mental health considerations is a variable that reflects the fact that a juvenile had in their history evidence of mental/emotional difficulties (history of mental health diagnosis, any psychiatric medications prescribed, history of non-compliance with medications, evidence of unaddressed counseling needs, and substance use history); (4) Brain/cognitive developmental considerations is a variable measuring factors in a juvenile’s background associated with brain and cognitive developmental considerations (history of head injuries, history of traumatic brain injuries, mental retardation/cognitive disabilities, and brain development); (5) Family environment refers to elements in the family context of a juvenile with implications for attributions of culpability (difficult childhood, lack of role models, history of physical and sexual abuse, exposure to gangs, and multiple changes in residences); (6) Social connection/disconnected is a variable reflecting concerns about the youth’s degree of connection or disconnection to relevant pro-social institutions (history of employment, good character, and military history). See generally Adrienne L. Fernandes & Thomas Gabe, Cong. Rsch. Serv., R40535, Disconnected Youth: A Look at 16- to 24-Year Olds Who Are Not Working or in School 7 (2009) (referring to disconnected youth as those who not connected to pro-social institutions, which the social connection/disconnection variable measures).

\textsuperscript{122} See Jacob Cohen, A Coefficient of Agreement for Nominal Scales, 20 EDUC. & PSYCH. MEASUREMENT 37, 38–39 (1960), for established interpretation of ranges of the Kappa statistic. Kappa is a measure of inter-rater-reliabilities that controls for chance agreement.

\textsuperscript{123} Then, we recategorized these items into specific themes. The themes identified by the coders were: (1) Nature of the crime was the category that included phrases reflecting strong moral outrage towards characteristics of the crime and traditional elements associated with guilt phase culpability considerations for adults and juveniles (heinous crime, pecuniary gain, age of victim, crime shocks the conscience, premeditated/willful, unprovoked violence, and lack of premeditation); (2) Emotional aggravators includes phrases that capture emotionally relevant sentencing considerations (devoid of empathy, lack of compassion, and lack of remorse); (3) Dangerousness involves phrases associated with dangerousness (continued dangerousness, danger to community, and history of violence); (4) Criminal history refers to phrases associated with having committed offenses prior to the instant offense (lack of
for these themes was 86% and the Kappa statistic had an almost perfect degree of agreement when considering potential agreements due to chance (Kappa=.85, 5.55, p <.0001).124

Some phrases were not included in any of the themes identified by the coders. Consequently, they were examined separately during the data analyses in order to determine their associations with the dependent variable life sentences: mitigating factors don’t call for leniency; member of a gang; emotional impact on victim’s family; Post Traumatic Stress Disorder (PTSD); and brain development. In order to describe the contributions of age, we also included two distinct measures: the abstract concept of age and age and its attendant characteristics introduced in Miller described above.125 That is, we examined three measures of age in assessing the extent to which age was considered by judges: age as an abstract variable, age and attendant characteristics identified as a theme by coders, and age as a reason for a judge’s sentence. The study’s dependent variable was measured as a dichotomous variable: natural life sentence and 25-to-life sentence.

E. DATA ANALYSIS DESIGN

The study employs descriptive statistics to determine the frequencies for specific items that do not occur in the content of the documents. For purposes of being conservative, the study only reports the percentages for any variable

---


125 We examine age as an independent characteristic because many judges merely indicated age as a reason given in the justifications proffered for the selection of the type of life sentence. Brain development had two yes responses, possibility of rehabilitation two yes responses, and immaturity two yes responses. The cases studied from Maricopa County involved “life” and natural life sentences levied after parole was eliminated in 1994. The cases included for this study were roughly contemporaneous with the period when scientific literature began to identify differences in culpability between juveniles and adults.
with frequencies of five or more “yes” codes for characteristics of the offense, statutory aggravating and statutory mitigating circumstances, non-statutory mitigating circumstances, and for aggravating and mitigating reasons judges reference in support of their sentencing decision.

For the quantitative analyses, we compute odds ratios to examine associations between two nominal-level variables using SPSS Version 26. Odds ratios are used to determine the relative odds of an outcome of interest (life sentence) given the presence of a variable of interest. We also examine the potential confounding variables with statistical associations with life sentences by computing Cochran-Mantel-Haenszel tests. This statistical test provides an estimate of an odds ratio for a variable of interest after adjusting for a statistically relevant strata variable.

