

Who are the Crowdworkers? Shifting Demographics in Amazon Mechanical Turk

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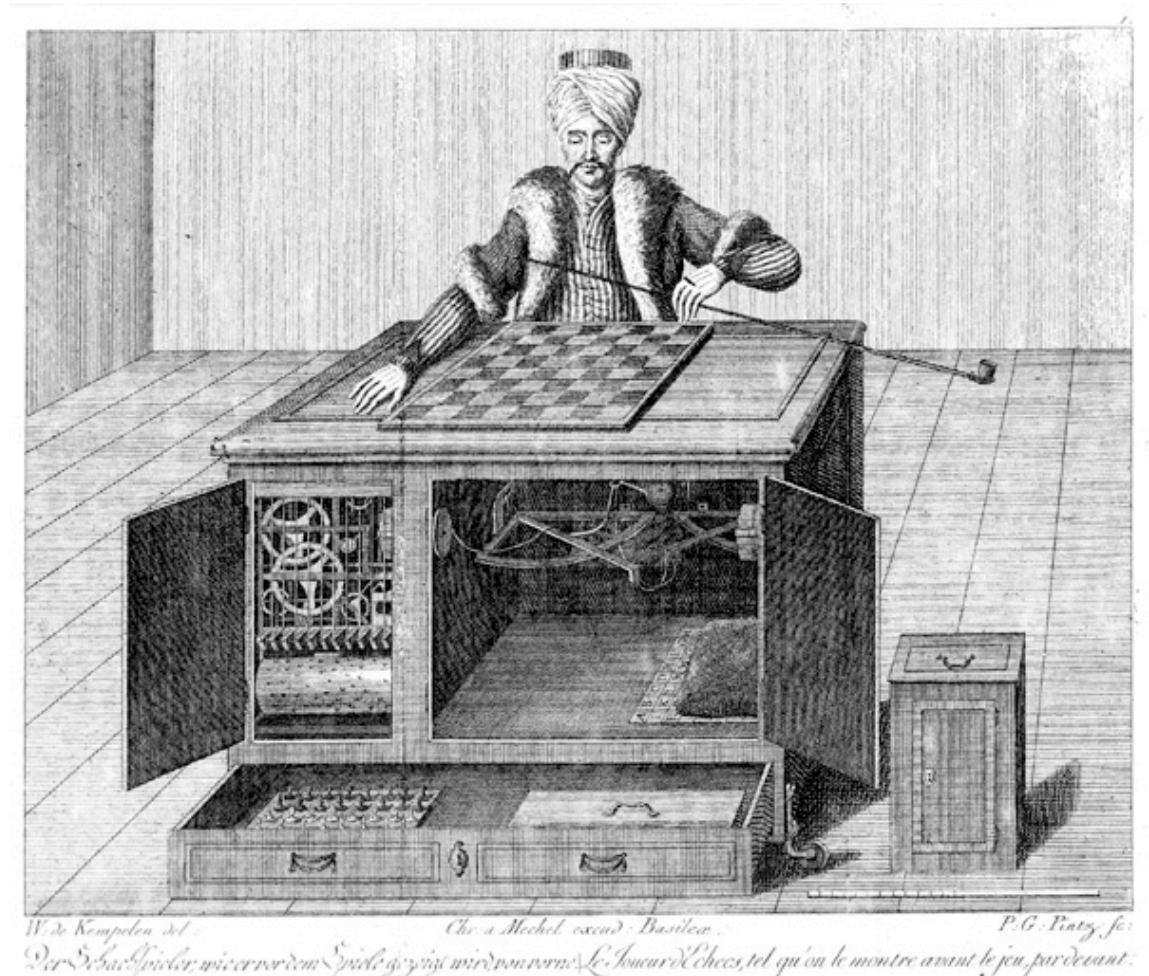
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An online marketplace for the crowdsourcing of human computation

