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Appendix A: Proofs

A.1. *Proof of Prediction 1*

By Assumption 1, the choice probability of any W-move is larger than $1/2$, and the choice probability of any D- or L-move is smaller than $1/2$. It thus remains to be proven that the choice probability of any D-move is larger than that of any L-move. To do so, we first state the following lemma.

LEMMA 1: *Let* $X_1 \sim N(\mu_1, \sigma_1)$ *and* $X_2 \sim N(\mu_2, \sigma_2)$. *Then,*

$$Pr(X_1 \geq T) > Pr(X_2 \geq T) \iff T(\sigma_2 - \sigma_1) < \mu_1\sigma_2 - \mu_2\sigma_1.$$

PROOF: Let Φ denote the CDF of the standard normal distribution. Then,

$$Pr(X_i \geq T) = Pr\left(\frac{X_i - \mu_i}{\sigma_i} \geq \frac{T - \mu_i}{\sigma_i}\right) = 1 - \Phi\left(\frac{T - \mu_i}{\sigma_i}\right).$$

The required ranking of the probabilities holds if and only if

$$\Phi\left(\frac{T - \mu_2}{\sigma_2}\right) > \Phi\left(\frac{T - \mu_1}{\sigma_1}\right) \iff \frac{T - \mu_2}{\sigma_2} > \frac{T - \mu_1}{\sigma_1} \iff T(\sigma_2 - \sigma_1) < \mu_1\sigma_2 - \mu_2\sigma_1.$$

Q.E.D.

The condition $T(\sigma_2 - \sigma_1) < \mu_1\sigma_2 - \mu_2\sigma_1$ identified in Lemma 1 holds when the first random variable corresponds to a D-move x and the second corresponds to an L-move y, because in this case $\mu_1 = 0$, $\mu_2 = L = -W$, $W > T$ by Assumption 1, and $\sigma_1 \geq \frac{1}{2}\sigma_2$ by Assumption 2. Thus, $Pr(u_x \geq T) > Pr(u_y \geq T)$.

To complete the proof, fix a choice set and two evaluation orders of moves O_1 and O_2 that are identical except that x appears before y in O_1, and their locations are switched in O_2. The choice probability of x from these two orderings is

$$Pr(u_x \geq T) \times \Big(Pr(T \text{ not exceeded prior to } x \text{ in } O_1) + Pr(T \text{ not exceeded prior to } x \text{ in } O_2)\Big).$$

The choice probability of y is identical except for $Pr(u_y \geq T)$ replacing $Pr(u_x \geq T)$. The choice probability of x is larger than that of y because

(i) $Pr(u_x \geq T) > Pr(u_y \geq T)$ as we proved above,

(ii) $Pr(T$ not exceeded prior to x in $O_1) = Pr(T$ not exceeded prior to$y$ in $O_2)$ because the evaluation order prior to reaching the first of the two moves x and y is identical in O_1 and O_2, and

(iii) $Pr(T$ not exceeded prior to x in $O_2) > Pr(T$ not exceeded prior to y in $O_1)$ because the order prior to reaching the second of the two moves x and y is identical expect for x appearing in O_1 and being chosen with larger probability than y in O_2.

Since this ranking of the probabilities holds for every pair of evaluation orders in which the locations of x and y are switched, it holds for their choice probabilities from the choice set. *Q.E.D.*

A.2. *Proof of Prediction 2*

We prove the result for W-moves. The proof for D- and L-moves is analogous.

Fix the order in which the DM evaluates moves. Let x denote a W-move. If x is last in the order, its choice probability conditional on reaching it is 1 independently of its complexity σ_x. Otherwise, its choice probability conditional on the order is

$$Pr(T \text{ not exceeded prior to } x) \times Pr(u_x \geq T).$$

The first component in this expression is independent of σ_x, and the second decreases in σ_x because $T < W$. Consequently, the choice probability of any move that appears after x in the order increases in σ_x. Because this holds for any order in which x does not appear last, the result follows. *Q.E.D.*

A.3. *Proof of Prediction 3*

We prove the result for W-moves. The proof for D- and L-moves is analogous.

Assume to the contrary that the choice probability of x is weakly smaller than the choice probability of y. Now increase σ_x until it is equal to σ_y. By Prediction 2, the choice probability of x decreases and the choice probability of y increases, implying the choice probability of x remains smaller than that of y. This is in contrast to the fact that two W-moves with the same object complexity should be chosen with the same probability. *Q.E.D.*

A.4. *Proof of Proposition 1*

Because posterior expected values are ranked in the same way as the estimates, and because the DM chooses the maximal expected value, move x is chosen from some choice set if and only if its realized u-value is larger than the realized u-values of all other moves in the choice set. Thus, to prove the result, it suffices to establish the following:

LEMMA 2: *Let $X_1, \ldots, X_N$ be N independently distributed normal random variables where $X_i \sim N(\mu_i, \sigma_i)$, $\mu_1 = \mu_2$, and $\sigma_1 < \sigma_2$. Then,*

$$P_2 = \mathbb{P}\left[X_2 > \{X_j\}_{j \neq 2}\right] > \mathbb{P}\left[X_1 > \{X_j\}_{j \neq 1}\right] = P_1.$$

PROOF: Without loss of generality, we rescale all RVs so that each X_i is replaced by $\frac{X_i - \mu_1}{\sigma_1}$. After rescaling, we have that $X_1 \sim N(0, 1)$ and $X_2 \sim N(0, \sigma)$ where $\sigma = \sigma_2/\sigma_1 > 1$.