IV. FINDINGS

An examination of the characteristics of the offense described in Table 1 indicated that three variables had statistically significant associations with pre-Miller life and natural life sentencing decisions: provocation, impulsivity, and victim gender. Fifty-one percent of the cases had a code indicating that the offense was provoked and sixty-three percent of the cases were coded as impulsive. The odds of a natural life sentence for juveniles were 84% less for an offense involving provocation than for an offense without provocation. Whereas the odds were ninety percent less for a natural life sentence when a juvenile offender’s offense was coded as impulsive as opposed to when the offense was not coded as impulsive. The results in Table 1 also show that the odds of a natural life sentence were nine times more likely if the victim was a female than if the victim was a male. Given the contributions of the gender of the victim to the decision, the study treated this variable as a potential confound for the purposes of this study. For this reason, we performed Cochran-Mantel-Haenszel tests.

The results of the Cochran-Mantel-Haenszel tests showed that the statistical significance of the associations remained for the variables provocation and impulsivity after controlling for the victim’s gender.

126 See Alan Agresti, An Introduction to Categorical Data Analysis 237 (3d ed. 2019).
127 The documents reviewed in this study lacked information about the race of the victim. The researchers also examined news articles involving the crimes, but were unable to identify sufficient information to include this variable in this study.
128 A test assumption for the Cochran-Mantel-Haenszel test is the homogeneity of the Odds Ratio. The assumption is not met when the test is statistically significant at .05 level of significance or below. The Cochran’s test is a test of conditional independence, which
Cochran-Mantel-Haenszel tests were also performed to determine if gender confounded the association between an impulsive offense and the dependent variable life sentences. The results of these sets of analyses also showed that the association between an impulsive offense and life sentences remained after controlling for the influence of the gender of the victim. The effects of minority/non-minority status on the associations among provocation, impulsivity and the variable life sentences was also computed and these results showed that the initial associations for the two offense characteristic variables (provocation and impulsivity) were not confounded by the minority/non-minority status variable. The only other offense characteristic with a trend suggesting an association with life sentences was the variable indicating that the prosecutor sought death in the case. When this trend occurred, a natural life sentence was 2.5 times more likely than a sentence of 25-to-life.

indicates that categorical groups differ in their association with a dichotomous categorical outcome variable across the levels of a third categorical variable. That is, a statistically significant finding indicates that the initial relationship remains after controlling for a third variable. See Cochran-Mantel-Haenszel Conditional Independence of a Dichotomous Categorical Outcome, SCALE, https://www.scalelive.com/cochran-mantel-haenszel.html [https://perma.cc/D3Q9-3444]. For the provocation variable, the homogeneity of the odds was not rejected (Breslow-Day Chi-Squared 1.78, p=.18), but the null hypothesis is rejected for the tests of conditional independence (Cochran’s Chi Squared, 4.25, p=.04). Moreover, the estimate of the common odds in this analysis showed a Mantel-Haenszel Common Odds Ratio Estimate, 4.85, p=.04. These findings indicate that the association for the provocation variable remained after controlling for the gender of the victim, but some reduction in the odds was noted from the original association.

129 The test assumption for the Cochran-Mantel-Haenszel test was not violated for the impulsivity analysis because the Breslow Day assumption was met (Breslow Day Chi-Squared, .346, p=.56), and the Cochran’s test of conditional independence was significant (Chi-Squared, 5.91, p=.02). This finding plus the results of the Mantel-Haenszel Common Odds Ratio Estimate, 7.91, p=.03 indicated that the association between impulsivity and life sentences was not confounded by the gender of the victim, but some reduction in the odds was also noted for the original association for this variable.

