Leadership Continuity, Cosponsor Cues, and Bill Advancement in State Legislatures

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Abstract: While many studies of state legislatures have considered collective levels of experience due to term limits or turnover, little research has focused specifically on turnover at the highest levels of legislative leadership. Continuity in legislative leadership varies tremendously across state legislatures, from leaders who serve for a generation to chambers where every session features a new speaker or president. In this paper, I ask whether leadership experience has ramifications in the policymaking process, and especially with respect to the floor agenda. More specifically, I ask whether the linkage between cosponsor cues and bill success differs for experienced and inexperienced leaders. Looking at bills considered in 26 state legislative lower chambers from 2012-2020, I find no evidence of differences between new and continuing leaders, indicating that leaders quickly learn to use cosponsor cues and that this aspect of legislative turnover does not meaningfully inhibit legislative productivity.

In legislatures with large numbers of introduced bills and limited amounts of time, one crucial agenda-setting role of leadership is deciding which bills will receive floor consideration. This aspect of "winnowing" (Jenkins 2016; Krutz 2005) has been fruitfully explored by both empirical studies that focus on information cues and theoretical accounts that explicate the strategic calculus of party leaders. However, both theoretical and empirical studies of bill success and advancement often abstract away from the role of leaders—focusing on the information at the leaders' disposal but not on the traits of the leaders themselves.

In particular, leadership continuity and turnover has received little attention in studies of bill outcomes. In part, this may stem from the fact that much of what we know about legislative leadership comes from studies of Congress, where leadership turnover is infrequent and often precipitated by change in the majority party. For example, in the period from 1997-2019, there have been five different Speakers of the House and five Senate majority leaders, with seven of the nine changes corresponding with a change in the majority party. With so few cases, it is hard to distinguish between the impact of change per se and the tendencies of the incoming leader.

In the state legislatures, there is not only more opportunity to explore leadership turnover continuity, but ample reason to believe that such changes influence legislative outcomes. While work on state legislatures has rarely commented on leadership turnover, a robust literature explores the effects of legislative turnover more generally. Some of this work focuses specifically on term limits—with membership turnover as one of the central mechanisms connecting term limits to outcomes such as relationship building, fiscal performance, policy innovation, and interbranch influence (Kousser 2005; Lewis 2012; Miller et al. 2011; Sarbaugh-Thompson et al. 2006). Other studies find linkages between membership turnover more generally outcomes such as legislative productivity (Makse 2017; Rogers 2005). A similar logic can be

used to connect leadership turnover to lawmaking outcomes. Just as membership turnover affects the collective set of relationships and institutional knowledge in the legislature, new leaders must cultivate relationships (or adjust them under new power dynamics) and develop an understanding of the levers of power. New leaders must learn to operate under time constraints and balance individual member demands with party branding considerations (Cox and McCubbins 1993)

In this paper, I focus on one aspect of leadership decision-making: the use of cosponsor cues. That is, do new leaders successfully utilize information about the quantity, diversity and quality of cosponsors (Koger 2003) in organizing the floor agenda? Understanding how leaders use this information lends insights into whether leadership turnover compounds the broader effects of membership turnover. If new leaders utilize cosponsor cues in a similar fashion to more experienced leaders, we need not be concerned that leadership turnover will slow down the legislative assembly line. Conversely, if new leaders use this information less effectively in their first term, it might indicate a second mechanism through which legislative turnover and term limits can have a deleterious effect on legislative productivity and efficiency.

To answer this question, I analyze a dataset of more than 134,000 bills in 26 state legislatures from 2012-2020. After providing a descriptive analysis of leadership continuity in state legislatures, I compare which types of bills pass under different types of leaders—distinguishing between new and continuing leaders, but also between leaders who are promoted from within the leadership, leaders who are selected from outside the previous leadership team, and leaders who were selected after a change in majority party control. Overall, I find no evidence that leadership experience conditions the use of cosponsor cues, suggesting that the use of cosponsor cues is a quickly learned tool and that this aspect of legislative turnover does not meaningfully inhibit legislative productivity.

Cosponsor Cues and Legislative Success

Scholars of legislative politics have increasingly drawn on cosponsorship patterns as a complement to other publicly observable legislative actions such as roll calls. Authoring and cosponsoring behavior has been used to make inferences about promise keeping (Sulkin 2009), agenda setting (Schiller 1995; Woon 2008) and the championing of policy innovations (Bromley-Trujillo et al. 2019; Makse 2021). Collaborations between legislators have also been used to estimate ideal points (Aleman et al. 2009; Desposato et al. 2011) and construct legislative networks (Bratton and Rouse 2011; Fowler 2006).