Let $h(x)$ denote the probability that $X_3, \ldots, X_N \leq x$. Then, $h(x)$ strictly increases in x. Let F and f (G and g) denote the CDF and PDF of X_1 (X_2) respectively. Then,

$$P_2 - P_1 = \int_{-\infty}^{\infty} h(x)\Big(F(x)g(x) - G(x)f(x)\Big)dx.$$

Because $X_2 - X_1$ is distributed normal with mean 0, we have that

$$0 = \mathbb{P}(X_2 > X_1) - \mathbb{P}(X_1 > X_2) = \int_{-\infty}^{\infty} \Big(F(x)g(x) - G(x)f(x)\Big)dx.$$

Because $h(x)$ strictly increases in x, if we were to show that the function $m(x) = F(x)g(x) - G(x)f(x)$ crosses 0 exactly once from below at some $\hat{x}$ then the conclusion of the lemma would follow because in this case,

$$\begin{aligned}\int_{-\infty}^{\infty} h(x)\Big(F(x)g(x) - G(x)f(x)\Big)dx &= \int_{-\infty}^{\hat{x}} h(x)m(x)dx + \int_{\hat{x}}^{\infty} h(x)m(x)dx \\ &> \int_{-\infty}^{\hat{x}} h(\hat{x})m(x)dx + \int_{\hat{x}}^{\infty} h(\hat{x})m(x)dx \\ &= h(\hat{x})\int_{-\infty}^{\infty} m(x)dx = 0.\end{aligned}$$

To conclude the proof, it thus suffices to show that $m(x)$ crosses 0 exactly once from below at $\hat{x} > 0$. We do so by showing that

(i) $m(x) \leq 0$ for all $x \leq 0$ with strict inequality for $x = 0$,

(ii) $m(x) > 0$ for some $x > 0$, and

(iii) $m(x)$ cannot cross 0 from above at some $x > 0$.

To verify (i), observe first that $m(0) = 1/2(g(0) - f(0)) < 0$. To prove that $m(x) \leq 0$ for any $x < 0$, fix $x < 0$ and consider the interval $[a, x]$ with $a < x$. By Cauchy's mean value theorem, there exists $a < c < x$ such that

$$(F(x) - F(a))g(c) = (G(x) - G(a))f(c).$$

Since the ratio $g(x)/f(x)$ decreases in x for $x < 0$, we have that

$$(F(x) - F(a))g(x) < (G(x) - G(a))f(x),$$

which is true for any $a < x$. We take a to $-\infty$ to obtain $F(x)g(x) \leq G(x)f(x)$, i.e., $m(x) \leq 0$.

To verify (ii), observe that at the point of intersection x between f and g to the right of 0, $m(x)$ is proportional to $F(x) - G(x)$ and $F(x) - G(x) > 0$.

To verify (iii), assume to the contrary that $m(x)$ crosses 0 from above at some $x > 0$. Then, the following two equations should hold at x:

(1) $F(x)g(x) - G(x)f(x) = 0$, and

(2) $m'(x) \leq 0$ where m' is the derivative of m.

We develop $m'(x)$ to show (1) and (2) cannot hold simultaneously. Because the PDF z of a normal distribution with mean 0 and variance σ^2 satisfies the identity $z'(x) = -\frac{xz(x)}{\sigma^2}$, we have that

$$0 \geq m'(x) = f(x)g(x) + F(x)g'(x) - f(x)g(x) - G(x)f'(x) = xf(x)G(x) - \frac{xg(x)}{\sigma^2}F(x),$$

implying $f(x)G(x) \leq \frac{g(x)}{\sigma^2}F(x) < g(x)F(x)$ in contradiction to (1). *Q.E.D.*

A.5. *Proof of Prediction 4*

By Assumptions 1 and 2 and Lemma 1, we have that $Pr(u_x \geq T) > Pr(u_y \geq T)$ for a D-move x and an L-move y.

Fix a choice set A. Let $A_x = A \cup \{x\}$ and $A_y = A \cup \{y\}$. Fix an evaluation order O_1 of A_x in which x does not appear last, and an evaluation order O_2 of A_y, which is identical to O_1 except that y replaces x. The probability of making a mistake prior to x in O_1 and y in O_2 is identical. The conditional probability of making a mistake when evaluating x in O_1 is larger than when evaluating y in O_2. The probability of making a mistake conditional on $x < T$ in O_1 is identical to the corresponding conditional probability in O_2. The result follows. *Q.E.D.*

Appendix B: Data Appendix

Our data on endgame moves come from `lichess.org`. Every month, Lichess releases database extracts covering all rated chess games between two human players that were hosted on its platform during the previous month. These extracts are made available in the human-readable PGN format at `https://database.lichess.org`, and include basic facts about each game (including players' usernames and ratings, date and time of the game, time controls, ultimate outcome, etc.), the exact sequence of moves, as well as, starting April 2017, the clock reading at the end of each move.

We downloaded and processed all extracts through August 2020, filtering on endgame positions with six or fewer pieces. We then spent about 600,000 CPU-hours querying the Nalimov and Syzygy endgame tablebases for information on depth to mate (DTM) and the type of each available legal move (i.e., W, D, or L) in these positions. The 6-men Syzygy and Nalimov endgame databases are available at `http://tablebase.sesse.net` (Syzygy: 150GB; Nalimov: 1.2TB). Because Syzygy tablebases take into account the 50-move rule, we rely on them to determine the type of each move, whereas information on DTM comes from Nalimov's database. The only board configurations with six or fewer pieces that are not covered in the latter are *(i)* ones in which a lone king faces five other pieces, and *(ii)* positions with castling rights. The former are generally uninteresting because 98.8% of available legal moves are of type W, and the latter are extremely rare in the Lichess data (< .01% of moves in nontrivial endgame positions).

The sample for our main analysis restricts attention to decision problems in *(i)* board positions with six or fewer pieces with *(ii)* available information on the types of all available legal moves and the DTM of all available W- and L-moves, in which *(iii)* there are one or more legal W-moves and at least one D- or L-alternative, *(iv)* excluding the first 1,000 such decision problems for every user.

Appendix C: Robustness Checks

C.1. *Controlling for Time Left*

Since the timing of decisions is endogenous, we do not control for it in our main analysis. We do, however, obtain qualitatively equivalent findings when we account for it. To show this, we replicate the tables in the main text. In Appendix Tables AT.3–AT.6, we control for the time that remains on the player's clock when it is her turn to move. In Tables AT.7–AT.10, we control for the time that was left per move if the player were to follow the shortest W-path. Regardless of how we account for the possibility that players face time pressure, our findings on how complexity affects decision-making are qualitatively equivalent.

