COGNITIVE DISSONANCE ON THE U.S. SUPREME COURT

ELECTRONIC APPENDIX

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The purpose of this Appendix is to discuss alternative methodological strategies utilized to examine cognitive dissonance on the Supreme Court. First, I provide a discussion related to the manner in which the justices' ideologies are operationalized to form the *Counter-Attitudinal Vote* variable. Next, I cover the treatment of justices in the minority in the empirical model appearing in Table 1. Third, I discuss the relationship between case salience and a justice's decision to author or join a special concurring opinion when casting a counter-attitudinal vote. Finally, I discuss the decision to exclude a variable measuring a justice's past level of cooperation with the majority opinion author due to multicollinearity. Most significantly, regardless of how the *Counter-Attitudinal Vote* variable is operationalized, and irrespective of how minority justices are treated in the multinomial logit model, the results appearing in Table 1 and discussed in the article are robust.

OPERATIONALIZING DISSONANCE

In the article, I operationalize the *Counter-Attitudinal Vote* variable based on ideal point estimates of the justices' ideological preferences developed by Martin and Quinn (2002). I utilize these measures for two reasons. First, their endogenous nature, as a function of being based on the actual votes justices cast, makes them a particularly fine-tuned means to capture the justices' policy

preferences.[1] Second, their dynamic nature is capable of accounting for alterations in the justices' ideologies that might occur over time.

In adopting these ideal point scores, I am necessarily making the assumption that Supreme Court decision making takes place on a single left-right dimension that does not vary over issue areas. While scholars of Supreme Court voting behavior have reached a general consensus that the justices vote on a one-dimensional left-right policy space (e.g., Bafumi, Gelman, Park, and Kaplan 2005; Grofman and Brazill 2002; Martin and Quinn 2002; Poole 2003; but see Sirovich 2003), if the justices do not behave in this manner, the validity of my results can be called into question. Rather than simply assume the justices vote on a single ideological dimension, I have performed an auxiliary analysis that allows the justices' preferences to vary depending on the issue area of the case. The purpose of this section of the Appendix is to explain this alternative modeling strategy and to report the results of the alternative model specification, which corroborate the results presented in the article.

To operationalize an alternative, issue-specific measure of the *Counter-Attitudinal Vote* variable, I have calculated the proportion of liberal votes each justice cast, per term, in four issue areas: civil rights, civil liberties, economics, and other cases.[2] Civil rights cases include cases

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[1] While these scores are an endogenous measure of the justices' preferences, it is important to note that a justice's decision to author or join a separate opinion is not equivalent to the decision to cast a liberal or conservative vote. Thus, the use of the Martin and Quinn (2002) does not implicate circularity issues that sometimes arise in measuring the justices' policy preferences when predicting the likelihood of ideological vote choice (i.e., liberal or conservative voting). In other words, the Martin and Quinn (2002) scores constitute a reasonably independent measure of ideology for the purposes of examining separate opinion authorship on the Supreme Court (e.g., Collins 2008b: 155).

[2] Votes were selected using the orally argued case citation as the unit of analysis.

identified in the Spaeth (2002, 2003) databases as encompassing criminal procedure, civil rights, due process, and attorneys. Civil liberties cases include cases involving the First Amendment and privacy. Economics cases include cases involving economic activity, unions, and federal taxation. Other cases involve disputes encompassing judicial power, federalism, interstate relations, and those classified by Spaeth as miscellaneous. The average number of votes on which these scores are based is 29.2 votes (standard deviation = 18.1).

I then zero centered these ideology scores by subtracting 0.5 from each score. Accordingly, these dynamic and issue-specific ideology scores range from −0.5 to +0.5, with higher scores reflecting more liberal ideologies.[3]

To operationalize the *Counter-Attitudinal Vote* variable discussed below, I followed the coding rubric employed in the article. If a justice cast a liberal vote, this is the justice's issue-specific ideology score multiplied by −1. If a justice cast a conservative vote, this variable represents the justice's issue-specific ideology score multiplied by +1. Because liberal justices have positive ideology scores and conservative justices have negative ideology scores, higher values on this variable indicate that a justice cast a vote discrepant from his or her ideology.

