

大数据时代的中国心理学研究  
以中国人的自恋为例

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### 什么是大数据？

- ◆ Big data is a collection of **data sets** so large and complex that it becomes difficult to process using on-hand database management tools or traditional data processing applications.
- ◆ Big data is high volume, high velocity, and/or high variety information assets that require new forms of processing to enable enhanced decision making, insight discovery and process optimization.”

### 大数据的特点

- ◆ 大数量 (Volume)
- ◆ 多样性 (Variety)
- ◆ 高速度 (Velocity)
- ◆ 高价值 (Value)
- ◆ 真实性 (Veracity)

### 解构大数据

### 个人大数据

- ◆ 生理数据：血压数据，心率数据，体温数据，视力数据等；
- ◆ 心理数据：注意、记忆、智力、人格、心理健康等；
- ◆ 行为数据：消费行为、社交行为、网络行为、日常行为等；

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## 大数据时代的心理学研究

### ◆ 非反应性数据：日常行为的自然记录 微博、社交网站、消费行为

Buffardi, L. E., & Campbell, W. K. (2008). Narcissism and social networking web sites. *Personality and Social Psychology Bulletin*, 34, 1303–1314.

### ◆ 反应性数据：利用网络采集的大数据

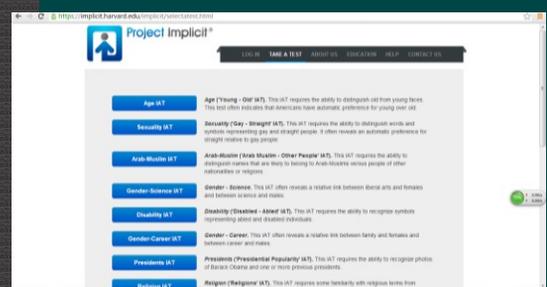
## 基于网络数据的心理学研究：历史

- ◆ 1970年后，心理学家开始运用计算机实施实验；
  - ◆ 1994年，具有交互功能的HTML 2.0问世，世界上第一个基于网络的心理学问卷诞生（Musch & Reips, 2000）；
  - ◆ 1995年夏天，第一个基于网络的心理学实验完成（Krantz, Ballard, Scher, & Reips, 1997）；
  - ◆ 1995年秋天，世界上第一个虚拟网络心理实验室在瑞士苏黎世大学正式对外开放；
  - ◆ 1996年，在芝加哥召开的计算机心理学大会报告了第一个利用网络进行的心理学研究；
  - ◆ 1997年，在德国科隆召开的德国在线研究学术大会上，多个基于网络的研究在大会报告；
  - ◆ 1997年，第一个基于网络实验的研究在Science正式发表；
  - ◆ 1999年，第一个内隐社会认知研究网站在哈佛建立
- 今天，全球有十几个为心理学研究服务的网站，。。。。。

## 心理学研究网站



## 心理学研究网站



## 网站数据采集:优点

- 能够获得多样化、异质化的大样本，甚至极难获得的特异样本；
- 不受时间、空间的限制、不需要把被试带到实验室；
- 允许大量被试同时研究、管理成本低，经济、效率高；
- 参加者动机相对单纯，能减少社会期许效应和其他动机性污染；
- 没有主试的参与，减少实验者效应；
- 结果更具有生态效度、更具有可推广性；
- 研究程序的透明度高，增强了结果的可信性和可重复性。

## 网站数据采集:缺点

- 研究环境的不可控
- 中途退出
- 多次提交
- 随意作答  
。。。。。

## 网站数据的可靠性

### 西方

Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, 59(2), 93.

### 东方

蔡华俭, 林永佳, 伍秋萍, 严乐, 黄友凤. 网络测验和纸笔测验的测量不变性研究: 以生活满意度量表为例. *心理学报*, 2008, 40(2): 228-239.

## 网络大数据研究成果

### PROJECT IMPLICIT PUBLICATIONS

Enter your search address in the "keyword" field and a copy email arrives in your mailbox within a few minutes.

To search publications by year or author, enter your search terms here:

Unpublished papers - Available for comment.