C.2. *Restricting Attention to Games with Long Time Controls*

In Appendix Tables AT.11–AT.14, we replicate our main results restricting attention to games played under "classical" and "correspondence" time controls. The former typically allow more than 25 minutes of deliberation per side, whereas the latter usually take days or weeks to complete. More specifically, Lichess classifies the time controls in a game as classical if and only if the estimated time per side exceeds 1,500 seconds, with the estimated time per side: (initial clock time) + 40 $\times$ (clock increment). In correspondence games, the time limit is measured in days per move. The results with long time controls are qualitatively equivalent to those in the main text.

C.3. *Restricting Attention to Board Positions with High Minimal DTM*

In Appendix Tables AT.15–AT.18, we replicate the results in the main text, restricting attention to board positions in which the minimal DTM among W-moves exceeds fifty. These are positions in which it is *a priori* highly unlikely that players can recognize either the type of a move or its DTM without careful evaluation, as assumed in our model. Reassuringly, the results from this smaller sample are qualitatively equivalent to those in the main text.

C.4. *Weighting Observations Equally*

Our findings are similar when we do not reweight individual observations so that all players receive equal weight. To show this, we replicate the tables in the main text, weighting all observations equally. The respective results are shown in Appendix Tables AT.19–AT.22.

Appendix D: Replication with Independent Data from *The Week in Chess*

Appendix Tables AT.23–AT.26 replicate the tables in the main text, using an independent dataset that we obtained from *The Week in Chess* (TWIC). TWIC is a free, weekly publication that "rounds up the most important chess" games from the previous week (see `https://theweekinchess.com`). Most of these games are played between elite players in national and international tournaments, or chess leagues.

Our data include all games covered in TWIC between September 1994 and May 2020. In total, we observe 536,674 decision problems in endgame positions with six or fewer pieces, one or more legal W- and at least one D- or L-moves. The choice sets in these decision problems contain 9,067,040 legal moves.

Besides being more than two orders of magnitude smaller, the most important difference between the TWIC and Lichess data is that the former admit much less variation in players' skill. Chess players in high-profile tournaments tend to be better than the average experienced player on Lichess. This fact is reflected in a significantly lower frequency of mistakes in the TWIC data. Nonetheless, the comparative statics in Appendix Tables AT.23–AT.26 are similar to those in the main text.

Appendix Tables

Appendix Table AT.1: Replication of Table 3, Using Ordinal Rank

Panel A: W-Moves

	Probability of Choosing Move				
	(1A)	(2A)	(3A)	(4A)	(5A)
Ordinal Rank (÷ 100)	–0.862 (0.001)	–1.036 (0.004)	–12.561 (0.009)	–1.803 (0.004)	–0.327 (0.000)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	10.305	11.129	26.210	14.992	4.301
R^2	0.166	0.171	0.247	0.179	0.127
N	3,435,257,516	92,878,586	148,599,747	89,336,853	2,986,665,574

Panel B: L-Moves

	Probability of Choosing Move				
	(1B)	(2B)	(3B)	(4B)	(5B)
Ordinal Rank (÷ 100)	0.071 (0.001)	0.042 (0.004)	0.470 (0.009)	0.042 (0.006)	0.079 (0.001)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	0.452	0.188	1.352	0.588	0.498
R^2	0.277	0.276	0.306	0.344	0.271
N	277,507,532	8,300,536	34,762,492	4,095,758	175,675,645

Notes: See Table 3 in the main text. The only difference between this table and that in the text is that the results above are rely on moves' ordinal rather than percentile rank.

Appendix Table AT.2: Replication of Table 5, Without Controlling for Object Complexity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Probability of Mistake						
Number of W-Moves (÷ 100)	–0.307			–1.344	–1.173		
	(0.001)			(0.002)	(0.003)		
Number of D-Moves (÷ 100)		0.819				0.766	
		(0.002)				(0.003)	
Number of L-Moves (÷ 100)			0.361				
			(0.003)				
Total Number of Moves (÷ 100)							–0.039
							(0.001)
Fixed Effects:							
Number of D- × L-Moves	Yes	No	No	No	No	No	No
Number of W- × L-Moves	No	Yes	No	No	No	No	No
Number of W- × D-Moves	No	No	Yes	No	No	No	No
Total Moves × Number of L-Moves	No	No	No	Yes	No	No	No
Total Moves × Number of D-Moves	No	No	No	No	Yes	No	No
Total Moves × Number of W-Moves	No	No	No	No	No	Yes	No
Fraction of W- × D- × L-Moves	No	No	No	No	No	No	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimal DTM among W-Moves	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.101	0.127	0.139	0.103	0.128	0.136	0.141
N	226,955,095	226,955,095	226,955,095	226,955,095	226,955,095	226,955,095	226,955,095

Notes: See Table 5 in the main text. The only difference between this table and that in the text is that the results above do not control for the minimal DTM among W-moves.

Appendix Table AT.3: Replication of Table 2, Controlling for Time Left on Clock

	(1)	(2)	(3)	(4)	(5)	(6)
	Probability of Choosing Move					
	W-Moves	L-Moves	W- & L-Moves	W-Moves	L-Moves	W- & L-Moves
DTM × W-Move (÷ 100)	–1.140		–0.975	–0.518		–0.332
	(0.002)		(0.002)	(0.004)		(0.003)
DTM × L-Move (÷ 100)		0.034	0.007		0.066	0.055
		(0.001)	(0.001)		(0.002)	(0.003)
W-Move (÷ 100)			63.533			41.926
			(0.071)			(0.118)
Fixed Effects:						
Number of W- × D- × L-Moves × Complexity of Other Moves	Yes	Yes	Yes	Yes	Yes	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes
Board Configurations	All	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$	$\mid D \mid = 0$
Mean of LHS Variable (%)	9.397	0.785	8.495	10.881	1.183	8.078
R^2	0.372	0.211	0.368	0.513	0.212	0.494
N	3,238,254,715	276,991,030	3,515,245,745	372,397,046	104,556,541	476,953,587

Notes: See Table 2 in the main text. The only difference between this table and that in the text is that the results above also control for the clock reading when it is a player's turn to move.