Marketplace -- Paying people to complete work

Crowdsourcing -- Distributing tasks to an anonymous crowd

Human Computation -- Human Intelligence Tasks (HITs)
(Used in HCI, e.g., Kittur et al. 2008)



Anonymous Turkers

A210L0D2J4NARH

A361NTFGICM88M

A2N82K0ZK3AQ8V

A3QBLTB8NST8WQ

A38TE493DFRC74

A11MYVCCB4MDB

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A21VDW9G6AN6WL

AGPBBYQGDNXY14

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A3P34V0J7POJYA

A1CJCG7IO9PNKW

A2XSI8BSDC4VC1

A20EBZCL2MEBEU

A3HRFT1NZYC9FN

ATNRQ92C5NN97

ATFYFF1G524HC

Working on HITs

Make Money by working on HITs

HITs - *Human Intelligence Tasks* - are individual tasks that you work on. [Find HITs now.](#)

As a Mechanical Turk Worker you:

- Can work from home
- Choose your own work hours
- Get paid for doing good work

**Find an
interesting task**



Work



**Earn
money**



Demographics in Mechanical Turk

Extending prior work by **Panos Ipeirotis**^{1,2}

- ~75% US residents
- ~40% younger than 30
- ~60% female
- ~70% Bachelor degree or higher
- ~60% have annual income > \$25,000/year