When it comes to specific pieces of legislation, a bill's list of cosponsors can provide signals to both peers and leaders. Legislators often take cues from fellow members when it comes to casting votes, especially on the basis of expertise (Fong 2019) and later in the legislative process (Zelizer 2019). These cues can take a variety of forms, but Kessler and Krehbiel (1996) argue that cosponsorship can serve this purpose and that the timing of cosponsorship decisions is consistent with this interpretation.

For leaders, cosponsor cues can provide information about a bill's likelihood of success, a key piece of information when gauging risk, reward, and the expected effort associated with placing a bill on the floor agenda[1]. Research in both Congress (e.g., Adler and Wilkerson 2013; Box-Steffensmeier et al. 2019; Krutz 2005) and the state legislatures (e.g., Clark 2015; Jenkins 2016; Makse 2022) finds evidence that bills with more cosponsors are more likely to pass, while most of these studies also find that having bipartisan cosponsors is predictive of success. Holman

[1] A related set of questions speaks to whether traits of the bill's **author** is associated with legislative success. To the extent that leaders take cues from this information, however, the resulting inferences are more likely to be about the quality or suitability of the legislation, and less about the prospects for the bill's passage.

et al. (2022) also find that having women cosponsors, especially bipartisan women cosponsors, increases the probability of bill passage.

Koger (2003) combines these insights in arguing that leaders take cues from cosponsorship patterns because cosponsors indicate the transaction costs associated with passing a piece of legislation. He identifies three dimensions along which a bill's collection of cosponsors can be classified: quantity, diversity, and quality. Bills which have more cosponsors, more diverse cosponsors, and higher quality cosponsors (i.e., persons in positions of institutional influence) should be better investments of effort for leaders. In Koger's account, however, this cue-taking by leaders is treated as a constant not conditioned on traits of the leaders themselves.

Given a modicum of experience in leadership, it is clear how the quantity, diversity, and quality of cosponsors could serve as a useful heuristic in considering which bills to prioritize. It is less clear, however, whether the use of such heuristics would be immediately utilized by new leaders—especially those who have not served in lower leadership positions. On the one hand, it might seem cosponsor cues might be viewed as a very accessible heuristic that new leaders could utilize to offset their unfamiliarity with their new position, especially since they do have broader legislative experience, including cosponsoring bills and seeking cosponsors themselves. In this telling, cosponsor cues would be considered a "skilled intuition" (Kahneman and Klein 2009) developed from prior and familiar experience as a legislator. On the other hand, the effective use of these cues might be seen as exactly the type of institutional knowledge whose absence animates concerns over term limits and membership turnover. While cosponsor cues might seem like straightforward sources of information, legislatures—especially those undergoing leadership change—might be viewed as "noisy" environments in which the development of heuristics is more difficult (Dane and Pratt 2007; Kahneman and Klein 2009). In the analyses that follow, I

treat these accounts as competing hypotheses: do new leaders rely on cosponsor cues as much as experienced leaders, or do more experienced leaders rely on cosponsor cues more heavily?

Leadership Continuity in State Legislatures

Before proceeding to an examination of the data, I briefly describe patterns of leadership turnover in contemporary state legislatures. Some of the most systematic analyses of leadership turnover were published almost two decades ago or longer (Freeman 1995; Kousser 2005) and have treated the leader (and their tenure) as the unit of analysis, rather than focusing on whether an individual legislative session is characterized by leader continuity or turnover. Highlighting the substantial diversity in leadership continuity across states helps underline the importance of this paper's research questions.

Although the main analyses of this paper focus on lower chamber legislative sessions beginning between 2012-2019, I collected more expansive data on leadership transitions for all legislative sessions from 1998-2019 in both chambers. To measure continuity, I identified the individual who held the top leadership position in the chamber at the beginning of each session, coding leadership continuity as "1" if there was no change from the start of the previous session to the start of the current session.[2] For lower chambers, I looked at holders of the speakership, while for upper chambers, I looked at senate presidents or presidents pro tempore, as appropriate.[3] In addition, I noted the positions held by the new leader prior to their ascension to the top leadership position.