Appendix Table AT.4: Replication of Table 3, Controlling for Time Left on Clock

Panel A: W-Moves

	Probability of Choosing Move				
	(1A)	(2A)	(3A)	(4A)	(5A)
Percentile Rank (÷ 100)	–30.105 (0.018)	–32.975 (0.150)	–54.813 (0.045)	–23.409 (0.065)	–9.002 (0.007)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	$\leq$ 10 Total Moves	DTM $\geq$ 50	Excl. Simplest Move
Mean of LHS Variable (%)	10.305	11.129	26.210	14.992	4.301
R^2	0.234	0.247	0.319	0.208	0.133
N	3,217,115,234	56,772,033	138,639,890	83,387,752	2,797,083,668

Panel B: L-Moves

	Probability of Choosing Move				
	(1B)	(2B)	(3B)	(4B)	(5B)
Percentile Rank (÷ 100)	0.267 (0.005)	0.149 (0.025)	1.318 (0.031)	0.190 (0.053)	0.577 (0.012)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	$\leq$ 10 Total Moves	DTM $\geq$ 50	Excl. Simplest Move
Mean of LHS Variable (%)	0.452	0.188	1.352	0.588	0.498
R^2	0.277	0.279	0.306	0.344	0.271
N	259,240,947	5,014,246	32,452,348	3,829,648	164,138,685

Notes: See Table 3 in the main text. Note that conditional on the included fixed effects there is no independent variation in the clock reading when it is a player's turn to move.

Appendix Table AT.5: Replication of Table 4, Controlling for Time Left on Clock

	(1)	(2)	(3)	(4)
	Probability of Mistake			
Titled Player (÷ 100)	–0.985 (0.049)		–0.339 (0.063)	
Other Title (÷ 100)		–0.937 (0.053)		–0.312 (0.065)
Grandmaster (÷ 100)		–1.318 (0.131)		–0.531 (0.200)
Hypothesis Tests (p-value):				
H_0: No Differences between Players	$<$ 0.001	$<$ 0.001	$<$ 0.001	$<$ 0.001
H_0: Grandmasters = Other Titled Players		0.007		0.294
Fixed Effects: Number of W- × D- × L-Moves × Complexity of Moves	Yes	Yes	Yes	Yes
Mean of LHS Variable (%)	6.039	6.039	2.748	2.748
Board Configurations	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$
R^2	0.367	0.367	0.412	0.412
N	212,295,223	212,295,223	25,771,678	25,771,678

Notes: See Table 4 in the main text. The only difference between this table and that in the text is that the results above also control for the clock reading when it is a player's turn to move.

Appendix Table AT.6: Replication of Table 5, Controlling for Time Left on Clock

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Probability of Mistake						
Number of W-Moves (÷ 100)	–0.281			–1.245	–0.990		
	(0.001)			(0.002)	(0.003)		
Number of D-Moves (÷ 100)		0.811				0.842	
		(0.002)				(0.003)	
Number of L-Moves (÷ 100)			0.247				
			(0.003)				
Total Number of Moves (÷ 100)							–0.018
							(0.001)
Fixed Effects:							
Number of D- × L-Moves	Yes	No	No	No	No	No	No
Number of W- × L-Moves	No	Yes	No	No	No	No	No
Number of W- × D-Moves	No	No	Yes	No	No	No	No
Total Moves × Number of L-Moves	No	No	No	Yes	No	No	No
Total Moves × Number of D-Moves	No	No	No	No	Yes	No	No
Total Moves × Number of W-Moves	No	No	No	No	No	Yes	No
Fraction of W- × D- × L-Moves	No	No	No	No	No	No	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimal DTM among W-Moves	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.120	0.144	0.154	0.121	0.143	0.152	0.156
N	212,295,223	212,295,223	212,295,223	212,295,223	212,295,223	212,295,223	212,295,223

Notes: See Table 5 in the main text. The only difference between this table and that in the text is that the results above also control for the clock reading when it is a player's turn to move.

Appendix Table AT.7: Replication of Table 2, Controlling for Time Left per Move

	(1)	(2)	(3)	(4)	(5)	(6)
	Probability of Choosing Move					
	W-Moves	L-Moves	W- & L-Moves	W-Moves	L-Moves	W- & L-Moves
DTM × W-Move (÷ 100)	–1.140		–0.975	–0.518		–0.332
	(0.002)		(0.002)	(0.004)		(0.003)
DTM × L-Move (÷ 100)		0.034	0.007		0.066	0.055
		(0.001)	(0.001)		(0.002)	(0.003)
W-Move (÷ 100)			63.532			41.925
			(0.071)			(0.118)
Fixed Effects:						
Number of W- × D- × L-Moves × Complexity of Other Moves	Yes	Yes	Yes	Yes	Yes	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes
Board Configurations	All	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$	$\mid D \mid = 0$
Mean of LHS Variable (%)	9.397	0.785	8.495	10.881	1.183	8.078
R^2	0.372	0.211	0.368	0.513	0.211	0.494
N	3,238,254,715	276,991,030	3,515,245,745	372,397,046	104,556,541	476,953,587

Notes: See Table 2 in the main text. The only difference between this table and that in the text is that the results above also control for the time that was left per move if the player were to follow the shortest W-path.