Surveying Turkers through a HIT

Take a short research survey about Mechanical Turk workers

Requester: Social Code Group

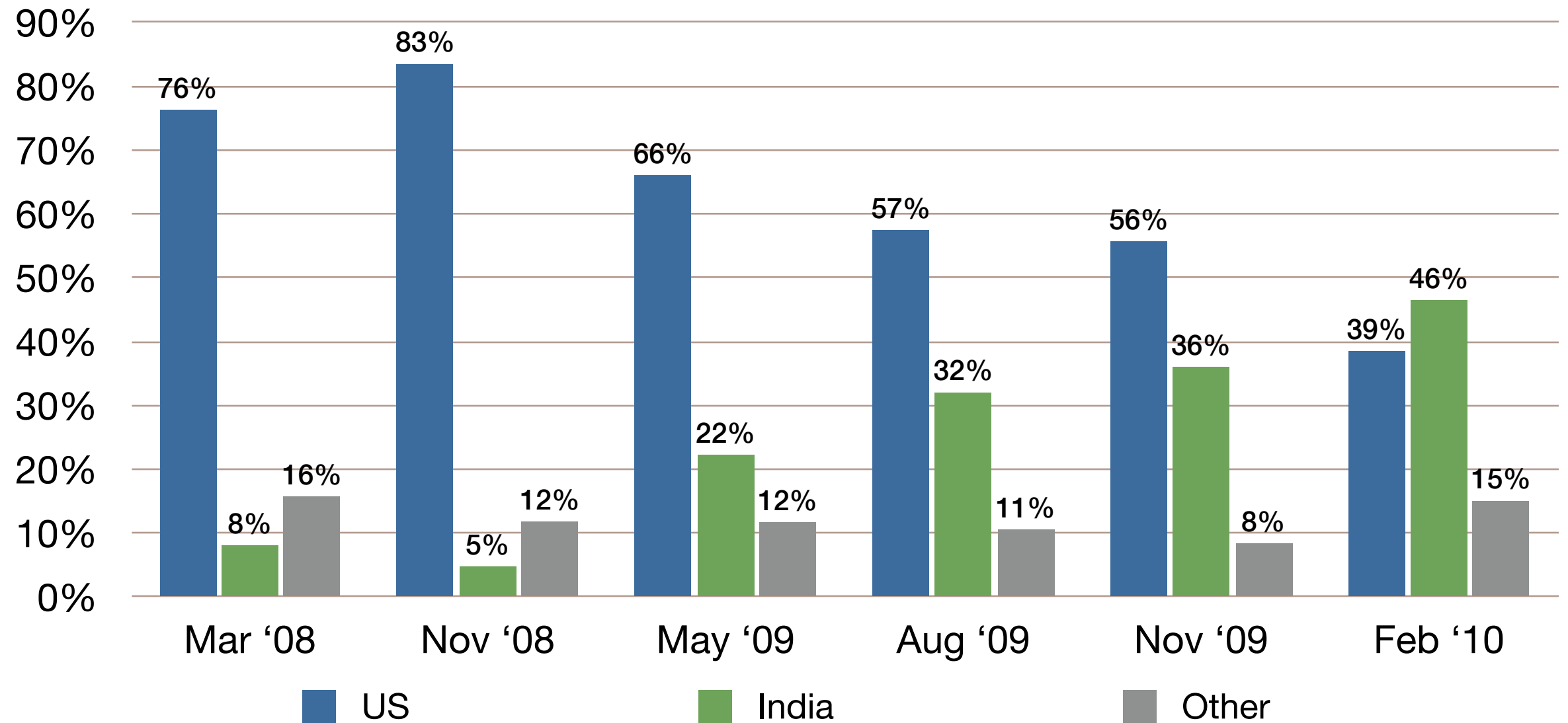
Qualifications Required: None

Mar 2008 ¹	$n = 300$
Nov 2008 ²	$n = 1010$
Feb 2009	$n = 878$
May 2009	$n = 512$
Aug 2009	$n = 578$
Nov 2009	$n = 733$
Feb 2010	$n = 984$

1. Ipeirotis, P. "Mechanical Turk: The Demographics" <http://behind-the-enemy-lines.blogspot.com/2008/03/mechanical-turk-demographics.html>. 2008.

2. Ipeirotis, P. "Turker Demographics vs. Internet Demographics". <http://behind-the-enemy-lines.blogspot.com/2009/03/turker-demographics-vs-internet.html>. 2008.