*** Appendix Table 1 About Here ***

Appendix Table 1 reports the results of the model that uses this alternative measure of the *Counter-Attitudinal Vote* variable.[4] As this table makes clear, the results of the alternative model

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[3] These issue-specific ideology scores are correlated with the Martin and Quinn (2002) scores at the −0.713 level.

[4] To promote the coherency of the results, I also altered the coding of the *Ideological Distance* variable. That is, in Appendix Table 1 this variable represents the absolute value of each justice's ideological distance from the majority opinion author, using the issue-specific ideology scores discussed above.

specification are consistent with those reported in the article. In particular, the results illustrate that a justice is more likely to author or join a special concurring opinion when casting a counter-attitudinal vote, but is less likely to author or join a dissenting opinion when casting a counter-attitudinal vote. As with Table 1 in the article, there is no statistically significant relationship between the *Counter-Attitudinal Vote* variable and a justice's decision to author or join a regular concurring opinion. Accordingly, this surrogate model specification indicates that the results presented in the article are not being driven by an imprecise measure of the justices' policy preferences. Rather, the findings are robust to alternative operationalizations of the justices' attitudes.

The Inclusion of Minority Justices in Table 1

In the text, I have posited that dissonance will manifest itself most strongly for justices in the Court's majority, and, to reduce this dissonance, these justices will be more likely to write or join special and regular concurring opinions. Conversely, justices in the Court's minority should exhibit minimal, if any, dissonance and should therefore be less likely to author or join a dissenting opinion when casting a counter-attitudinal vote, as compared to joining the Court's majority. In subjecting these hypotheses to empirical scrutiny, I have opted to include all justices, save the majority opinion author, regardless of their majority or minority status, in the multinomial logit model. An alternative modeling strategy would be to exclude justices in the minority from the statistical model as my theory posits that such justices will exhibit minimal, if any, levels of dissonance.

My motivation for including minority justices in the statistical model is two-fold. First, from a theoretical standpoint, both the dissonance and judicial literatures are capable of providing theoretical purchase over the behavior of justices in the Court's minority, particularly as relating to strategic characterizations of Supreme Court voting behavior (e.g., Maltzman, Spriggs, and Wahlbeck

Note also that the N in Appendix Table 1 is smaller than that of the N of Table 1 in the article due to missing data corresponding to the issue area of two cases in the Spaeth databases.

2000; Murphy 1964) and the aversive consequences of behaving in a counter-attitudinal manner (e.g., Aronson 1976; Burger 1989; Festinger 1957). Second, from a methodological standpoint, it is desirable to include minority justices in the statistical model because their exclusion is inefficient from a data analysis standpoint. That is, it is beneficial to include minority justices because they provide information to the model that increases its ability to render unbiased and efficient parameter estimates. Inasmuch as "maximizing efficiency requires not only using all our data, but also using all the relevant information in the data to improve inferences" (King, Keohane, and Verba 1994: 28), it is clear that the exclusion of minority justices could potentially result in an inefficient use of the data under analysis.

That being said, one could just as reasonably argue that justices in the Court's minority should be excluded from the empirical model. First, the theory articulated in the text predicts that these justices should exhibit minimal, if any, levels of dissonance. As such, from a theoretical standpoint, one could sensibly exclude minority justices from the model. Second, and relating to a strategic characterization of judicial behavior, one could argue that excluding minority justices is desirable since it puts the justices on an equal footing with regard to the strategic motivation to cast a counter-attitudinal vote for the purpose of joining the Court's majority. That is, a strategic theory of judicial decision making might predict that justices will cast counter-attitudinal votes for the purpose of joining the Court's majority in order to have more substantial input into the content of the majority's opinion than justices in the Court's minority enjoy. Because the motivation to more fully bargain over the content of the majority's opinion is theoretically applicable to all justices in the Court's majority, by including only justices voting with the Court's majority in the empirical model, this strategic choice is, in effect, controlled for. Given that the decision to include only justices voting with the Court's majority accounts for a justice's strategic incentive to more fully bargain and negotiate over the content of the majority opinion, this provides a potential means to more

thoroughly parse out the strategic and psychological motivations for authoring or joining concurring opinions.[5]