130 The test’s assumptions for the minority/non-minority status variable were met for both the Mantel-Haenszel tests performed on the provocation and impulsivity variables. The Cochran’s test was statistically significant for the provocation variable (Cochran’s Chi-Squared, 5.33, p=.02) and for the impulsivity variable (Cochran’s Chi-Squared, 5.11, p=.02). Similarly, the Mantel-Haenszel Common Odds Ratio Estimate (Common Odds Ratio Estimate, 4.97, p=.03) for the minority-non-minority status variable and the Mantel Haenszel Common Odds Ratio Estimate (Common Odds Ratio Estimate, 7.47, p=.04) for the impulsivity variable indicated that the minority/non-minority status did not affect the initial association for the provocation and impulsivity variables.
Table 1
Percentages and Odds Ratios for Offense Characteristics with Natural Life and 25-to-Life Sentences
(n=37)

<table>
<thead>
<tr>
<th>Variables</th>
<th>NL n (%)</th>
<th>25 to L n (%)</th>
<th>N</th>
<th>Unadjusted Bivariate OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provocation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5 (27.8)</td>
<td>13 (72.2)</td>
<td>35</td>
<td>0.16 (.03-.70)</td>
<td>.01**</td>
</tr>
<tr>
<td>No</td>
<td>12 (70.6)</td>
<td>5 (29.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Impulsivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8 (36.4)</td>
<td>14 (63.6)</td>
<td>37</td>
<td>0.10 (.01-.59)</td>
<td>.01**</td>
</tr>
<tr>
<td>No</td>
<td>11 (84.6)</td>
<td>2 (15.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>One perpetrator an adult</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7 (53.8)</td>
<td>6 (46.2)</td>
<td>35</td>
<td>1.17 (.30-4.61)</td>
<td>.83</td>
</tr>
<tr>
<td>No</td>
<td>11 (50.0)</td>
<td>11 (50.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Defendant only perpetrator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5 (45.5)</td>
<td>6 (54.5)</td>
<td>37</td>
<td>0.71 (.17-2.94)</td>
<td>.64</td>
</tr>
<tr>
<td>No</td>
<td>14 (53.8)</td>
<td>12 (46.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Defendant used Firearm</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15 (51.7)</td>
<td>14 (48.3)</td>
<td>37</td>
<td>1.07 (.22-5.13)</td>
<td>.93</td>
</tr>
<tr>
<td>No</td>
<td>4 (50.0)</td>
<td>4 (50.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attempted to kill more than one victim</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (54.5)</td>
<td>5 (45.5)</td>
<td>37</td>
<td>1.20 (.29-4.94)</td>
<td>.80</td>
</tr>
<tr>
<td>No</td>
<td>13 (50.0)</td>
<td>13 (50.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Put others in harm’s way</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (42.9)</td>
<td>8 (57.1)</td>
<td>37</td>
<td>0.57 (.15-2.21)</td>
<td>.42</td>
</tr>
<tr>
<td>No</td>
<td>13 (56.5)</td>
<td>10 (43.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Defendant knew victim</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (50.0)</td>
<td>6 (50.0)</td>
<td>36</td>
<td>0.85 (.21-3.39)</td>
<td>.81</td>
</tr>
<tr>
<td>No</td>
<td>13 (54.2)</td>
<td>11 (45.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Victim a stranger</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12 (52.2)</td>
<td>11 (47.8)</td>
<td>37</td>
<td>1.09 (.29-4.12)</td>
<td>.90</td>
</tr>
<tr>
<td>No</td>
<td>7 (50.0)</td>
<td>7 (50.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Victim involved in illegal activity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (46.2)</td>
<td>7 (53.8)</td>
<td>36</td>
<td>0.59 (.15-2.36)</td>
<td>.46</td>
</tr>
<tr>
<td>No</td>
<td>13 (59.1)</td>
<td>9 (40.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Victim gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>7 (87.5)</td>
<td>1 (12.5)</td>
<td>37</td>
<td>9.92 (1.08-91.47)</td>
<td>.04**</td>
</tr>
</tbody>
</table>
**Male**  12 (41.4)  17 (58.6)

**Death sought by prosecutor**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 (66.7)</td>
<td>12 (44.4)</td>
<td></td>
</tr>
<tr>
<td>3 (33.3)</td>
<td>15 (55.6)</td>
<td></td>
</tr>
</tbody>
</table>

36  2.50 (.51-.12.14)  .26

*=statistically significant at the .05 level of statistical significance

**Table 2 describes the frequencies and associations for the statutory aggravating and mitigating variables. The results show that none of the statutory aggravating and mitigating circumstances had a statistically significant association with the dependent variable life sentences. It also shows that judges found the statutory aggravator of pecuniary gain in 36% of cases. Three of the other statutory aggravators were found by the judges in 15% of the cases: (1) especially heinous, cruel, or depraved; (2) convicted of one or more homicides; and (3) created grave risks to others. Trends in the data for these variables also showed a potential association among these variables and the dependent variable life sentences. The statutory mitigating variable “age” was found by the judges in 17% of the cases, but this variable did not have a statistically significant association with the dependent variable life sentences.**
Table 2
Percentages and Odds Ratios for Statutory Aggravators and Statutory Mitigators with Natural Life and 25-to-Life Sentences (n=37)

