



Is there a gender gap in preschoolers' competitiveness? An experiment in the U.S.[☆]



Anya C. Samak*

University of Wisconsin – Madison, School of Human Ecology, 1300 Linden Drive, Madison, WI 53706, United States

ARTICLE INFO

Article history:

Received 21 August 2012

Received in revised form 1 January 2013

Accepted 20 April 2013

Available online 11 May 2013

JEL classification:

C72

C93

D74

Keywords:

Gender

Competition

Child preferences

Field experiment

ABSTRACT

We experimentally investigate the difference in competitiveness of 3–5 year-old boys and girls in the U.S. 123 children from a preschool are randomly matched into girl–girl, boy–boy, and boy–girl pairs of similar age and participate in a gender-neutral, competitive classroom activity using candy as an incentive. Children participate in a piece rate incentive scheme and a tournament incentive scheme in rounds 1 and 2, and select their preferred incentive scheme for round 3. We find that girls and boys choose to compete at equal rates – with 80% of children choosing to compete overall. We also find that girls' output in the task is significantly lower than that of boys under the tournament scheme, but not different in round 3 for the girls and boys who self-select into the tournament. All children display a remarkable rate of confidence – 84% of children believe they won under the tournament scheme. The gender of the match does not play a significant role.

© 2013 Elsevier B.V. All rights reserved.

1. Introduction

While women in many Western countries are pursuing higher education at similar rates as men, women continue to have relatively lower earnings and are significantly less likely to hold executive positions in firms. In the U.S. in the last 50 years, this difference in earnings amounted to an earning rate of women that was 79% of men's in 2007 (and 64% of men's in 1957).¹ Women only account for 2.5% of the highest paid executives in the U.S. (Bertrand and Hallock, 2001). Earning rates in other Western countries are similar, and range from 75% (Austria) to 95% (Italy).²

Studies conducted in a laboratory setting suggest that one factor contributing to this persistent wage gap may be an observed difference in competitiveness between men and women (Niederle and Vesterlund, 2007; Gneezy et al., 2003). The difference in competitiveness has also been suggested as a factor accounting for differences in male and female achievement in math tests (Niederle and Vesterlund, 2007) and inclination to take competitive math exams (Zhang, 2011a). Recently, researchers have linked the lab findings to the labor market. In a field experiment that randomized 7000 job seekers to different compensation schemes, researchers found that fewer women than men applied to jobs with competitive schemes

[☆] I thank John List and the Kenneth and Anne Griffin Foundation for generous funding of this project. I thank Edith Dobrez, Tina Huang, Jennie Huang and Phuong Ta for valuable research assistance. I thank participants of the Advances in Field Experiments Workshop in Chicago, IL and the Purdue Seminar Series for helpful comments. Any remaining errors are mine.

* Tel.: +1 765 409 0425.

E-mail address: asamak@wisc.edu

¹ U.S. Census data.

² The Social Situation in the European Union report: 2007.

(Flory et al., 2010). However, a separate study that imposed a competitive incentive scheme on schoolteachers found no gender difference in performance (Lavy, 2012).

Studies of competitiveness in children help illuminate the nature of the gender gap, providing evidence for how the willingness to compete evolves over time. We contribute to this nascent literature through an artificial field experiment conducted in 10 different preschool classes from two preschool campuses in Chicago Heights, Illinois. Children in the preschool are 3–5 years old. 123³ children were randomly matched into girl–girl, boy–boy and boy–girl pairs of similar age and participated in a gender-neutral,⁴ competitive classroom activity using candy as an incentive. Children participated under a piece rate incentive scheme and a tournament incentive scheme in rounds 1 and 2, and selected their preferred incentive scheme for round 3. Common measures of competitiveness in related literature are performance under the tournament as compared to performance under the piece rate, and the choice to enter into a tournament.

Several recent studies find mixed evidence for the existence of a gender gap in competitiveness at an early age (Sutter and Rutzler, 2010; Dreber et al., 2011; Gneezy and Rustichini, 2004; Andersen et al., 2011). Reasons cited for the disagreement between these studies are that cultural factors and task selection matter across countries and tasks. Our experiment is the first to consider preschool children in the U.S.

