

Examining birthplace effects in United States collegiate and professional basketball



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Sport Expertise

- Most research on the development of sport expertise focuses on the “micro-environment”:
 - Practice vs. play (Côté, Baker, & Abernethy, 2007)
 - Sampling vs. specialization (Baker, 2003)
 - The role of coaches and parents (Côté & Gilbert, 2009; Côté, 1999)
- However, the development of sport expertise is also influenced by several contextual factors, such as *when and where you are born* (MacDonald et al., 2009)
 - **The birthplace effect**

The Birthplace Effect

- Considerable over-representation of elite athletes from small-medium sized cities, and under-representation of elite athletes from very large and very small cities
 - NHL, NBA, MLB, PGA (Côté et al., 2006)
 - NFL (MacDonald et al., 2009a)
 - WPGA, WUSA (MacDonald et al., 2009b)
 - Olympians (Baker et al., 2009)
- The “optimal” city size varies across sports and countries
- Recent studies have also considered the role of population density, with mixed results across European samples (Hancock, Coutinho, Côté, & Mesquita, 2017; Rossing et al., 2016)

Current Study

- Prior studies have established the birthplace effect in *professional sports*, but have not considered both city size and population density simultaneously, as well as gender differences
- **Purpose: To investigate the birthplace effects in United States men and women's basketball at both the collegiate and professional levels**

Method

- Collected athlete information from team websites
 - Division I Men ($N = 4,030$) and Women's ($N = 4,208$) National Collegiate Athletic Association (NCAA)
 - Men's ($N = 382$) and Women's ($N = 120$) National Basketball Association (NBA & WNBA)
- City size and density information was obtained from the United States Census Bureau
 - 2010 for NCAA; 2000 for NBA and WNBA

Data Analysis

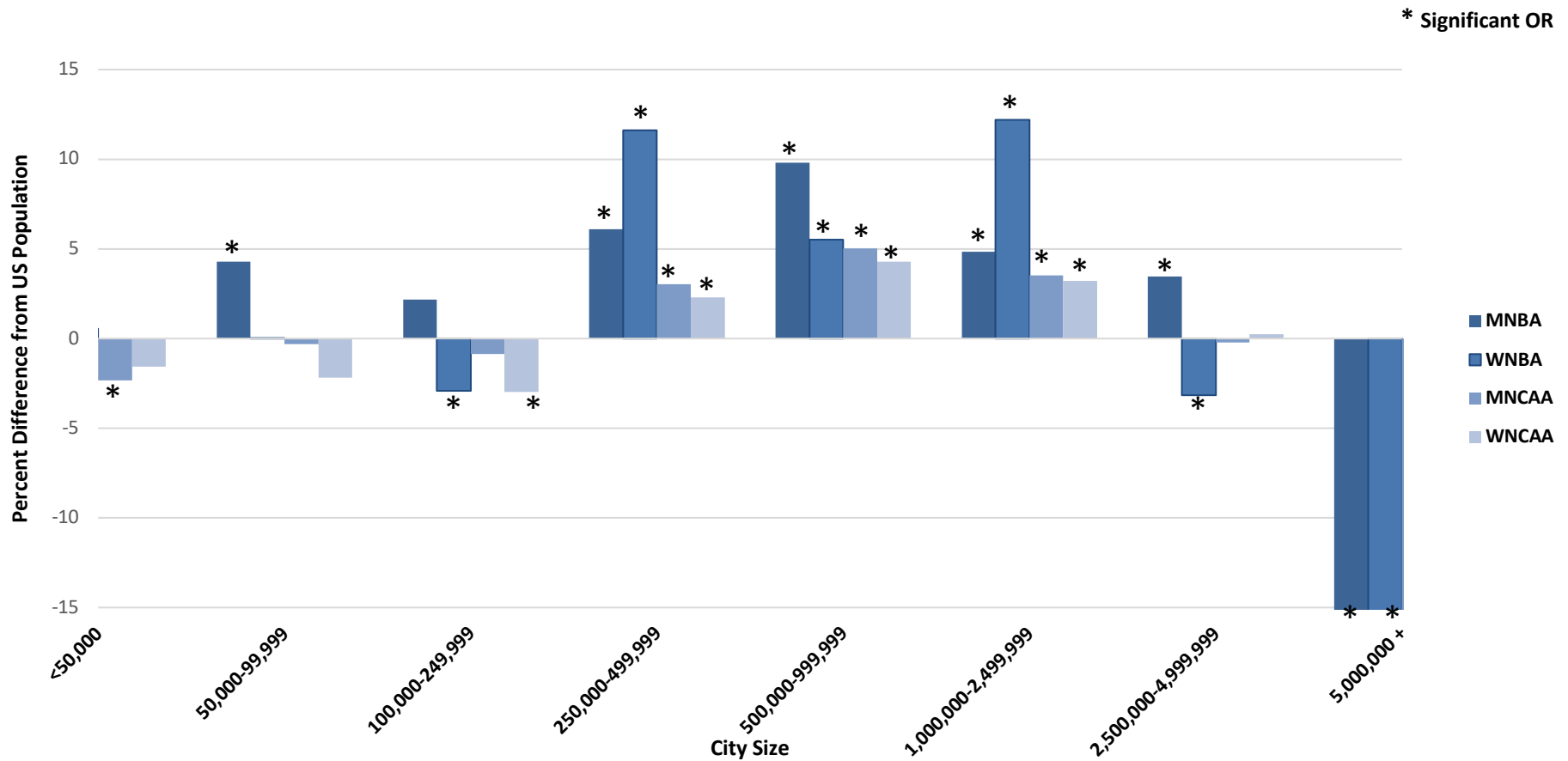
- Odds ratios were calculated to determine what percentage of the population was represented within specific categories of the Census data