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[2] Specifically, I consider how to treat leaders who assume their position in the middle of a session and whether their partial-term experience means they should be treated as new leaders or not. This occurred in less than 3% of the terms in the dataset.

[3] Since elected lieutenant governors serve primarily in the executive branch, I consider the top legislative leader internal to the legislature. The exception is Texas, where there is no meaningful

Across all chambers and years, 47% of lower chamber sessions and 45% of upper chamber sessions started with a different top leader from the previous session. While changes in the majority, by definition, lead to a change in top leadership, this is not the primary source of leadership turnover, as 80% of the turnover occurred in chambers where there was no change in the majority party.

The states with the most leadership turnover are Arkansas, Florida, North Dakota, and Wyoming. In some cases, such as the Florida House and Wyoming Senate, this is due to an explicit convention or rule of having new leadership each term. The states with the fewest cases of leadership change are Illinois and Maryland, both of which had very long-tenured leaders in both chambers. For the most part, these patterns of consistency across chambers within a state are common in the data: the correlation between a state's lower and upper chamber turnover rate is $r = 0.66$. Only six states have a difference of more than 30% between the chambers. An illustration of the turnover rate by state (combining both chambers) is found in Map 1.

As would be expected, there is a strong correlation ($r = 0.57$) between leadership change rates and the overall level of turnover in the legislature. Relatedly, states with term limits have much higher rates (68%) of leadership change than states without term limits (37%). However, these two variables collectively only explain 40% of the variance in leadership continuity across states. There are several states which have relatively high membership turnover and relatively stable leadership patterns (e.g, Alabama, Maryland) and vice versa (e.g., Nebraska, North Dakota). It is, therefore, not only theoretically possible that leadership and membership turnover have independent effects—it is empirically possible to distinguish between them.

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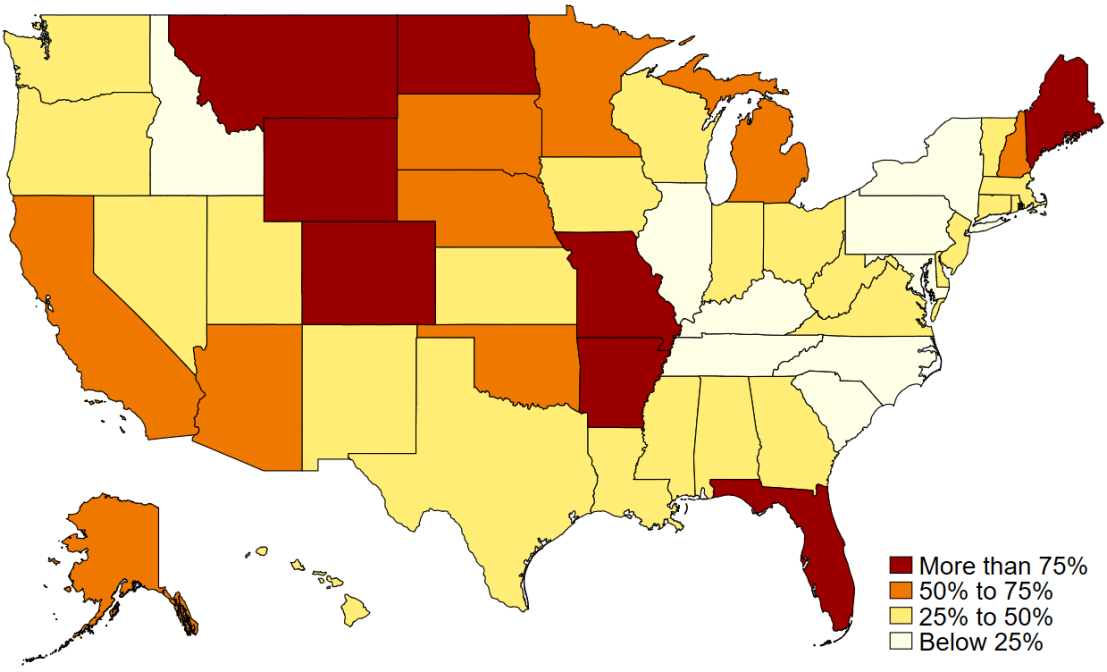
leadership structure beyond the lieutenant governor (the president pro tempore is largely an honorary position). In Tennessee and West Virginia, which elect a person to serve as both Senate president and lieutenant governor, this person is treated at the top senate leader.