<table>
<thead>
<tr>
<th>Variables</th>
<th>NL n (%)</th>
<th>25 to L n (%)</th>
<th>N</th>
<th>Unadjusted Bivariate OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statutory Aggravating variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowingly created a Grave risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4 (80)</td>
<td>1 (20)</td>
<td>33</td>
<td>3.47 (.34-35.06)</td>
<td>.29</td>
</tr>
<tr>
<td>No</td>
<td>15 (53.6)</td>
<td>13 (46.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pecuniary gain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9 (75)</td>
<td>3 (25)</td>
<td>33</td>
<td>3.30 (.69-15.74)</td>
<td>.13</td>
</tr>
<tr>
<td>No</td>
<td>10 (47.6)</td>
<td>11 (52.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heinous, cruel, or deprived</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4 (80)</td>
<td>1 (20)</td>
<td>33</td>
<td>3.47 (.34-35.06)</td>
<td>.29</td>
</tr>
<tr>
<td>No</td>
<td>15 (53.6)</td>
<td>13 (46.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convicted of one or more homicide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3 (60)</td>
<td>2 (40)</td>
<td>33</td>
<td>1.13 (.17-7.82)</td>
<td>.12</td>
</tr>
<tr>
<td>No</td>
<td>16 (57.1)</td>
<td>12 (42.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statutory Mitigating Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1 (16.7)</td>
<td>5 (83.3)</td>
<td>35</td>
<td>.12 (.01-1.18)</td>
<td>.07</td>
</tr>
<tr>
<td>No</td>
<td>18 (62.1)</td>
<td>11 (37.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

None of the Statutory Aggravating and Mitigating factors had a statistical association with the outcome natural life and 25-to-life sentences. One variable was significant at the .1 level of significance. Four cases did not have information on aggravating variables.

Table 3 describes the results for the non-statutory mitigating factors found by judges. None of these variables had a statistically significant association with the sentences imposed. The percentages of affirmative findings by judges for non-statutory mitigating circumstances are: sentencing disparity (8.8%); remorse grief (5.9%); mental retardation/intellectual disability (5.9%); felony murder (14.7%); employment history (11.8%); difficult childhood (5.9%); good character (5.9%); history of physical and sexual abuse (5.9%); exposed to gangs (17.6%); any psychiatric medication prescribed (11.8%); evidence of unaddressed counseling needs (8.8%); and history of mental health diagnosis (8.8%).
Clearly, judges found non-statutory mitigating circumstances in a small percentage of the cases in Maricopa County. The few exceptions were the cases with evidence of affirmative responses in 10% of the cases: felony murder; exposed to gangs; and any psychiatric medications prescribed. However, the trends for these variables did not suggest that they had any associations with the variable life sentences. The variables that did show potential associations with the study’s dependent variable were two variables measuring the mitigating circumstances surrounding the commission of the offense and two variables addressing social forms of advantage or its converse disadvantage (family environment considerations and socially connected/disconnected).

### Table 3
Percentages and Odds Ratios for Non-Statutory Mitigating Circumstances with Natural Life and 25-to-Life Sentences
(n=37)