Change in Nationality Over Time



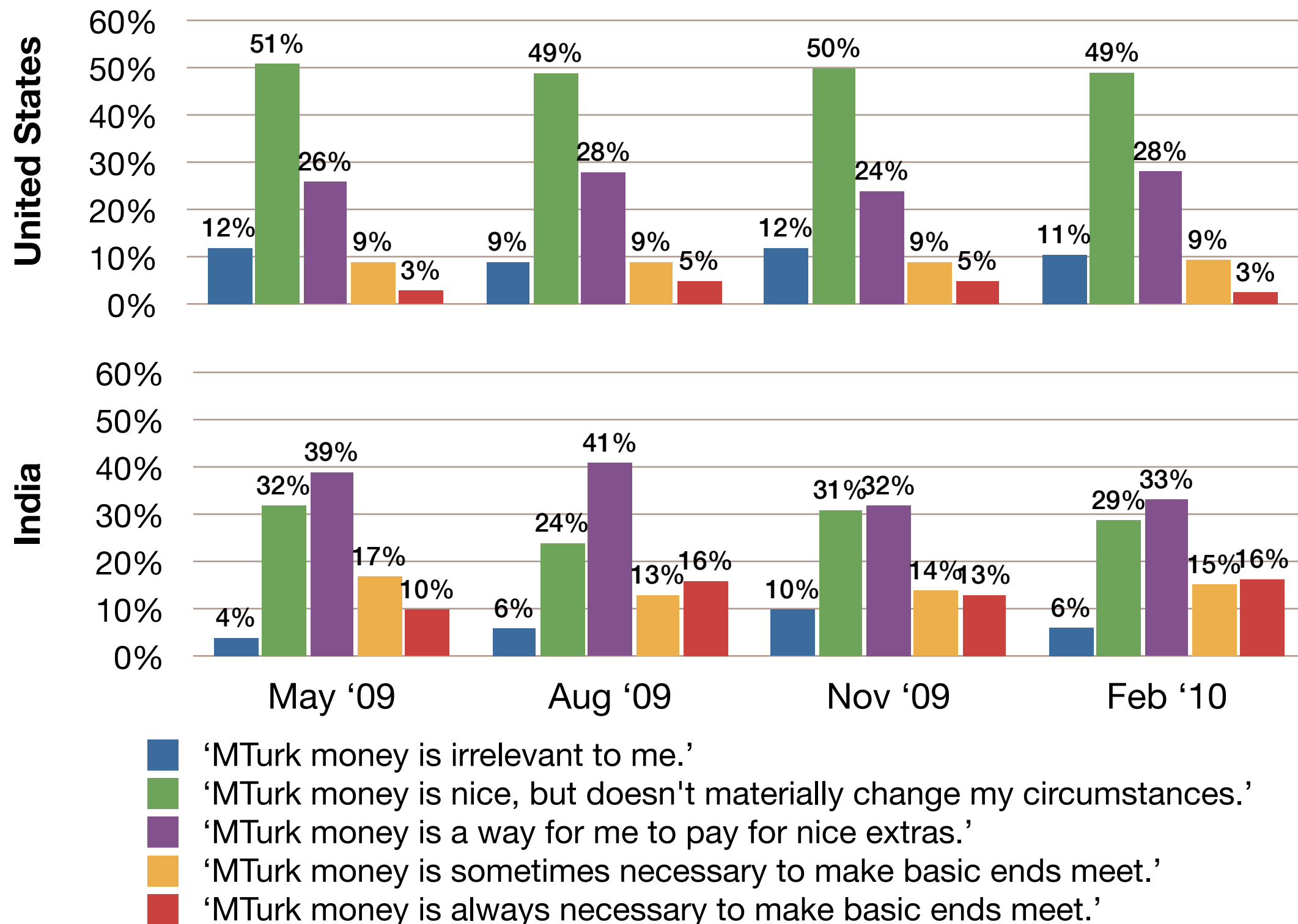
Further Demographics

		Nov '08	Feb '09	May '09	Aug '09	Nov '09	Feb '10
Age (average)	Overall	32.9	33.0	32.5	31.0	31.7	30.4
	US	33.6		34.3	33.2	35.4	34.3
	India	28.5		28.8	27.6	26.4	27.8
Gender (male/female)	Overall	34% / 66%	40% / 60%	42% / 58%	45% / 55%	48% / 52%	55% / 45%
	US	28% / 72%		34% / 66%	31% / 69%	37% / 63%	41% / 59%
	India	75% / 25%		61% / 39%	69% / 31%	66% / 34%	66% / 34%
Education (Bachelors or higher)	Overall	47%	52%	54%	58%	59%	58%
	US	43%		48%	53%	55%	52%
	India	96%		74%	69%	66%	63%
Income (<\$10k/yr.)	Overall	10%	22%	No data	27%	32%	39%
	US	8%			12%	10%	15%
	India	35%			54%	65%	61%