$$- (\text{InCategory}_{\text{Sample}} * \text{OutCategory}_{\text{USpop}}) / (\text{OutCategory}_{\text{Sample}} * \text{InCategory}_{\text{USpop}})$$

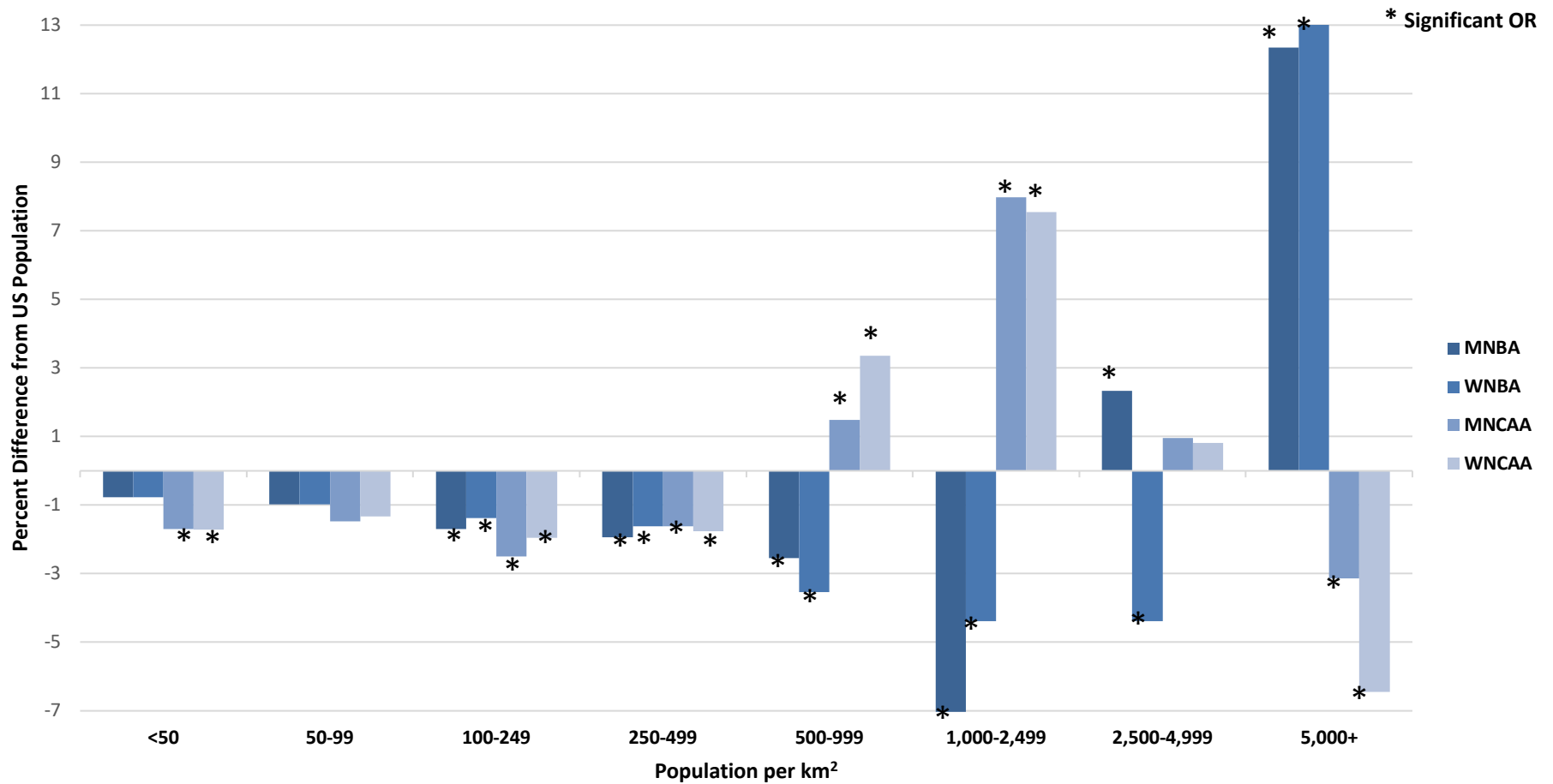
Year	Total	Within 500,000-999,999	Not within 500,000-999,999	% Within 500,000-999,999
2000	317,371,202	17,737,865	299,633,337.00	5.59
Dataset	120	14	106	11.67
Odds Ratio		2.23		
Upper Limit		1.72		
Lower Limit		2.35		