*** Appendix Table 2 About Here ***

Accordingly, to ensure the robustness of the empirical findings when minority justices are excluded from the analysis, Appendix Table 2 reports the results from a multinomial logit model that contains data from only justices who were part of the Court's majority. The dependent variable represents the five choices available to majority justices in the data (join the majority, author a special concurring opinion, join a special concurring opinion, author a regular concurring opinion, or join a regular concurring opinion). This table evinces that the results are robust to the exclusion of justices in the Court's minority. That is, consistent with Table 1, justices in the majority are more likely to author or join special concurring opinions than join the majority opinion when casting counter-attitudinal votes. Also in-line with Table 1, there is no statistically significant relationship between casting a counter-attitudinal vote and authoring or joining a regular concurring opinion. Moreover, the marginal effects of the *Counter-Attitudinal Vote* variable very closely approximate those reported in Table 1: a one standard deviation increase in the *Counter-Attitudinal Vote* variable corresponds to a 0.9% increase in the likelihood of observing a justice author a special concurring opinion and the same one standard deviation increase in this variable corresponds to a 0.6% increase in the chances of observing a justice join a special concurring opinion. Thus, it is clear that the results of Table 1 are consistent regardless of whether justices in the Court's minority are included or excluded from the empirical model.

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[5] Recall the strategic incentive to author or join a separate opinion for the purpose of weakening a majority opinion that does not reflect a justice's policy preferences is captured by the *Ideological Distance* variable.

POLITICAL SALIENCE AND COGNITIVE DISSONANCE

One of the most consistent findings in the literature examining judges' decisions to author or join separate opinions relates to case salience. Simply put, judges are more likely to author or join separate opinions in cases with broad political import (e.g., Collins 2008b; Hettinger, Lindquist, and Martinek 2006; Wahlbeck, Spriggs, and Maltzman 1999). To examine if case salience further enhances the probability that a justice will author or join a special concurring opinion when casting a counter-attitudinal vote, I have computed predicted probabilities that compare the marginal effects of the *Counter-Attitudinal Vote* variable in salient and non-salient cases (i.e., when *Political Salience* = 0 or 1, respectively).[6] In a non-salient case, a one standard deviation increase in the *Counter-Attitudinal Vote* variable corresponds to a 0.9% increase in the probability of observing a justice author a special concurring opinion and a 0.7% increase in the likelihood that a justice will join a special concurring opinion. In a salient case, a one standard deviation increase in the *Counter-Attitudinal Vote* variable corresponds to a 1.8% increase in the chances that a justice will author a special concurring opinion and a 1.0% increase in the probability that a justice will join a special concurring opinion. Thus, the political salience of a case further enhances the probability that a justice will author or join a special concurring opinion when casting a counter-attitudinal vote.

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[6] Because the marginal effects of each variable in a maximum likelihood model are conditional on the values of the other variables in the model, this technique provides a parsimonious manner to estimate the interactive effects of the *Political Salience* and *Counter-Attitudinal Vote* variables that is far less computationally taxing than running a model that includes an interaction term composed of these variables (e.g., Epstein, Lindstadt, Segal, and Westerland 2006: 299). Note, however, that I ran such an interactive model, the results of which corroborate those reported here.

COOPERATION AND COLLINEARITY

In addition to the variables reported in Table 1 of the article, I considered including a variable in the model to capture each justice's past level of cooperation with the majority opinion author, operationalized in the manner described in Wahlbeck, Spriggs, and Maltzman (1999: 500). However, because this variable is correlated with the *Ideological Distance* variable at the 0.98 level, it was excluded from the model. Pearson's correlation tests reveal that the remaining variables in the model exhibit minimal evidence of multicollinearity: the highest correlations relate to the *Amicus Curiae Briefs* and *Political Salience* variables ($r = 0.28$) and the *Ideological Distance* and *Counter-Attitudinal Vote* variables ($r = 0.19$).