<table>
<thead>
<tr>
<th>Variables</th>
<th>NL n (%)</th>
<th>25 to L n (%)</th>
<th>N</th>
<th>Unadjusted Bivariate OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circumstances of the offense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4 (66.7)</td>
<td>2 (33.3)</td>
<td>34</td>
<td>2.00 (.31-12.75)</td>
<td>.46</td>
</tr>
<tr>
<td>No</td>
<td>14 (50)</td>
<td>14 (50)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentencing considerations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (100)</td>
<td>0 (0)</td>
<td>34</td>
<td>17.16 (.88-334.11)</td>
<td>.06</td>
</tr>
<tr>
<td>No</td>
<td>12 (42.9)</td>
<td>14 (57.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health Considerations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (60)</td>
<td>4 (40)</td>
<td>34</td>
<td>1.50 (.34-6.70)</td>
<td>.60</td>
</tr>
<tr>
<td>No</td>
<td>12 (50)</td>
<td>12 (50)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain/Cog-dev considerations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4 (57.1)</td>
<td>3 (42.9)</td>
<td>34</td>
<td>1.24 (.23-6.62)</td>
<td>.80</td>
</tr>
<tr>
<td>No</td>
<td>14 (51.9)</td>
<td>13 (48.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family environment considerations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7 (70)</td>
<td>3 (30)</td>
<td>35</td>
<td>2.97 (.62-14.22)</td>
<td>.17</td>
</tr>
<tr>
<td>No</td>
<td>11 (44)</td>
<td>14 (56)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socially Connected/Disconnected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (85.7)</td>
<td>1 (14.3)</td>
<td>34</td>
<td>7.50 (.79-71.09)</td>
<td>.08</td>
</tr>
<tr>
<td>No</td>
<td>12 (44)</td>
<td>15 (56)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4 describes the reasons proffered by judges for a sentencing decision. The only reason for a sentence that had an association with the study’s dependent variable was the variable measuring the emotional impact on the victim’s family. The odds of a natural life sentence for this variable were ten times more likely than when the variable was not given as a reason for the sentence. We controlled for the effects of the victim’s gender on this finding. When we did so, the test assumption for Cochran’s Mantel-Haenszel test was met (Breslow-Day Chi-Squared .196, p.=.66) and the test of conditional independence showed that there was a relationship (Cochran’s 3.932, p.=.05). However, we concluded that the finding for the common odds ratio suggested that this association was confounded by the variable measuring the victim’s gender on statistical significance criteria alone (Common Odds Ratio Estimate =.12, p.=.08), but the direction of percentages for the emotional impact of the family variable on life sentences showed an association after controlling for the gender of the victim (87.5% of the natural life sentences involved female victims versus 12.5% of the 25-to-life cases).

The judges referenced the defendant’s age as one of their reasons for the sentences imposed in 46% of the cases. We also examined the associations among the defendant’s age (as a reason for the sentence) and the study’s dependent variable. We found that the judges referenced this variable in 51% of the cases. However, the findings in Table 4 show that neither of these age-related variables had a statistically significant association with life sentences nor percentages suggesting a trend in that direction.
### Table 4
Percentages and Odds Ratios for Judicial Reasons with Natural Life and 25-to-Life Sentences
(n=37)

<table>
<thead>
<tr>
<th>Variables</th>
<th>NL n (%)</th>
<th>25 to L n (%)</th>
<th>N</th>
<th>Unadjusted Bivariate OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotional Aggravators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (75)</td>
<td>2 (25)</td>
<td>34</td>
<td>3.23 (.55-18.96)</td>
<td>.19</td>
</tr>
<tr>
<td>No</td>
<td>13 (48.1)</td>
<td>14 (51.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dangerousness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (75)</td>
<td>2 (25)</td>
<td>35</td>
<td>3.23 (.55-18.96)</td>
<td>.19</td>
</tr>
<tr>
<td>No</td>
<td>13 (48.1)</td>
<td>14 (51.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Criminal History</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4 (66.7)</td>
<td>2 (33.3)</td>
<td>35</td>
<td>1.87 (.29-11.84)</td>
<td>.52</td>
</tr>
<tr>
<td>No</td>
<td>15 (51.7)</td>
<td>14 (48.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family Environment Considerations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7 (70)</td>
<td>3 (30)</td>
<td>35</td>
<td>2.53 (.53-12.07)</td>
<td>.24</td>
</tr>
<tr>
<td>No</td>
<td>12 (48)</td>
<td>13 (52)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nature of the Crime</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9 (52.9)</td>
<td>8 (47.1)</td>
<td>35</td>
<td>0.90 (.24-3.41)</td>
<td>.88</td>
</tr>
<tr>
<td>No</td>
<td>10 (55.6)</td>
<td>8 (44.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rehabilitation Considerations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1 (50)</td>
<td>1 (50)</td>
<td>34</td>
<td>0.78 (.05-13.56)</td>
<td>.86</td>
</tr>
<tr>
<td>No</td>
<td>18 (56.3)</td>
<td>14 (43.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Role in Offense</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2 (66.7)</td>
<td>1 (33.3)</td>
<td>35</td>
<td>1.77 (.15-21.48)</td>
<td>.66</td>
</tr>
<tr>
<td>No</td>
<td>17 (53.1)</td>
<td>15 (46.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age attendant Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10 (48)</td>
<td>11 (52)</td>
<td>35</td>
<td>0.51 (.13-2.03)</td>
<td>.34</td>
</tr>
<tr>
<td>No</td>
<td>9 (64.7)</td>
<td>5 (35.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Defendant’s Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8 (50)</td>
<td>8 (50)</td>
<td>35</td>
<td>0.55 (.14-2.20)</td>
<td>.40</td>
</tr>
<tr>
<td>No</td>
<td>11 (57.9)</td>
<td>6 (42.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Emotional impact on victim’s family</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8 (88.9)</td>
<td>1 (11.1)</td>
<td>34</td>
<td>10.18 (1.10-94.11)</td>
<td>.04*</td>
</tr>
<tr>
<td>No</td>
<td>11 (44)</td>
<td>14 (56)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* = statistically significant at the .05 level of significance.
We also examined statistical associations with the variable age and the following variables: provocation (Phi=.28, p.=.11), impulsivity (Phi=.11, p.=.52), gender of the victim (Phi=-.18, p.=.28), and the emotional impact on the victim (Phi=-.03, p.=.86). These findings showed that there were no statistically significant associations among the defendant’s age as a reason for the sentence and the variables showing statistically significant odds for the study’s dependent variable.