Author	Year	Title
Przybylski, J., & Weinstein, N. D. (2012). Measuring experiential history of the Project Implicit Finding Effects on the Implicit Association Procedure. <i>Unpublished manuscript</i> (Preprint Posted - January 23, 2012)		
Przybylski, J., & Weinstein, N. D. (2012). Measuring experiential history of the Project Implicit Finding Effects on the Implicit Association Procedure. <i>Unpublished manuscript</i> (Preprint Posted - January 23, 2012)	2012	
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## 网络大数据研究成果

### National differences in gender-science stereotypes predict national sex differences in science and math achievement

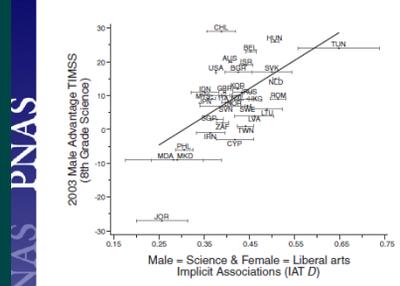
Brian A. Nosek<sup>1,2</sup>, Frederick L. Smyth<sup>3</sup>, N. Sriram<sup>4</sup>, Nicole M. Lindner<sup>5</sup>, Thierry Devos<sup>6</sup>, Alfonso Ayala<sup>7</sup>, Yoav Bar-Anan<sup>8,9</sup>, Robin Bergh<sup>10</sup>, Huijian Cai<sup>11</sup>, Karen Gonsalkorale<sup>12</sup>, Selin Kesebir<sup>13</sup>, Norbert Maliszewski<sup>14</sup>, Félix Neto<sup>15</sup>, Eero Ollin<sup>16</sup>, Jaihyun Park<sup>17</sup>, Konrad Schnabel<sup>18</sup>, Kimhiro Shimamura<sup>19</sup>, Bogdan Todor Tullurean<sup>20</sup>, Reinout W. Wiers<sup>21</sup>, Monika Somogyi<sup>22</sup>, Nazari Akrami<sup>23</sup>, Bo Ekehammar<sup>24</sup>, Michelangelo Vianello<sup>25</sup>, Mahzarin R. Banaji<sup>26</sup>, and Anthony G. Greenwald<sup>27</sup>

<sup>1</sup>Department of Psychology, University of Virginia, Charlottesville, VA 22904-4400; <sup>2</sup>Department of Psychology, San Diego State University, San Diego, CA 92182-8015; <sup>3</sup>Electoral Institute of Veracruz, Xalapa, 91000, Mexico; <sup>4</sup>Department of Psychology, Uppsala University, SE-751 42 Uppsala, Sweden; <sup>5</sup>Department of Psychology, Sun Yat-Sen University, Guangzhou 510275, China; <sup>6</sup>School of Psychology, University of Sydney, Sydney NSW 2006, Australia; <sup>7</sup>Department of Psychology, University of Brno, 602 00 Brno, Czech Republic; <sup>8</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>9</sup>Department of Psychology, University of Amsterdam, 1012 ZA Amsterdam, The Netherlands; <sup>10</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>11</sup>Department of Psychology, Tsinghua University, Beijing 100084, China; <sup>12</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>13</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>14</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>15</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>16</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>17</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>18</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>19</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>20</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>21</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>22</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>23</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>24</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>25</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>26</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada; <sup>27</sup>Department of Psychology, University of Toronto, 4273 Keele Street, Toronto, Ontario, M3J 1R3, Canada

Edited by Claude M. Steele, Stanford University, Stanford, CA, and approved April 24, 2009 (received for review October 6, 2008)

We focus on the  $n = 298,846$  from citizens of the 34 TIMSS nations (mean participant age = 27, SD = 11; 65% female).

## 网络大数据研究成果



## 网络大数据研究成果

### Overweight People Have Low Levels of Implicit Weight Bias, but Overweight Nations Have High Levels of Implicit Weight Bias

Maddalena Marini<sup>1,2</sup>, Natarajan Sriram<sup>3</sup>, Konrad Schnabel<sup>4</sup>, Norbert Maliszewski<sup>5</sup>, Thierry Devos<sup>6</sup>, Bo Ekehammar<sup>7</sup>, Reinout Wiers<sup>8</sup>, Cai Huijian<sup>9</sup>, Monika Somogyi<sup>10</sup>, Kimhiro Shimamura<sup>11</sup>, Simone Schnall<sup>12</sup>, Félix Neto<sup>13</sup>, Yoav Bar-Anan<sup>14</sup>, Michelangelo Vianello<sup>15</sup>, Alfonso Ayala<sup>16</sup>, Gabriel Dorantes<sup>17</sup>, Jaihyun Park<sup>18</sup>, Selin Kesebir<sup>19</sup>, Antonio Pereira<sup>20</sup>, Bogdan Tullurean<sup>21</sup>, Tuulia Ortner<sup>22</sup>, Irena Stepanikova<sup>23</sup>, Anthony G. Greenwald<sup>24</sup>, Brian A. Nosek<sup>25</sup>