- Odds ratios > 1 indicates an over-representation of athletes relative to the general US population

Results – City Size



Results – Population Density



Discussion

- Findings suggest that a shift is occurring favoring larger cities (250,000-2.5 million) with fairly dense distributions (1,000-4,999 pop. per km²) relative to past research (e.g., Côté et al., 2006)
- Gender did not contribute to differences in birthplace or density data, but league differences were present (professional vs. collegiate)
- Density trended toward less dense areas for collegiate athletics— potentially due to more opportunity for involvement

Implications and Future Directions

- Helps advance understanding of contextual elements in the development of sport expertise by exploring both collegiate and professional basketball
- Identify cities that fall within the “sweet spot” or “danger zone” in terms of city size and density, and further explore the characteristics of those communities
 - Green space
 - Socioeconomic factors

Thank you!



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Supplemental Data

Group	5,000,000+	2,500,000-4,999,999	1,000,000-2,499,999	500,000-999,999	250,000-499,999	100,000-249,999	50,000-99,999	<50,000
MNBA	OR: 0.18 CI: 0.05, 0.73	OR: 2.41 CI: 1.65, 3.52	OR: 1.26 CI: 0.92, 1.71	OR: 2.04 CI: 1.51, 2.76	OR: 2.90 CI: 2.20, 3.81	OR: 1.52 CI: 1.15, 1.90	OR: 1.33 CI: 1.01, 1.76	OR: 0.32 CI: 0.26, 0.41
WNBA	OR: 1.21 CI: 0.46, 3.27	OR: 1.02 CI: 0.37, 2.74	OR: 0.67 CI: 0.33, 1.38	OR: 3.12 CI: 1.96, 4.95	OR: 2.01 CI: 1.15, 3.52	OR: 2.43 CI: 1.59, 3.71	OR: 0.72 CI: 0.39, 1.34	OR: 0.34 CI: 0.22, 0.52
MNCAA	OR: 0.09 CI: 0.18	OR: 0.92 CI: 0.79, 1.08	OR: 0.88 CI: 0.77, 0.99	OR: 1.44 CI: 1.30, 1.59	OR: 1.94 CI: 1.75, 2.14	OR: 1.35 CI: 1.24, 1.47	OR: 0.98 CI: 0.90, 1.08	OR: 0.78 CI: 0.68, 0.77
WNCAA	OR: 0.38 CI: 0.29, 0.52	OR: 0.50 CI: 0.51, 0.61	OR: 0.58 CI: 0.50, 0.67	OR: 1.03 CI: 0.92, 1.16	OR: 1.79 CI: 1.62, 1.98	OR: 1.32 CI: 1.21, 1.44	OR: 1.02 CI: 0.93, 1.15	OR: 0.92 CI: 0.87, 0.98

Group	5,000+	2,500-4,999	1,000-2,499	500-999	250-499	100-249	50-99	<50
MNBA	OR: 1.64 CI: 1.34, 2.01	OR: 1.12 CI: 0.90, 1.39	OR: 0.57 CI: 0.42, 0.78	OR: 0.41 CI: 0.19, 0.86	OR: 0.21 CI: 0.05, 0.84	OR: 0.23 CI: 0.06, 0.93	OR: 0.00 CI: 0.00	OR: 0.00 CI: 0.00
WNBA	OR: 1.99 CI: 1.39, 2.87	OR: 0.80 CI: 0.53, 1.21	OR: 0.73 CI: 0.43, 1.21	OR: 0.18 CI: 0.026, 1.32	OR: 0.334 CI: 0.05, 2.40	OR: 0.37 CI: 0.05, 2.65	OR: 0.00 CI: 0.00	OR: 0.00 CI: 0.00
MNCAA	OR: 0.76 CI: 0.69, 0.84	OR: 1.08 CI: 0.99, 1.18	OR: 1.38 CI: 1.30, 1.47	OR: 1.11 CI: 1.02, 1.20	OR: 0.74 CI: 0.64, 0.85	OR: 0.32 CI: 0.25, 0.43	OR: 0.14 CI: 0.08, 0.26	CI: .17 CI: 0.10, 0.28
WNCAA	OR: 0.529 CI: 0.47, 0.59	OR: 1.07 C: 0.98, 1.17	OR: 1.36 CI: 1.28, 1.45	OR: 1.25 CI: 1.16, 1.34	OR: 0.72 CI: 0.62, 0.83	OR: 0.47 CI: 0.37, 0.59	OR: 0.23 CI: 0.14, 0.37	OR: 0.16 CI: 0.08, .270