Appendix Table AT.8: Replication of Table 3, Controlling for Time Left per Move

Panel A: W-Moves

	Probability of Choosing Move				
	(1A)	(2A)	(3A)	(4A)	(5A)
Percentile Rank (÷ 100)	–30.105	–32.975	–54.813	–23.409	–9.002
	(0.018)	(0.150)	(0.045)	(0.065)	(0.007)
Fixed Effects:					
Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	10.305	11.129	26.210	14.992	4.301
R^2	0.234	0.247	0.319	0.208	0.133
N	3,217,115,234	56,772,033	138,639,890	83,387,752	2,797,083,668

Panel B: L-Moves

	Probability of Choosing Move				
	(1B)	(2B)	(3B)	(4B)	(5B)
Percentile Rank (÷ 100)	0.267	0.149	1.318	0.190	0.577
	(0.005)	(0.025)	(0.031)	(0.053)	(0.012)
Fixed Effects:					
Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	0.452	0.188	1.352	0.588	0.498
R^2	0.277	0.279	0.306	0.344	0.271
N	259,240,947	5,014,246	32,452,348	3,829,648	164,138,685

Notes: See Table 3 in the main text. Note that conditional on the included fixed effects there is no independent variation in the time that was left per move.

Appendix Table AT.9: Replication of Table 4, Controlling for Time Left per Move

	(1)	(2)	(3)	(4)
	Probability of Mistake			
Titled Player (÷ 100)	–0.864		–0.218	
	(0.048)		(0.063)	
Other Title (÷ 100)		–0.818		–0.193
		(0.052)		(0.065)
Grandmaster (÷ 100)		–1.188		–0.395
		(0.131)		(0.199)
Hypothesis Tests (p-value):				
H_0: No Differences between Players	< 0.001	< 0.001	< 0.001	0.002
H_0: Grandmasters = Other Titled Players		0.008		0.332
Fixed Effects:				
Number of W- × D- × L-Moves × Complexity of Moves	Yes	Yes	Yes	Yes
Mean of LHS Variable (%)	6.039	6.039	2.748	2.748
Board Configurations	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$
R^2	0.367	0.367	0.412	0.412
N	212,295,223	212,295,223	25,771,678	25,771,678

Notes: See Table 4 in the main text. The only difference between this table and that in the text is that the results above also control for the time that was left per move if the player were to follow the shortest W-path.

Appendix Table AT.10: Replication of Table 5, Controlling for Time Left per Move

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Probability of Mistake						
Number of W-Moves ($\div$ 100)	–0.280			–1.245	–0.989		
	(0.001)			(0.002)	(0.003)		
Number of D-Moves ($\div$ 100)		0.812				0.844	
		(0.002)				(0.003)	
Number of L-Moves ($\div$ 100)			0.247				
			(0.003)				
Total Number of Moves ($\div$ 100)							–0.017
							(0.001)
Fixed Effects:							
Number of D- $\times$ L-Moves	Yes	No	No	No	No	No	No
Number of W- $\times$ L-Moves	No	Yes	No	No	No	No	No
Number of W- $\times$ D-Moves	No	No	Yes	No	No	No	No
Total Moves $\times$ Number of L-Moves	No	No	No	Yes	No	No	No
Total Moves $\times$ Number of D-Moves	No	No	No	No	Yes	No	No
Total Moves $\times$ Number of W-Moves	No	No	No	No	No	Yes	No
Fraction of W- $\times$ D- $\times$ L-Moves	No	No	No	No	No	No	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimal DTM among W-Moves	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.119	0.144	0.154	0.121	0.143	0.151	0.155
N	212,295,223	212,295,223	212,295,223	212,295,223	212,295,223	212,295,223	212,295,223

Notes: See Table 5 in the main text. The only difference between this table and that in the text is that the results above also control for the time that was left per move if the player were to follow the shortest W-path.

Appendix Table AT.11: Replication of Table 2, Games with Long Time Controls Only

	(1)	(2)	(3)	(4)	(5)	(6)
	Probability of Choosing Move					
	W-Moves	L-Moves	W- & L-Moves	W-Moves	L-Moves	W- & L-Moves
DTM $\times$ W-Move ($\div$ 100)	–1.201		–1.086	–0.498		–0.428
	(0.014)		(0.012)	(0.018)		(0.017)
DTM $\times$ L-Move ($\div$ 100)		0.017	0.021		0.027	0.033
		(0.004)	(0.006)		(0.007)	(0.008)
W-Move ($\div$ 100)			74.326			54.858
			(0.450)			(0.595)
Fixed Effects:						
Number of W- $\times$ D- $\times$ L-Moves $\times$ Complexity of Other Moves	Yes	Yes	Yes	Yes	Yes	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes
Board Configurations	All	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$	$\mid D \mid = 0$
Mean of LHS Variable (%)	10.161	0.360	9.093	11.728	0.579	8.425
R^2	0.426	0.346	0.426	0.569	0.362	0.569
N	93,544,167	8,837,271	102,381,438	10,269,201	3,052,879	13,322,080

Notes: See Table 2 in the main text. The only difference between this table and that in the text is that the results above restrict attention to games played under classical and correspondence time controls.

Appendix Table AT.12: Replication of Table 3, Games with Long Time Controls Only

Panel A: W-Moves

	Probability of Choosing Move				
	(1A)	(2A)	(3A)	(4A)	(5A)
Percentile Rank (÷ 100)	–32.921 (0.116)	–32.921 (0.116)	–56.283 (0.238)	–26.030 (0.352)	–9.618 (0.045)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	11.129	11.129	27.167	15.847	4.398
R^2	0.246	0.246	0.320	0.214	0.147
N	92,878,586	92,878,586	4,281,066	3,048,972	80,503,389

Panel B: L-Moves

	Probability of Choosing Move				
	(1B)	(2B)	(3B)	(4B)	(5B)
Percentile Rank (÷ 100)	0.148 (0.019)	0.148 (0.019)	0.794 (0.140)	0.194 (0.098)	0.339 (0.035)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	0.188	0.188	0.723	0.247	0.208
R^2	0.276	0.276	0.319	0.332	0.284
N	8,300,536	8,300,536	910,703	117,945	5,322,638

Notes: See Table 3 in the main text. The only difference between this table and that in the text is that the results above restrict attention to games played under classical and correspondence time controls.