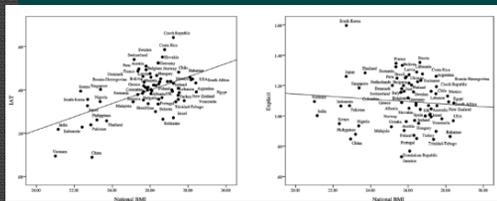
#### Procedure

Data were collected among volunteers at the Project Implicit website (<https://implicit.harvard.edu>) between May 2006 and October 2010. Project Implicit offers visitors an opportunity to

#### Participants

A sample of 338,121 individuals from 71 nations met our inclusion criteria: (a) reported a country of citizenship, (b) came

## 网络大数据研究成果



## 网络大数据研究成果

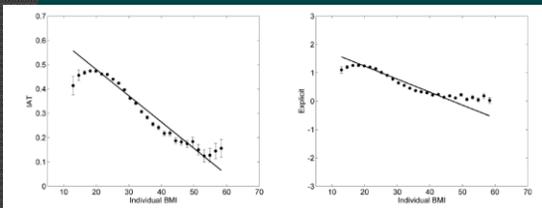
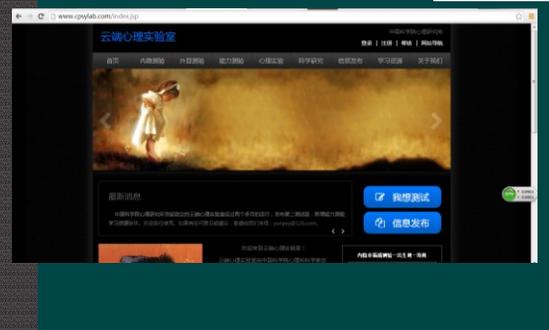


Figure 1. Scatter plots of relations of implicit (IAT) and explicit weight bias with BMI at the individual level. Note. Each point in the plots represents the average preference of participants as a function of their BMI. The weight bias scores ranges from +2 to -2 for the IAT and from +3 to -3 for the explicit, with 0 indicating no relative preference between thin people over overweight people. More positive scores indicate a preference for thin people over overweight people, while more negative scores indicate a preference for overweight people over thin people. Vertical bars signify standard error. Data for participants with BMI greater than 60 were not included in the plot (0.15%). The regression line was computed on the original and not on the average data. doi:10.1371/journal.pone.0203444.g001

## 中国的心理学家该怎么办？

- ◆ 中国是世界第一的：人口、网民、。。。
- ◆ 中国长在发生史无前例的巨变，。。。
- ◆ 中国人急需了解自己，了解别人，。。。
- ◆ 中国已经成了心理学大国（not 强国），。。。
- ◆ 中国的心理学教学和实验条件远远不够，。。。

## 云端心理实验室：版块与功能



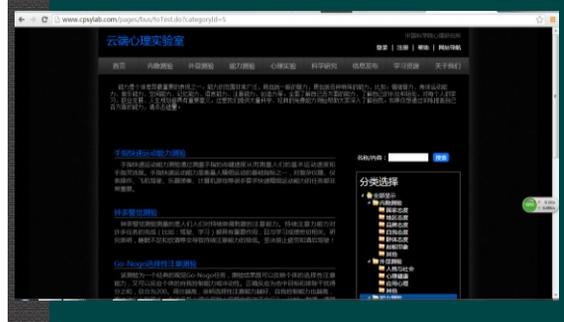
## 云端心理实验室：内隐测验



## 云端心理实验室：外显测验



## 云端心理实验室：能力测验





## 云端实验室的目标

- ◆ 服务中国人
  - 为中国人提供免费的、科学的、全面的心理测验
  - 为教师提供演示实验
  - 为学生和爱好者提供学习机会
  - 帮助中国人了解中国人
- ◆ 研究中国人

## 云端心理实验室：研究中国人

- ◆ 中国人的心理基本状况：
- ◆ 中国人的心理地域差异：
- ◆ 中国人的心路历程：时代变迁效应
- ◆ 中国人的心理与环境：
- ◆ 中国人的心理与国际关系：

云端心理实验室  
www.cpsylab.com

## 中国人的自恋：基于网络的研究

European Journal of Personality, Eur. J. Pers. 26: 529–535 (2012)  
Published online 14 November 2011 in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/per.852

### A Sociocultural Approach to Narcissism: The Case of Modern China

HUAIJIAN CAI<sup>1\*</sup>, VIRGINIA S. Y. KWAN<sup>2</sup> and CONSTANTINE SEDIKIDES<sup>3</sup>

<sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, China  
<sup>2</sup>Arizona State University, USA  
<sup>3</sup>University of Southampton, UK

*Abstract:* Using large Internet samples, we examined the possible influence of sociodemographic factors on the Chinese self-concept and in particular, on the level of narcissism. We found that (i) younger persons are more narcissistic than older ones; (ii) persons from higher socioeconomic classes are more narcissistic than those from lower socioeconomic classes; (iii) persons from only-child families are more narcissistic than those from families with multiple children; (iv) persons from urban areas are more narcissistic than those from rural areas; and (v) individualistic values are predictive of individual differences in narcissism. The findings suggest that sociocultural changes contribute to the rise of narcissism in China. Copyright © 2011 John Wiley & Sons, Ltd.

## 中国人的自恋：基于网络的研究

- ◆ Study 1  
2008、3–2009、9: 10979人  
Measure: narcissism
- ◆ Study 2  
2009、9–2010、2: 15832人  
Measure: narcissism,  
individualism-collectivism

## 中国人的自恋：基于网络的研究

### ◆ 结果 (study 1)

Table 1. Regression analyses of narcissism on predictors

	B	SE	$\beta$	t	p
Constant	3.265	0.042			
Family size	0.044	.016	.030	2.72	.007
SES	0.089	.008	.107	10.99	.000
Geographic area	0.064	.016	.044	3.98	.000
Age	-.005	.001	-.038	-3.89	.000
Gender	0.205	.014	.139	14.42	.000

SES, social economic status.

## 中国人的自恋：基于网络的研究

### ◆ 结果 (study 2)

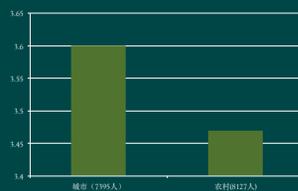
Table 2. Regression analyses of narcissism on predictors

	B	SE	$\beta$	t	p
Constant	1.738	0.040			
Family size	0.048	0.012	0.031	3.857	.000
SES	0.066	0.006	0.078	10.849	.000
Geographic area	0.053	0.012	0.035	4.289	.000
Age	-0.008	0.001	-0.059	-8.204	.000
Gender	0.107	0.011	0.071	9.978	.000
Individualism	0.446	0.007	0.458	64.787	.000

SES, social economic status.

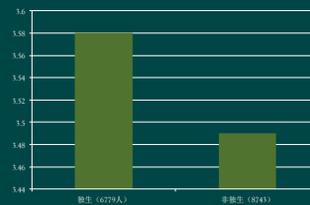
## 中国人的自恋：基于网络的研究

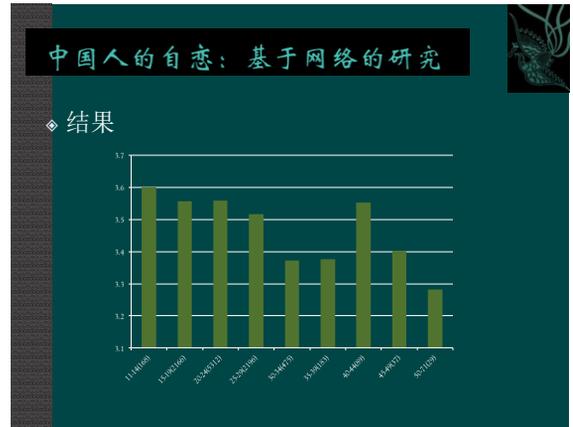
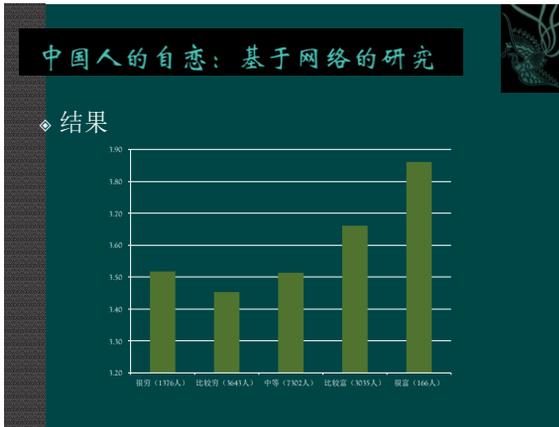
### ◆ 结果



## 中国人的自恋：基于网络的研究

### ◆ 结果





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Key words: narcissism; self-concept; individualism; China

### 总结

- ◆ 大数据时代已经到来了
- ◆ 大数据为心理学研究提供了新的可能
- ◆ 大数据心理学研究具有独特的价值
- ◆ 研究中国人，应该利用大数据



谢谢大家!  
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