Beyond turnover and term limits, leadership change is also more common in the moralistic political culture (57%) than in the traditionalistic (42%) or individualistic (40%) cultures. And while the bivariate relationship between leadership change and professionalism is not significant, the relationship becomes significant after controlling for term limits (partial correlation of r = -0.34).

Map 1: Percent of Sessions with New Leadership, by State



Finally, I examine, in the spirit of Freeman's (1995) work, whether new leaders are promoted from among the existing leadership team, from among committee chairs, or from neither of these sources. Compared to Freeman, who finds that 90% of leaders were drawn from either the leadership team (46%) or committee chairs (44%), I find a slightly higher percentage

(24%) of new leaders who had held neither.[4] While one might suspect that this change was driven by states which had adopted term limits since the period of the previous study, term limited states are only slightly more likely (28%) to have leaders who held neither a leadership position nor a committee chair.

Data and Methods

To assess whether new leaders respond to cosponsor cues differently from more experienced leaders, I build a database of legislation derived from Legiscan, focusing only on substantive legislation and excluding resolutions and amendments. I focus on the period from 2013-2020 (2012-2019 in states with odd-year elections) and limit the sample to the lower chambers of all legislatures which had variation in leadership experience.[5] I also remove all states in which fewer than 25% of bills had any cosponsors. This produces a sample of 100 legislative sessions in 26 states[6]. The states in the sample are more professionalized on average (0.22 vs. 0.15 in the Squire index), but there are no significant differences between in-sample and out-of-sample in states in terms of legislature size, turnover, speaker power, state size, income, racial demographics, or partisanship (support for Donald Trump in 2016).

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[4] While one might suspect that this change was driven by states which had adopted term limits since the period of the previous study, term limited states are only slightly more likely (28%) to have leaders who held neither a leadership position nor a committee chair.

[5] That is, I only include those states where at least one of the four sessions had a new leader and at least one had a continuing leader. Focusing on lower chambers is preferable because in upper chambers, there is heterogeneity in the identity and role of various leaders, e.g., lieutenant governors and senate presidents or presidents pro tempore (Squire and Moncrief 2015).

[6] Kansas and Iowa are excluded because a substantial number of bills list a committee as the primary author, while New Hampshire is excluded due to missing data on legislators. In addition, the following individual sessions are excluded due to incomplete cosponsor data: Tennessee in 2013-2014 and Michigan and Ohio in 2015-16.

I also include only those bills that have at least cosponsor in addition to the bill's author, which narrows the final sample of bills to around 134,000 bills. While it is true that bills with at least one cosponsor are more likely to pass than those with none (26% vs. 21%, $p < .001$), the inclusion of bills with no cosponsors would create an intractable problem with respect to the measures of cosponsor diversity and quality. Treating these cases as zeroes on their respective dimensions would be a mistake, as having no cosponsors at all is conceptually distinct from having no diversity among cosponsors or no having no high-quality cosponsors.

The dependent variable is a binary indicator of whether the bill **passed** the lower chamber[7]. An argument could be made for treating floor consideration, rather than passage, as the dependent variable. In practice, however, leaders bring very few bills to a floor vote unless they are going to pass. For example, between 2017 and 2020, only six of the 26 states in the dataset had as many as ten bills which were brought to the floor and failed final passage.

Bill passage was determined by examining bill histories compiled by Legiscan. Across all states, 26% of introduced bills were passed, ranging from a low of 4% (Minnesota) to a high of 71% (California). Because the dataset only includes bills with at least one cosponsor, these numbers sometime deviate substantially from bill passage rates observed in other sources.

The variable **new leader** takes on a value of "1" if the legislative session started under a speaker who had never previously served in that position[8], which includes 41 of the 100

[7] An argument could be made for treating floor consideration, rather than passage, as the dependent variable since leaders decide the former and not the latter. In practice, however, leaders bring very few bills to a floor vote unless they are going to pass. For example, between 2017 and 2020, only six of the 26 states in the dataset had as many as ten bills which were brought to the floor and failed final passage.