CONCLUSION

Our study’s sample size did not allow for an examination of the weight given by judges to age and other mitigation evidence when selecting appropriate sentences. However, it did allow for examining whether variables referencing reasons for life sentences had statistically significant associations or trending percentages with judicial reasons for sentences and the sentences imposed. We assumed that if the judges’ reasons lacked evidence of associations with the study’s dependent variable, that these findings raised questions about whether judges were making pro forma references about age and other relevant mitigation evidence in making their sentencing decisions. We also assumed that the descriptive trends in the types of associations among the study’s variables had implications for understanding whether the judicial reasons for juvenile life sentences reflected a restricted view of juvenile blameworthiness.

The only judicial reason for a sentence that had a statistically significant relationship with the study’s dependent variable was the variable “emotional impact of the crime on the victim’s family.” This finding indicated that the consequences of the sentence on the victim’s family was a focal concern in Maricopa County when judges selected an appropriate sentence. In fact, the judges were ten times more likely to impose a natural life sentence when they considered this concern than when imposing a sentence of 25-to-life. Additionally, there were four trending variables in a direction suggesting associations between the reasons given by judges and the sentences they imposed: emotional aggravators, dangerousness, criminal history, and family considerations.

Three of these factors (emotional aggravators, dangerousness, and criminal history) reflected two key concerns affecting judicial decisions in the theory of focal concerns—culpability/blameworthiness and dangerousness. This finding suggested that the judges were not just relying on the emotional consequences of their sentencing decision on the victim’s family, but also concerns germane to an offender’s culpability and dangerousness. However, the operationalization of blameworthiness in the theory of focal concerns places minimal attention on factors involving
mitigating circumstances. Yet, the judges in Maricopa County did reference family environment considerations as a mitigating circumstance in 70% of the cases when judges imposed a natural life sentence.

Nonetheless, the findings for the variable “family environment circumstances” introduced some challenges for interpretation. These findings introduced a relevant question surrounding observed trends in the data because the percentages for the responses went in an unexpected direction. The directions were unexpected because mitigating circumstances should have had a closer association with less harsh sentences than natural life or LWOP sentences given the role of mitigating circumstances in criminal law doctrine and theory.131

The prior findings and the judges’ treatment of age suggested that the judges’ justifications for their sentences were adhering to what Scott and Steinberg have termed in the legal literature a “full-responsibility” approach to juvenile sentencing.132 Scott and Steinberg in their article Blaming Youth introduced “a broader framework of criminal law doctrine and theory” for the blaming of juvenile offenders that assumed that immaturity should be considered a special status and treated as a mitigator of juvenile blameworthiness.133 Their approach was subsequently included in the Roper134 decision and its progeny.135 Yet, the results of this study were equivocal about the extent to which judges in Arizona were correct in rejecting post-conviction claims following the Miller decision on the grounds that judges had considered age in selecting an appropriate sentence in their pre-Miller decisions.