Appendix Table AT.13: Replication of Table 4, Games with Long Time Controls Only

	(1)	(2)	(3)	(4)
	Probability of Mistake			
Titled Player (÷ 100)	–2.870 (0.535)		–1.309 (0.939)	
Other Title (÷ 100)		–2.570 (0.493)		–1.475 (1.055)
Grandmaster (÷ 100)		–11.482 (3.236)		0.000 (0.000)
Hypothesis Tests (p-value):				
H_0: No Differences between Players	< 0.001	< 0.001	0.163	0.162
H_0: Grandmasters = Other Titled Players		0.006		0.162
Fixed Effects: Number of W- × D- × L-Moves × Complexity of Moves	Yes	Yes	Yes	Yes
Mean of LHS Variable (%)	4.545	4.545	1.212	1.212
Board Configurations	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$
R^2	0.418	0.418	0.674	0.674
N	6,563,054	6,563,054	739,633	739,633

Notes: See Table 4 in the main text. The only difference between this table and that in the text is that the results above restrict attention to games played under classical and correspondence time controls.

Appendix Table AT.14: Replication of Table 5, Games with Long Time Controls Only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Probability of Mistake			
Number of W-Moves (÷ 100)	–0.242			–0.921	–0.679		
	(0.003)			(0.009)	(0.015)		
Number of D-Moves (÷ 100)		0.558				0.704	
		(0.009)				(0.016)	
Number of L-Moves (÷ 100)			0.123				
			(0.015)				
Total Number of Moves (÷ 100)							–0.056
							(0.005)
Fixed Effects:							
Number of D- × L-Moves	Yes	No	No	No	No	No	No
Number of W- × L-Moves	No	Yes	No	No	No	No	No
Number of W- × D-Moves	No	No	Yes	No	No	No	No
Total Moves × Number of L-Moves	No	No	No	Yes	No	No	No
Total Moves × Number of D-Moves	No	No	No	No	Yes	No	No
Total Moves × Number of W-Moves	No	No	No	No	No	Yes	No
Fraction of W- × D- × L-Moves	No	No	No	No	No	No	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimal DTM among W-Moves	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.129	0.151	0.163	0.128	0.151	0.159	0.172
N	6,563,054	6,563,054	6,563,054	6,563,054	6,563,054	6,563,054	6,563,054

Notes: See Table 5 in the main text. The only difference between this table and that in the text is that the results above restrict attention to games played under classical and correspondence time controls.

Appendix Table AT.15: Replication of Table 2, Board Positions with High Minimal DTM Only

	(1)	(2)	(3)	(4)	(5)	(6)
			Probability of Choosing Move			
	W-Moves	L-Moves	W- & L-Moves	W-Moves	L-Moves	W- & L-Moves
DTM × W-Move (÷ 100)	–0.450		–0.357	–0.474		–0.318
	(0.004)		(0.003)	(0.009)		(0.008)
DTM × L-Move (÷ 100)		0.034	0.141		0.053	0.168
		(0.003)	(0.004)		(0.007)	(0.009)
W-Move (÷ 100)			55.228			56.068
			(0.281)			(0.634)
Fixed Effects:						
Number of W- × D- × L-Moves × Complexity of Other Moves	Yes	Yes	Yes	Yes	Yes	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes
Board Configurations	All	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$	$\mid D \mid = 0$
Mean of LHS Variable (%)	15.365	0.795	11.064	13.552	1.295	9.381
R^2	0.379	0.330	0.394	0.435	0.387	0.443
N	92,066,019	39,282,812	131,348,831	22,051,140	9,811,399	31,862,539

Notes: See Table 2 in the main text. The only difference between this table and that in the text is that the results above restrict attention board configurations in which the DTM of the shortest W-path is at least 50.

Appendix Table AT.16: Replication of Table 3, Board Positions with High Minimal DTM Only

Panel A: W-Moves

	Probability of Choosing Move				
	(1A)	(2A)	(3A)	(4A)	(5A)
Percentile Rank (÷ 100)	–23.424 (0.064)	–26.030 (0.352)	–31.354 (0.183)	–23.424 (0.064)	–9.985 (0.046)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	$\leq$ 10 Total Moves	DTM $\geq$ 50	Excl. Simplest Move
Mean of LHS Variable (%)	14.992	15.847	28.223	14.992	8.495
R^2	0.208	0.214	0.211	0.208	0.177
N	89,336,853	3,048,972	5,832,993	89,336,853	72,891,541

Panel B: L-Moves

	Probability of Choosing Move				
	(1B)	(2B)	(3B)	(4B)	(5B)
Percentile Rank (÷ 100)	0.166 (0.013)	0.084 (0.062)	1.626 (0.119)	0.182 (0.142)	0.423 (0.027)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	$\leq$ 10 Total Moves	DTM $\geq$ 50	Excl. Simplest Move
Mean of LHS Variable (%)	0.504	0.246	2.059	0.914	0.496
R^2	0.278	0.295	0.329	0.337	0.272
N	37,575,901	1,282,479	2,686,109	220,360	24,976,281

Notes: See Table 3 in the main text. The only difference between this table and that in the text is that the results above restrict attention board configurations in which the DTM of the shortest W-path is at least 50.

Appendix Table AT.17: Replication of Table 4, Board Positions with High Minimal DTM Only

	(1)	(2)	(3)	(4)
	Probability of Mistake			
Titled Player (÷ 100)	–2.228 (0.331)		–0.032 (0.239)	
Other Title (÷ 100)		–2.052 (0.367)		–0.272 (0.177)
Grandmaster (÷ 100)		–3.342 (0.663)		1.436 (1.271)
Hypothesis Tests (p-value):				
H_0: No Differences between Players	< 0.001	< 0.001	0.894	0.157
H_0: Grandmasters = Other Titled Players		0.089		0.182
Fixed Effects: Number of W- × D- × L-Moves × Complexity of Moves	Yes	Yes	Yes	Yes
Mean of LHS Variable (%)	20.525	20.525	3.593	3.593
Board Configurations	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$
R^2	0.470	0.470	0.487	0.487
N	12,927,786	12,927,786	2,121,748	2,121,748

Notes: See Table 4 in the main text. The only difference between this table and that in the text is that the results above restrict attention board configurations in which the DTM of the shortest W-path is at least 50.