[8] In four legislative sessions, a leader served for a portion of the previous term. While the main models treat these cases as new leaders, treating them as continuing leaders instead has no effect on model results.

legislative sessions in the dataset. In addition to this binary measure, I consider several further distinctions among first-term leaders. First, 14 of the 41 new leaders (in 13 states) were promoted to the top leadership position after previously serving in another leadership position. Conversely, 17 of the new leaders (in 14 states) were elected to the speakership without having previously served in a leadership position. Third and finally, 10 new leaders (in 7 states) became leader after a change in the majority party at the last election. I refer to these three types of new leaders, as **promoted, external,** and **majority change**, respectively. In the analyses below, I also explore whether this heterogeneity influences the effects of cosponsor cues.

The three key measures of cosponsor cues (quantity, diversity, and quality) are measured by first identifying all same-chamber cosponsors. The **quantity** of cosponsor cues is measured as the number of cosponsors divided by the total number of members in the legislative chamber. The **diversity** of cosponsor cues is measured by calculating the standard deviation of Shor-McCarty (2011) ideology scores among all cosponsors, with larger values indicating a more ideologically distinct set of cosponsors. Finally, the **quality** of cosponsor cues is measured by identifying the percentage of cosponsors who serve in a leadership position or as a committee chair. Although these values vary substantially across states, the mean bill has a quantity score of 0.08, a diversity score of 0.48, and a quality score of 0.22. These three measures clearly capture distinct dimensions of cues: quantity and quality are only correlated at $r = 0.18$; the correlations are even smaller for quantity and diversity ($r = 0.06$) and for diversity and quality ($r = - 0.05$).

I also create an ordinal version of each measure that divides bills into high, moderate, and low levels. Within each state, a bill is placed in the high category if it is among the top quartile of values (including ties) in that state, and in the low category if it is among the bottom quartile of values. Remaining cases are placed in the moderate category.

In addition to these cosponsor-related variables, I control for several characteristics of the bill's author and of the legislature itself. These variables have been shown to be important predictors of bill advancement in several previous studies analyzing state legislative outcomes (e.g., Clark 2015; Jenkins 2016; Makse 2022). Among author characteristics, I control for whether the author is a member of the **majority party,** whether they serve as a **leader** or **committee chair,** whether the legislator is **female,** the author's **seniority,** and the author's **ideological extremism** (the absolute value of the author's Shor-McCarty score). Among legislature characteristics, I control for Squire's (2017) index of **legislative professionalism**, the average level of legislative **turnover** in the state and, Clucas' (2001) measure of **speaker power.** Descriptive statistics for all variables can be found in Table 1.

Table 1: Descriptive Statistics

Variable	Mean	S.D.	Range
Dependent variable			
Bill passed lower chamber	0.26	--	(0, 1)
Cosponsor cues			
Quantity of cosponsors	0.08	0.09	(0.01, 1.00)
Diversity of cosponsors	0.48	0.37	(0.00, 3.40)
Quality of cosponsors	0.29	0.31	(0.00, 1.00)
Author-level covariates			
Majority status	0.72	--	(0, 1)
Leadership position	0.08	--	(0, 1)
Committee chair	0.22	--	(0, 1)
Ideological extremity	0.93	0.49	(0.00, 3.75)
Seniority	8.13	8.39	(0, 50)
Female	0.28	--	(0, 1)
Legislature-level covariates			
Turnover	0.21	0.07	(0.14, 0.41)
Professionalism	0.29	0.12	(0.08, 0.63)
Speaker power	18.67	3.30	(7.5, 23.5)

Results

I begin by examining passage rates for bills, sorted by characteristics of the bill's cosponsors and whether the legislative session was led by a new or continuing leader. In Table 2, I calculate the difference in bill passage rates between bills that score high and low on each of three dimensions of cosponsor cues.

While all three types of cosponsor cues are associated with higher levels of bill passage rates, the link between cues and passage rates is slightly stronger for continuing leaders when it comes to quantity and diversity of cosponsors. For cosponsor quality, the linkage is larger for new leaders. However, in all three cases, the differences are quite small. There is no indication in any case that utilizing these cues is something that is learned by more experienced leaders.

Table 2: Differences in Bill Passage Rates by Cosponsor Cues and Leader Type

Leader Status		**Quantity Cues**	**Diversity Cues**	**Quality Cues**
Continuing		8.6	7.5	8.8
New	All	7.2	7.5	11.4
	Promoted	4.3	4.4	17.5
	External	7.3	8.0	9.6
	Majority Change	6.6	9.4	6.6

Note: Cells indicate differences in passage rates between bills with High and Low cue values.