The judges referenced age in 46% of the cases, and age and its attendant characteristics in 51% of the cases. However, none of these variables had a statistically significant association with their sentencing decisions, and the trends for each of these variables did not suggest an association between age-related variables and the sentences that the judges imposed. Given the fact that the results for age-related factors were essentially equivalent across the kinds of sentences imposed, we could not conclude that the age-related variables were not considered, but we also could not rule out the possibility that the judges treated the variable age in a pro forma manner. Nonetheless, it is also important to reiterate a prior point that the only mitigating reasons

---

131 Scott & Steinberg, supra note 82, at 800.
132 Id.
133 Id.
associated with the sentences selected by judges in the juvenile context were equally appropriate for the sentences for an adult. For this reason, the results of the study did not show that the judges were adhering to a mitigation approach for age when evaluating the blameworthiness of juvenile offenders as introduced by Scott and Steinberg.136

This study not only examined the reasons for judicial decisions, but also factors that might influence the judges’ selection of appropriate life sentences. To this end, we examined judicial references to the presence of statutorily defined aggravators and mitigators during the sentencing proceedings. While none of these aggravating and mitigating circumstances had statistically significant associations with the study’s dependent variable, trends were evident in the data that four offense-related aggravators had associations with natural life sentences. The results in these analyses also showed that the odds of a sentence of 25-to-life was higher when judges made a statutory finding of age as a mitigating circumstance even though this finding was not statistically significant.

However, the judges made an explicit finding of age as a statutory mitigating factor in 17% of the cases. The fact that 17% of the cases have a judicial finding of age as a mitigating factor raises a number of questions. Is this a reasonable percentage given the fact that age is recognized as a statutory mitigating circumstance in Arizona and other states? Moreover, this finding does not correspond with the percentages for the reasons given by judges for the sentences they impose: 46% for age as an abstract variable and 51% for the variable age and its attendant considerations as a reason for the sentences. Nonetheless, this discrepancy provided some evidence that the reasons judges give for their sentences might be due to factors that are not directly associated with their final decisions. For this reason, future studies will need to investigate the respective weight given by judges for statutorily defined aggravating and mitigating circumstances. The size of the population in Maricopa County was not sufficient for carrying out this type of investigation.

Non-statutory variables also lacked statistically significant associations with the dependent variable life sentences. However, trends in the “yes” responses indicated that natural life sentences were more likely when judges referenced the mitigating circumstances surrounding the offense rather than personally mitigating factors. The prior findings showed that the organizational field and/or court culture in Maricopa County, Arizona was adhering to classical theories of crime and punishment that focus primarily on the seriousness of the offense without considering the characteristics of

136 See generally Scott & Steinberg, supra note 82, at 800.
the offender. That is, we did not uncover any evidence to suggest that the judges were actually considering personally mitigating factors in making their sentencing decisions because none of the personally mitigating factors mentioned by judges at sentencing were associated with their decisions. Moreover, these findings also indicated that the court culture in Maricopa County adhered to a different precept from the Eighth Amendment mandate of criminal justice that punishments should be “graduated and proportioned to both the offender and the offense.”

Another group of factors that had potential to influence sentencing decisions were the characteristics of the offense. Three of the offense characteristics had statistically significant associations with the study’s dependent variable: provocation, impulsivity, and the victim’s gender. Two of these variables (provocation and impulsivity) raised some interesting questions because criminal law doctrine and theory suggests these offense variables are considered less blameworthy when compared to planned offenses with bad, heinous, or depraved motivations. Consequently, such variables are recognized by legal scholars as reasonable factors for making a sentencing decision, but not necessarily within the frame for sentencing juveniles as described in Miller. Nonetheless, if judges consider impulsivity and provocation independent of associations with age, then we assumed that it was difficult to conclude that they are recognizing the constitutional differences between juveniles and adults as prescribed in Miller. Furthermore, “Graham insists that youth matters in determining the appropriateness of a lifetime of incarceration without the possibility of parole. In the circumstances there, juvenile status precluded a life-without-parole sentence, even though an adult could receive it for a similar crime.”