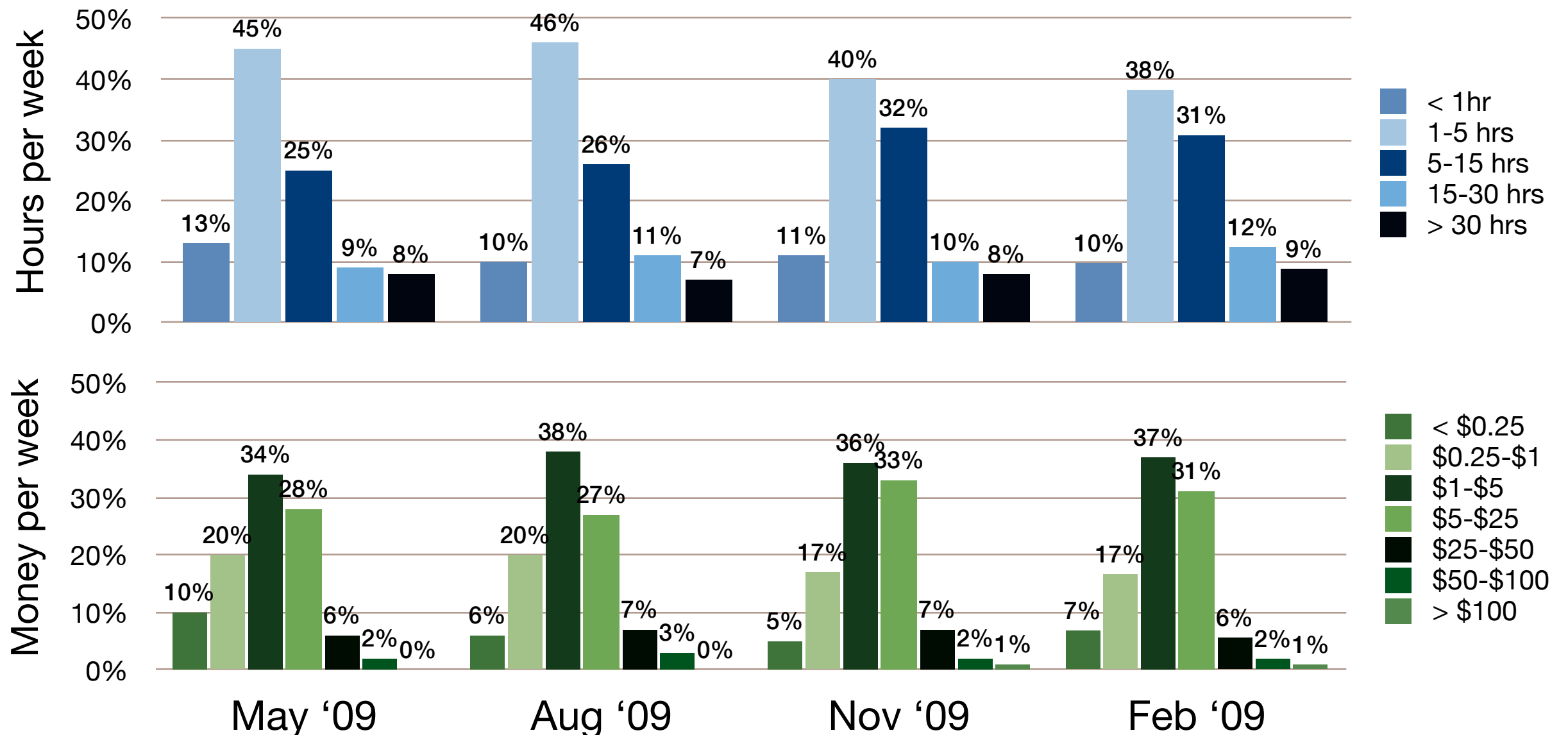
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Reliance on MTurk Income



Payment Rate for Turking



Estimated
Average
Wage:

May '09
\$1.67/hr.

Aug '09
\$1.92/hr.

Nov '09
\$1.97/hr.

Feb '09
\$1.53/hr.

Labor and Livelihood in Mechanical Turk

Paid Evaluation as an Occupation

What effects might a crowd of paid, habitual research subjects have on the validity of experimental results?

How might the ethics of designing user studies and experiments change when the subjects rely on those studies to make a living?

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Human Computation in HCI Systems

How do we deal with human computation as “labor” in designing systems?

What are the short and long-term effects of working as a human computer?

Summary: Who are the Crowdworkers?

Turker population has shifted to be **mostly from India**

Many Turk as a **part- or full-time job** for \$2.00/hr.

Question: how does HCI deal with the **labor and livelihood of anonymous workers** as research subjects?

Acknowledgments

Panos Ipeirotis, Gloria Mark, Paul Dourish, Irina Shklovski, the Social Code Group, the alt.CHI reviewers. Research supported by a Sloan Research Fellowship, the Donald Bren School of Information and Computer Sciences, and the California Institute for Telecommunications and Information Technology (Calit2).

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