Table 2 also examines whether the importance of cues to new leaders depends on whether the leader was promoted, unpromoted, or took over the leadership role after a switch in the chamber's majority. While there are some differences across new leader types, the patterns defy simple explanation. Promoted leaders are less likely to use quantity and diversity cues and more likely to use quality cues. Leaders in cases of majority changes are less likely to use quality cues. Unpromoted leaders are most similar to continuing leaders. Again, none of these patterns are consistent with the idea of cue taking as learned leadership behavior.

To see whether any of these differences persist in a multivariate model, I present the results from a series of multilevel logistic regression models predicting bill passage. These models include a random intercept term with state-session as the grouping variable, allowing bill passage rates to vary across states and sessions. I also include random slopes for the cosponsor cue variables in the respective models, allowing the effect of cues to vary across state-sessions. Wald tests support the inclusion of both the random intercept and random slope term in all cases.

To get a sense of the overall impact of cosponsor cues, I first estimate their effect in a model that includes all three cue variables but no interactions with leadership experience (see Table A-1), comparing the 5^{th} and 95^{th} percentile values of each cue variable. As the percentage of legislators in the chamber cosponsoring a bill increases from 1% to 26%, the probability of bill passage, holding other variables at their means, increases by 13%. Increasing the diversity of cosponsors has a similar effect: predicted bill passage increases by 13% as the standard deviation of cosponsor Shor-McCarty scores increases from 0.05 to 1.18. The effect of cosponsor quality is smaller; bill passage increases by 8% as the percentage of cosponsors holding leadership positions or committee chairs increases from 0% to 100%.

Next, I assess whether there is evidence of a conditional relationship between leadership experience and the use of cosponsor cues. Rather than presenting a complex multilevel model with three random slope terms and three cross-level interactions, I tested separately whether the use of any of the three cosponsor cues depended on the experience of the chamber's leader.

Table 3 presents the results of these three models. In each case, the random slope term significantly improves model fit, indicating that the effects of each of the cosponsor cues varies across legislative sessions. However, none of the interaction terms are statistically significant.

On this evidence, leadership experience does not appear to systematically condition the use of cosponsor cues.

Table 3: Multilevel Logit Models of Bill Passage

	Quantity Cues	Diversity Cues	Quality Cues
Cosponsor cues			
New leader in legislature	-0.07 (0.22)	-0.06 (0.16)	-0.27 (0.17)
Quantity of cosponsors	3.31 (0.66)**	3.09 (0.08)**	3.03 (0.08)**
Quantity X new leader	0.11 (1.03)	--	--
Diversity of cosponsors	0.67 (0.02)**	0.79 (0.09)**	0.69 (0.02)**
Diversity X new leader	--	-0.14 (0.14)	--
Quality of cosponsors	0.43 (0.03)**	0.43 (0.02)**	0.69 (0.09)**
Quality X new leader	--	--	-0.06 (0.14)
Author-level covariates			
Majority status	1.29 (0.02)**	1.29 (0.02)**	1.24 (0.02)**
Leadership position	0.09 (0.03)**	0.07 (0.03)*	0.05 (0.03)*
Committee chair	0.28 (0.02)**	0.28 (0.02)**	0.28 (0.02)**
Ideological extremity	-0.29 (0.02)**	-0.28 (0.02)**	-0.24 (0.02)**
Seniority	0.007 (0.001)**	0.007 (0.001)**	0.009 (0.001)**
Female	0.01 (0.02)	0.01 (0.02)	0.00 (0.02)
Legislature-level covariates			
Turnover	3.72 (1.41)**	3.70 (1.03)**	3.97 (1.13)*
Professionalism	-0.42 (0.87)	0.50 (0.64)	-0.16 (0.70)
Speaker power	-0.08 (0.03)**	-0.08 (0.02)**	-0.06 (0.02)**
Constant	-1.77 (0.57)**	-1.97 (0.39)**	-1.58 (0.47)**
σ (Intercept: legislative session)	1.02 (0.15)	0.64 (0.09)	0.70 (0.10)
σ (Random slope: cosponsor cue)	23.25 (4.08)	0.51 (0.09)	0.41 (0.07)
N	134,677	134,677	134,677
Log Likelihood	-65024.13	-65476.68	-65500.58

Note: # p<0.10; * p<0.05; **p<0.01.