With this reasoning in mind, we were unable to conclude from the findings

138 See, e.g., Paul Litton, Is Psychological Research on Self-Control Relevant to Criminal Law?, 11 OHIO ST. J. CRM. L. 725, 729–30, 745–46 (2014) (referring to mental states reflecting differences between manslaughter as a sudden homicide versus purposeful premeditated homicides); Richard Singer, The Resurgence of Mens Rea: I—Provocation, Emotional Disturbance and the Model Penal Code, 27 B.C. L. REV. 243, 247–48, 251 (1986) (showing the resurgence in the Model Penal Code of considering the nexus between retribution and mens rea (subjective or mental culpability), which has implications for selecting appropriate sanctions). These legal authorities recognize that a core predicate in retributive sentencing is the proportionality of the punishment to the moral and mental culpability of the offender. Differences between sudden and premeditated homicides reflect different mental states. When sentencing capital and juvenile lifer cases, the mental state is not included in an objective definition of the type or level of homicide committed by the offender, but instead it reflects the specific motivations of the offender for committing the crime.
139 Miller, 567 U.S. at 473.
of this study that judges examined whether the crime reflected a juvenile’s diminished culpability, because provocation and impulsivity share fundamental characteristics with how judges also would assess questions of blameworthiness for similar crimes committed by adults.

Arizona case law contains a number of court decisions that justify judicial sentences on the grounds that the mitigation evidence lacked a connection with the crime. However, the study did not note any evidence in its analysis of the content in the files of pre-Miller cases that the reasons given for not considering age was the fact that it lacked a nexus with the crime. There was evidence, however, of content in 9% of the cases where judges said that the mitigating factors did not call for leniency. But the judges did not provide moral reasons for why the diminished culpability or blameworthiness of the juvenile was not sufficiently substantial to warrant a less harsh sentence. These and the other findings about the treatment of age provided further support for the conclusion in Montgomery that the way in which age was treated by justices in Arizona and other jurisdictions was not sufficient for addressing the substantive changes in Miller for sentencing juvenile lifers.

In this study, we did not expect to find the lack of attention given by judges to concerns involving rehabilitation because of the emphasis placed on questions of amenability to treatment and rehabilitation in the landmark juvenile decision of Kent v. United States. In Kent, judges were given guidelines when considering to waive a juvenile to adult court that included questions about the rehabilitation of the juvenile within the juvenile justice system. Indeed, Kent introduced the important principle that the juvenile justice system’s jurisdiction can be waived if the juvenile is not amendable to treatment or rehabilitation in the juvenile justice system. Consequently, one could have assumed that some judges would have considered some aspect of a juvenile’s willingness and capacity for rehabilitation when imposing a life or natural life sentence.

While the low frequencies for some of the variables examined in this study introduced obvious limitations surrounding questions of statistical power, a factor that offers some compensation for this limitation was the fact that this descriptive study’s sample is reasonably representative of the population of pre-Miller cases processed by the judges in Maricopa

---

140 See, e.g., McKinney v. Ryan, 813 F.3d 798, 802 (9th Cir. 2015) (en banc); see also Atiq & Miller, supra note 17, at 170.
142 Id. at 566–67.
143 Id.
For this reason, we assumed that the study’s descriptive results allowed for reasonable generalizations about the range and types of age and non-age-related forms of mitigation contained in the juvenile life case files in Maricopa County.

There was a lack of compelling evidence in this study that judges considered age as evidence of mitigation and diminished culpability during sentencing for serious crimes. For this reason, future research should focus on examining resentencing and new sentencing processes for juvenile lifers in communities with restrictive interpretations of mitigation evidence to determine the extent to which Montgomery has modified how judges consider age and other forms of mitigation evidence when sentencing juveniles to life sentences. The findings of this study also have implications for policy makers because many legal statutes only identify age as a potential mitigating factor without providing sentencing authorities with guidelines containing indicators of the mitigating characteristics of age and its attendant characteristics. This vague treatment of age as a mitigating circumstance in many statutes can lead to disproportionate sentences for juvenile lifers because judges are at increased risk in some court communities for ignoring the important constitutional differences between juveniles and adults described in Roper and its progeny.

\[144\] See supra Section III.C (indicating that 82% of pre-Miller juveniles serving natural life sentences in Maricopa County consented to participating in the authors’ study).