Appendix Table AT.18: Replication of Table 5, Board Positions with High Minimal DTM Only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Probability of Mistake						
Number of W-Moves (÷ 100)	–1.465			–2.986	–1.931		
	(0.005)			(0.006)	(0.010)		
Number of D-Moves (÷ 100)		1.524				1.338	
		(0.006)				(0.010)	
Number of L-Moves (÷ 100)			0.235				
			(0.009)				
Total Number of Moves (÷ 100)							–0.317
							(0.006)
Fixed Effects:							
Number of D- × L-Moves	Yes	No	No	No	No	No	No
Number of W- × L-Moves	No	Yes	No	No	No	No	No
Number of W- × D-Moves	No	No	Yes	No	No	No	No
Total Moves × Number of L-Moves	No	No	No	Yes	No	No	No
Total Moves × Number of D-Moves	No	No	No	No	Yes	No	No
Total Moves × Number of W-Moves	No	No	No	No	No	Yes	No
Fraction of W- × D- × L-Moves	No	No	No	No	No	No	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimal DTM among W-Moves	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.224	0.237	0.247	0.224	0.237	0.240	0.252
N	12,927,786	12,927,786	12,927,786	12,927,786	12,927,786	12,927,786	12,927,786

Notes: See Table 5 in the main text. The only difference between this table and that in the text is that the results above restrict attention board configurations in which the DTM of the shortest W-path is at least 50.

Appendix Table AT.19: Replication of Table 2, Weighting All Observations Equally

	(1)	(2)	(3)	(4)	(5)	(6)
	Probability of Choosing Move					
	W-Moves	L-Moves	W- & L-Moves	W-Moves	L-Moves	W- & L-Moves
DTM × W-Move (÷ 100)	–1.171		–0.931	–0.696		–0.315
	(0.001)		(0.001)	(0.002)		(0.001)
DTM × L-Move (÷ 100)		0.024	–0.069		0.066	0.002
		(0.000)	(0.000)		(0.001)	(0.001)
W-Move (÷ 100)			51.783			28.183
			(0.035)			(0.044)
Fixed Effects:						
Number of W- × D- × L-Moves × Complexity of Other Moves	Yes	Yes	Yes	Yes	Yes	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes
Board Configurations	All	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$	$\mid D \mid = 0$
Mean of LHS Variable (%)	6.186	0.457	5.734	6.743	0.631	5.404
R^2	0.278	0.183	0.274	0.348	0.175	0.340
N	3,457,878,398	296,522,573	3,754,400,971	398,856,135	111,905,262	510,761,397

Notes: See Table 2 in the main text. The only difference between this table and that in the text is that the results above are based on equally weighted observations.

Appendix Table AT.20: Replication of Table 3, Weighting All Observations Equally

Panel A: W-Moves

	Probability of Choosing Move				
	(1A)	(2A)	(3A)	(4A)	(5A)
Percentile Rank (÷ 100)	–19.846 (0.012)	–22.446 (0.044)	–54.658 (0.020)	–20.392 (0.022)	–7.728 (0.003)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	$\leq$ 10 Total Moves	DTM $\geq$ 50	Excl. Simplest Move
Mean of LHS Variable (%)	5.723	6.178	21.212	9.854	3.009
R^2	0.112	0.127	0.293	0.128	0.071
N	3,435,257,516	92,878,586	148,599,747	89,336,853	2,986,665,574

Panel B: L-Moves

	Probability of Choosing Move				
	(1B)	(2B)	(3B)	(4B)	(5B)
Percentile Rank (÷ 100)	0.380 (0.002)	0.211 (0.005)	1.499 (0.008)	0.240 (0.012)	0.689 (0.003)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	$\leq$ 10 Total Moves	DTM $\geq$ 50	Excl. Simplest Move
Mean of LHS Variable (%)	0.456	0.174	1.248	0.487	0.502
R^2	0.189	0.188	0.245	0.255	0.202
N	277,507,532	8,300,536	34,762,492	4,095,758	175,675,645

Notes: See Table 3 in the main text. The only difference between this table and that in the text is that the results above are based on equally weighted observations.

Appendix Table AT.21: Replication of Table 4, Weighting All Observations Equally

	(1)	(2)	(3)	(4)
	Probability of Mistake			
Titled Player (÷ 100)	–0.367 (0.052)		–0.005 (0.048)	
Other Title (÷ 100)		–0.342 (0.055)		0.006 (0.050)
Grandmaster (÷ 100)		–0.589 (0.137)		–0.095 (0.144)
Hypothesis Tests (p-value):				
H_0: No Differences between Players	< 0.001	< 0.001	0.923	0.800
H_0: Grandmasters = Other Titled Players		0.092		0.508
Fixed Effects: Number of W- × D- × L-Moves × Complexity of Moves	Yes	Yes	Yes	Yes
Mean of LHS Variable (%)	5.751	5.751	2.559	2.559
Board Configurations	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$
R^2	0.301	0.301	0.271	0.271
N	226,955,095	226,955,095	27,600,514	27,600,514

Notes: See Table 4 in the main text. The only difference between this table and that in the text is that the results above are based on equally weighted observations.