The control variables in the model all behave as predicted by the literature. Bills authored by members of the majority party, more senior members, party leaders, and committee chairs are

all more likely to pass, while bills authored by ideologically extreme members are less likely to pass. No differences based on the author's gender are observed. Bills are more likely to pass in high turnover legislatures and less likely to pass in legislatures with stronger speaker powers.

Next, I consider the possibility that the *collective* utilization of cues might vary by leadership experience, even if evidence is scant when looking at three types of cues individually. To assess this, I create an additive index of the three types of cosponsor cues using the ordinal versions of the independent variables for quantity, diversity, and quality. That is, each of the three measures is coded as "-1" for low values, "0" for moderate values and "1" for high values, and the resulting index ranges from -3 to 3. This index is then entered into the model along with an interaction between this index and leadership experience, and a random slope term for the index. (Full results can be found in Table A-2). Once again, there is no evidence of an interactive relationship. In fact, even if the finding were statistically significant, its substantive effect would be quite small. The model results imply that, across the full range of the cues index (-3 to 3), the effect on bill passage rates would be 29% for continuing leaders and 26% for new leaders.

As in Table 2, I also consider whether the specific type of new leader makes a difference. Tables A-1 (for the individual cue variables) and A-2 (for the index of cosponsor cues) present the results from models using the categorical version of the leader type variable. Once again, while cosponsor cues were positively associated with bill passage, there is no significant interaction term between cues and any of the three types of leadership change.

Finally, I explore two other dimensions of the data. First, I limit the above analyses to bills which were reported out of committee. Insofar as committee chairs have gatekeeping power and leaders primarily influence the outcomes of bills that clear this first hurdle, the inclusion of bills which died in committee may make it more difficult to detect the effects of leadership

behavior. Even when limiting the analysis to reported bills, I observe no difference between new and experienced leaders.

Second, I examine whether the conditional relationship between leadership experience and cosponsor cues exists for any specific subsets of legislatures. In particular, I examine legislative professionalism and membership turnover, as the effect of cosponsor cues might operate differently across different levels of legislative capacity or collective legislative experience. Once again, none of these models ever produced a significant interactive relationship between cosponsor cues and leadership experience.

Discussion

In this paper, I compare the use of cosponsor cues new and experienced leaders in terms of how information about bill cosponsorship affects the probability of bill passage. I find that the three types of cosponsor cues identified by Koger (2003) in his study of Congress (quantity, diversity, and quality) also paint an accurate portrait of cosponsor cue usage in state legislatures. However, reliance on these cues is unrelated to one's tenure in a leadership position.

The null results throughout this paper suggest that cosponsor cues are not a tool that experienced leaders become more adept at using over time. Rather, leaders appear to understand the value of cosponsor cues from day one. In one sense, this may not be surprising, insofar as cosponsor cues are an intuitive and easily accessible source of information and the use of them may not be cognitively challenging. However, it does suggest that one of the main mechanisms in the broader literature on turnover and term limits—institutional knowledge—does not apply to turnover in leadership positions in the same way it applies to membership turnover writ large.

Future work should consider whether new and continuing leaders differ across other aspects of constructing the legislative agenda. Do new leaders tend to shift policy attention (e.g., Garlick 2022; Lowery et al. 2010) toward new policy areas, or do structural factors keep policy attention largely stable? At a more granular level, do new leaders differ in terms of the specific bills they place on the floor agenda? For example, are innovative policies more likely to receive floor consideration under new or continuing leaders?

Drilling down on leadership turnover may also help clarify our understanding of formal leadership powers and centralization in state legislatures. State legislatures vary substantially in whether leaders, committees, or caucuses are loci of power (Francis 1985), the extent to which powers are centralized with legislative leaders (Clark 2015) and the formal powers or perceived influence of leaders (Clucas 2001; Mooney 2013). But what is the relationship between these institutional arrangements and leadership turnover? Does churn in legislative leadership produce uncertainty that cautions against centralizing powers? Or as Shay (2021) observes in examining the link between term limits and speaker power, does leader turnover increase the need for strong leadership? Although these questions are difficult to disentangle causally, looking at leadership turnover over long periods of time has the potential to offer some traction.

Finally, although this paper touched briefly on identifying leadership change that resulted from majority party change, a full understanding of leadership turnover should more fully consider the role of interparty competition in states. One-party dominance has been common over time in state legislatures (Parry et al. 2022) and the importance of party brands is lower in states lacking robust two-party competition (Burke et al. 2021). The implications of leadership turnover, then, may mean very different things in states with one-party dominance and two-party competition.