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Appendix Table 1. Multinomial Logit Model of a Justice's Decision to Author or Join a Separate Opinion using Issue-Specific Ideology Scores, 1946-2001 Terms

Predictor Variable	Author Special Concurring	Join Special Concurring	Author Regular Concurring	Join Regular Concurring	Author Dissent	Join Dissent
Counter-Attitudinal Vote	.843***	1.39***	.057	.184	−1.49***	−1.77***
	(.159)	(.235)	(.166)	(.319)	(.103)	(.108)
Ideological Distance	2.52***	2.67***	1.08***	1.62***	5.38***	5.73***
	(.173)	(.248)	(.183)	(.333)	(.113)	(.118)
Legal Complexity	.040	.095*	.110***	.091	.072***	−.003
	(.031)	(.048)	(.032)	(.076)	(.019)	(.023)
Legal Salience	.572***	.492***	.442***	.270	−030	−.160**
	(.081)	(.121)	(.090)	(.178)	(.061)	(.075)
Political Salience	.637***	.280**	.819***	.522**	.380***	.138***
	(.074)	(.115)	(.079)	(.163)	(.048)	(.057)
Amicus Curiae Briefs	.032***	.028**	.028***	.019	.025***	.015**
	(.007)	(.011)	(.006)	(.011)	(.005)	(.006)
Freshman	−.344***	−.163	−.117	.296*	−.162**	−.055
	(.099)	(.124)	(.102)	(.148)	(.061)	(.059)
Chief Justice	−.978***	.317***	−.618***	.107	−.383***	.507***
	(.125)	(.092)	(.107)	(.131)	(.064)	(.048)
End of Term	.001**	.0003	.002***	.002*	.0005*	.0003
	(.0004)	(.0007)	(.0004)	(.0009)	(.0002)	(.0003)
Constant	−3.99***	−4.22***	−3.36***	−4.41***	−3.41***	−3.24***
	(.289)	(.442)	(.252)	(.434)	(.172)	(.197)
Wald χ^2	99,293.6***					
N	50,611					
Percent Correctly Predicted	69.7					

The baseline category is joining the majority opinion. Numbers in parentheses report robust standard errors, clustered on case citation. Model includes 55 temporal dummy variables (results not shown). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (one-tailed tests).

Appendix Table 2. Multinomial Logit Model of a Majority Justice's Decision to Author or Join a Concurring Opinion, 1946-2001 Terms

Predictor Variable	Author Special Concurring	Join Special Concurring	Author Regular Concurring	Join Regular Concurring
Counter-Attitudinal Vote	.105***	.120***	.008	.013
	(.012)	(.017)	(.013)	(.022)
Ideological Distance	.169***	.256***	.068***	.167***
	(.014)	(.018)	(.015)	(.026)
Legal Complexity	.042	.095*	.109***	.089
	(.031)	(.048)	(.031)	(.075)
Legal Salience	.623***	.559***	.460***	.294
	(.082)	(.122)	(.091)	(.178)
Political Salience	.717***	.372***	.859***	.596**
	(.075)	(.116)	(.080)	(.161)
Amicus Curiae Briefs	.032***	.029*	.028***	.017
	(.007)	(.012)	(.006)	(.012)
Freshman	−.402***	−.175	−.122	.321*
	(.102)	(.125)	(.102)	(.148)
Chief Justice	−1.28***	.008	−.722***	−.043
	(.126)	(.094)	(.106)	(.136)
End of Term	.001**	.0005	.001***	.002*
	(.0004)	(.0007)	(.0004)	(.0009)
Constant	−3.98***	−4.46***	−3.33***	−4.55***
	(.288)	(.433)	(.255)	(.433)
Wald χ^2	107,466.0***			
N	39,861			
Percent Correctly Predicted	87.8			

The model includes only justices who voted with the Court's majority. The baseline category is joining the majority opinion. Numbers in parentheses report robust standard errors, clustered on case citation. Model includes 55 temporal dummy variables (results not shown). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (one-tailed tests).