Appendix Table AT.22: Replication of Table 5, Weighting All Observations Equally

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Probability of Mistake						
Number of W-Moves (÷ 100)	–0.271			–1.223	–0.985		
	(0.000)			(0.001)	(0.002)		
Number of D-Moves (÷ 100)		0.800				0.814	
		(0.001)				(0.001)	
Number of L-Moves (÷ 100)			0.254				
			(0.001)				
Total Number of Moves (÷ 100)							–0.016
							(0.000)
Fixed Effects:							
Number of D- × L-Moves	Yes	No	No	No	No	No	No
Number of W- × L-Moves	No	Yes	No	No	No	No	No
Number of W- × D-Moves	No	No	Yes	No	No	No	No
Total Moves × Number of L-Moves	No	No	No	Yes	No	No	No
Total Moves × Number of D-Moves	No	No	No	No	Yes	No	No
Total Moves × Number of W-Moves	No	No	No	No	No	Yes	No
Fraction of W- × D- × L-Moves	No	No	No	No	No	No	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimal DTM among W-Moves	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.105	0.130	0.140	0.106	0.129	0.138	0.142
N	226,955,095	226,955,095	226,955,095	226,955,095	226,955,095	226,955,095	226,955,095

Notes: See Table 5 in the main text. The only difference between this table and that in the text is that the results above are based on equally weighted observations.

Appendix Table AT.23: Replication of Table 2, TWIC Data

	(1)	(2)	(3)	(4)	(5)	(6)
	Probability of Choosing Move					
	W-Moves	L-Moves	W- & L-Moves	W-Moves	L-Moves	W- & L-Moves
DTM × W-Move (÷ 100)	–1.443		–1.216	–1.420		–1.012
	(0.030)		(0.025)	(0.145)		(0.111)
DTM × L-Move (÷ 100)		0.002	0.047		0.000	0.036
		(0.006)	(0.030)		(0.001)	(0.050)
W-Move (÷ 100)			88.962			80.414
			(1.525)			(5.279)
Fixed Effects:						
Number of W- × D- × L-Moves × Complexity of Other Moves	Yes	Yes	Yes	Yes	Yes	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes
Board Configurations	All	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$	$\mid D \mid = 0$
Mean of LHS Variable (%)	14.779	0.168	11.887	13.190	0.316	9.032
R^2	0.533	0.369	0.545	0.508	0.347	0.573
N	5,132,343	1,177,248	6,309,591	853,980	296,615	1,150,595

Notes: See Table 2 in the main text. The only difference between this table and that in the text is that results above are based on data from The Week in Chess.

Appendix Table AT.24: Replication of Table 3, TWIC Data

Panel A: W-Moves

	Probability of Choosing Move				
	(1A)	(2A)	(3A)	(4A)	(5A)
Percentile Rank (÷ 100)	–46.902 (0.212)	–47.100 (0.217)	–66.285 (0.499)	–38.238 (0.506)	–11.261 (0.114)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	15.603	15.661	28.323	17.258	4.562
R^2	0.321	0.322	0.392	0.269	0.197
N	5,064,773	4,583,088	339,083	958,023	4,311,578

Panel B: L-Moves

	Probability of Choosing Move				
	(1B)	(2B)	(3B)	(4B)	(5B)
Percentile Rank (÷ 100)	0.076 (0.028)	0.078 (0.029)	0.491 (0.151)	–0.070 (0.094)	0.156 (0.058)
Fixed Effects: Player × Choice Set	Yes	Yes	Yes	Yes	Yes
Sample	Full	Long Time Controls	≤ 10 Total Moves	DTM ≥ 50	Excl. Simplest Move
Mean of LHS Variable (%)	0.083	0.083	0.329	0.029	0.093
R^2	0.248	0.243	0.287	0.486	0.294
N	1,119,866	1,023,218	76,968	12,417	733,321

Notes: See Table 3 in the main text. The only difference between this table and that in the text is that results above are based on data from The Week in Chess.

Appendix Table AT.25: Replication of Table 4, TWIC Data

	(1)	(2)	(3)	(4)
	Probability of Mistake			
Top 25% of Players (÷ 100)	–3.260 (0.336)		–0.032 (0.032)	
75th to 99th Percentile of Players (÷ 100)		–3.184 (0.342)		–0.031 (0.033)
Top 1% of Players (÷ 100)		–4.873 (0.605)		–0.051 (0.046)
Hypothesis Tests (p-value): H_0: No Differences between Players	< 0.001	< 0.001	0.313	0.427
75th to 99th Percentile = Top 1%		0.005		0.683
Fixed Effects: Number of W- × D- × L-Moves × Complexity of Moves	Yes	Yes	Yes	Yes
Mean of LHS Variable (%)	5.133	5.133	0.786	0.786
Board Configurations	All	All	$\mid D \mid = 0$	$\mid D \mid = 0$
R^2	0.520	0.520	0.650	0.650
N	499,331	499,331	65,113	65,113

Notes: See Table 4 in the main text. The only difference between this table and that in the text is that results above are based on data from The Week in Chess. Since the TWIC data do not consistently list players' titles, we rely on ELO ratings to differentiate players by skill.

Appendix Table AT.26: Replication of Table 5, TWIC Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Probability of Mistake			
Number of W-Moves ($\div$ 100)	–0.140			–0.590	–0.269		
	(0.007)			(0.014)	(0.022)		
Number of D-Moves ($\div$ 100)		0.424				0.432	
		(0.015)				(0.025)	
Number of L-Moves ($\div$ 100)			0.073				
			(0.023)				
Total Number of Moves ($\div$ 100)							0.019
							(0.010)
Fixed Effects:							
Number of D- $\times$ L-Moves	Yes	No	No	No	No	No	No
Number of W- $\times$ L-Moves	No	Yes	No	No	No	No	No
Number of W- $\times$ D-Moves	No	No	Yes	No	No	No	No
Total Moves $\times$ Number of L-Moves	No	No	No	Yes	No	No	No
Total Moves $\times$ Number of D-Moves	No	No	No	No	Yes	No	No
Total Moves $\times$ Number of W-Moves	No	No	No	No	No	Yes	No
Fraction of W- $\times$ D- $\times$ L-Moves	No	No	No	No	No	No	Yes
Player	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimal DTM among W-Moves	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.339	0.339	0.343	0.337	0.341	0.343	0.368
N	536,674	536,674	536,674	536,674	536,674	536,674	536,674

Notes: See Table 5 in the main text. The only difference between this table and that in the text is that results above are based on data from The Week in Chess.