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Table A-1: Multilevel Logit Models of Bill Passage, by Categorical Leader Status

	Quantity Cues	Diversity Cues	Quality Cues
Cosponsor cues			
Promoted leader	0.58 (0.29)*	0.89 (0.19)**	0.29 (0.24)
External leader	-0.30 (0.27)	-0.24 (0.18)	-0.28 (0.22)
Majority change leader	-0.73 (0.35)*	-0.54 (0.28)*	-0.51 (0.28)#
Quantity of cosponsors	3.31 (0.64)**	3.09 (0.08)**	3.03 (0.08)**
Diversity of cosponsors	0.67 (0.02)**	0.78 (0.09)**	0.69 (0.02)**
Quality of cosponsors	0.43 (0.03)**	0.43 (0.02)**	0.69 (0.10)**
Cue X promoted leader	-2.21 (1.47)	0.19 (0.18)	0.10 (0.22)
Cue X external leader	0.61 (1.34)	-0.15 (0.18)	0.03 (0.20)
Cue X majority change leader	2.54 (1.71)	0.39 (0.26)	0.12 (0.26)
Author-level covariates			
Majority status	1.29 (0.02)**	1.29 (0.02)**	1.24 (0.02)**
Leadership position	0.09 (0.03)**	0.07 (0.03)*	0.06 (0.03)*
Committee chair	0.28 (0.02)**	0.28 (0.02)**	0.28 (0.02)**
Ideological extremity	-0.29 (0.02)**	-0.28 (0.02)**	-0.24 (0.02)**
Seniority	0.007 (0.001)**	0.007 (0.001)**	0.009 (0.001)**
Female	0.01 (0.02)	0.01 (0.02)	0.00 (0.02)
Legislature-level covariates			
Turnover	4.58 (1.36)**	4.81 (0.99)**	3.77 (1.10)*
Professionalism	-0.57 (0.84)	0.54 (0.65)	0.18 (0.68)
Speaker power	-0.07 (0.03)**	-0.06 (0.02)**	-0.08 (0.02)**
Constant	-2.01 (0.55)**	-2.58 (0.44)**	-1.80 (0.44)**
σ (Intercept: legislative session)	0.92 (0.13)	0.60 (0.09)	0.59 (0.09)
σ (Random slope: cosponsor cue)	21.93 (3.86)	0.51 (0.09)	0.44 (0.08)
N	134,677	134,677	134,677
Log Likelihood	-65016.46	-65467.41	-65498.09

Note: # p<0.10; * p<0.05; **p<0.01.

Table A-2: Multilevel Logit Models of Bill Passage, Index of Cosponsor Cues

	Dummy Version of Leadership Experience	Categorical Version of Leadership Experience
Cosponsor cues		
New leader (any)	-0.11 (0.18)	--
Promoted leader	--	0.39 (0.24)
External leader	--	-0.34 (0.23)
Majority change leader	--	-0.52 (0.29)#
Index of cosponsor cues	0.30 (0.04)**	0.30 (0.04)**
Index X new leader (any)	-0.03 (0.06)	--
Index X promoted leader	--	-0.09 (0.08)
Index X external leader	--	-0.02 (0.08)
Index X majority change leader	--	0.04 (0.10)
Author-level covariates		
Majority status	1.25 (0.02)**	1.25 (0.02)**
Leadership position	0.08 (0.03)**	0.08 (0.03)**
Committee chair	0.29 (0.02)**	0.29 (0.02)**
Ideological extremity	-0.26 (0.02)**	-0.26 (0.02)**
Seniority	0.007 (0.001)**	0.007 (0.001)**
Female	0.02 (0.02)	0.02 (0.02)
Legislature-level covariates		
Turnover	4.49 (1.16)**	5.12 (1.14)**
Professionalism	0.49 (0.72)	0.44 (0.71)
Speaker power	-0.09 (0.02)**	-0.08 (0.02)**
Constant	-1.12 (0.47)*	-1.34 (0.46)**
σ (Intercept: legislative session)	0.71 (0.10)	0.65 (0.09)
σ (Random slope: cosponsor cue)	0.08 (0.01)	0.07 (0.01)
N	134,677	134,677
Log Likelihood	-65502.95	-65498.18

Note: # $p<0.10$; * $p<0.05$; **$p<0.01$.