We find that after experiencing both schemes, girls and boys choose to compete at equal rates in our experiment – with 80% of children choosing to compete overall. Girls' output in the task is significantly lower than that of boys under the tournament scheme when it is played in the first two rounds, but not different in round 3 for the girls and boys who self-select into the tournament. All children display a high rate of confidence – 84% of children believe they won the competition under the tournament scheme. The gender of the match does not play a significant role. These findings may suggest that experience with the task may play a role in the observed gender differences in the literature.

2. Related literature

Research studies conducted in a laboratory setting with undergraduate students find that women compete less than men in various tasks (see Niederle and Vesterlund, 2011, for an overview). The two most common tasks used for research with adults are adding two digit numbers (e.g., Niederle and Vesterlund, 2007) and solving mazes (e.g., Gneezy et al., 2003; Gupta et al., 2005). Niederle and Vesterlund (2007) find that men select the tournament incentive scheme twice as much as women in an adding numbers task, although there are no inherent gender differences in performance in adding numbers. Gneezy et al. (2003) find that men increase performance as a response to competition, but women do not. Subsequent studies support these results – men enter contests more frequently than women, even proportional-payment contests that are less risky (Cason et al., 2010).

Suggested reasons for the gender gap in competitiveness are differences in overconfidence (Niederle and Vesterlund, 2007) differences in risk aversion (Croson and Gneezy, 2009; Eckel and Grossman, 2002; Powell and Ansic, 1997) differential responses to losses or wins (Gill and Prowse, 2010), stereotype threat (Gunther et al., 2010) and hormonal differences (Wozniak et al., 2010; Apicella et al., 2011; Buser, 2012).⁵ The effect of hormones literature is complemented by a series of psychology studies, which find that young boys, but not girls, prefer competitive environments, and conclude that the preference for competition among boys increases through puberty and remains different from that of women in adulthood (see Campbell, 2002, for an overview).

Various potential policies targeted at reducing the gap in competitiveness have been tested in a lab setting, including an affirmative action program that guarantees a minimum percentage of women among the winners of a tournament (Niederle et al., 2013), providing additional information in the form of performance feedback (Ertac and Szentes, 2011; Wozniak et al., 2010), repetition of competition if a critical number of women winners is not reached and preferential treatment of women through a gender-specific bonus (Balafoutas and Sutter, 2012). The affirmative action program, the gender-specific bonus and increased information have a significant and positive impact on the proportion of women who choose to engage in competition. Balafoutas and Sutter (2012) find no negative effects on the efficiency of selecting the best candidates. Performance feedback is also found to effectively reduce the gap, suggesting that confidence in relative performance plays a role.

The studies described above are in agreement about the existence of the gender gap in competitiveness among adults in Western cultures, and several underlying differences in preferences have been cited as reasons for the gap. However, the question remained, does the gender gap in competitiveness exist due to 'nature' or 'nurture'? Gneezy et al. (2009) recently reported clear evidence that culture and socialization is a significant factor accounting for differences in competitive behavior. The authors conducted a series of field experiments in matrilineal and patriarchal societies in Tanzania and India, finding that men in the patriarchal society compete twice as often as women, but that women choose to compete more in the matrilineal society. Zhang (2011b) conducted studies of competitiveness among different ethnic groups in China, finding that matrilineal

³ 124 were actually matched, but during data analysis it turned out one child was sent to us by the teacher 2 times, so we drop the second observation.

⁴ We use the term "gender neutral" to indicate that the task is not purposely designed to be gender biased (as some experiments have done in the past) and that we do not find gender differences in ability or effort in this task under piece rate.

⁵ The burgeoning literature on the effect of hormones reports that differences in testosterone levels among men are not predictors of competitiveness (Apicella et al., 2011) yet differences in progesterone levels among females are (Buser, 2012; Wozniak et al., 2010).

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات