Measuring Cyber or Virtual Social Capital

(A new tool to measure Social Capital embedded in Online Social Networks)

www.SocialVillage.me

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Outline of Presentation

➜ Starting Questions

➜ Brief Review of Literature

➜ Theoretical Framework

- Lin's Theory of Social Capital

➜ Methodology

- Combination of three structural generators

➜ Results

➜ Conclusive remarks

Starting Questions

- **Can we measure Social Capital through Online Social networks?**

- **If yes, How?**

Now we can ask:

What is Social Capital?

Selected definition of Social Capital in our research:

"Investment in social relations with expected returns"

(Lin,1999, 2001a, 2001b, 2008, Van Der Gag, 2005)

So,

People try to build, improve and sustain their

relationships with expected returns.

# How is Social Capital measurement data being gathered?

- **Recognition**

  - Give a list of people's name and ask... What is happening in their interactions …

  - Good for whole/complete network

- **Recall**

  - Open question

  - Affective type

  - Role-related

  - Exchange relationship

- On a written or online questionnaire ask respondents to name who they are

  connected with and can remember them on a first name basis

  (Van Der Gag, 2005)
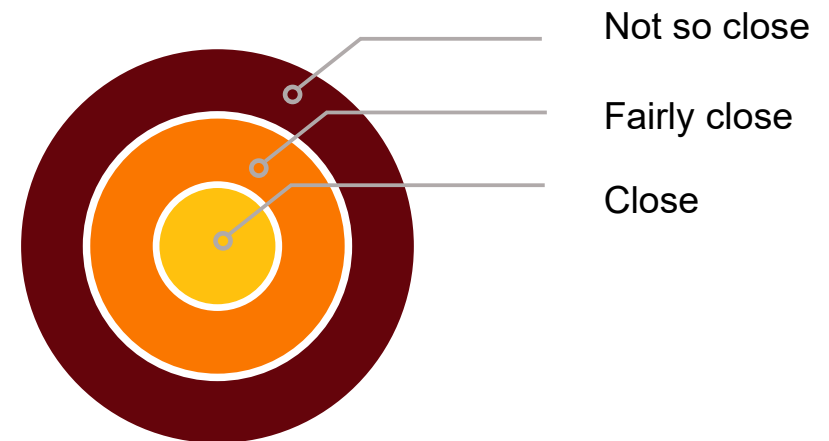
What was being studied with the data gathered?

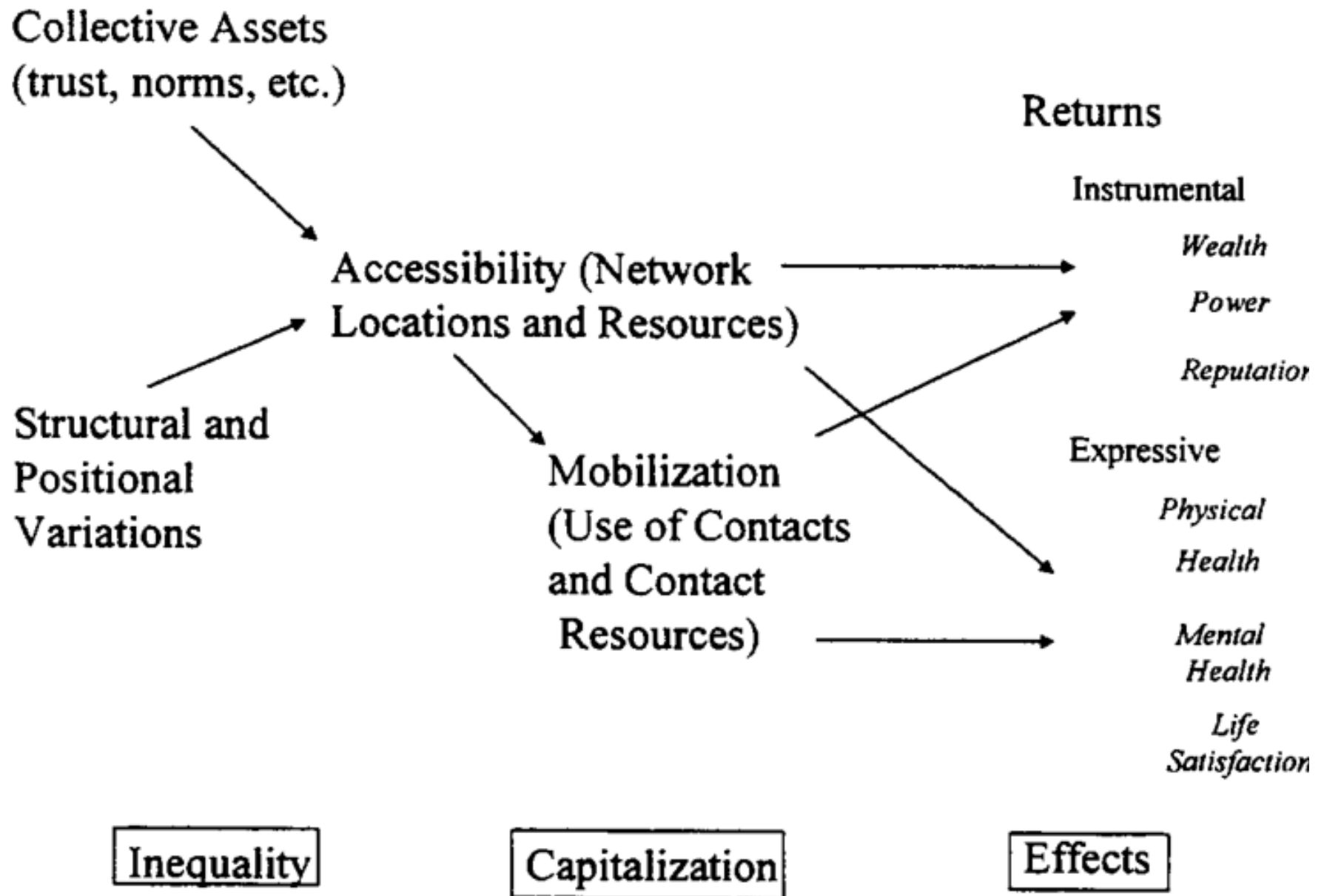| Focus	Measurements
Embedded Resources	Network Resources
	Contact statuses
Network Locations	Bridge to access bridge
	Strength of tie

(Lin,1999)
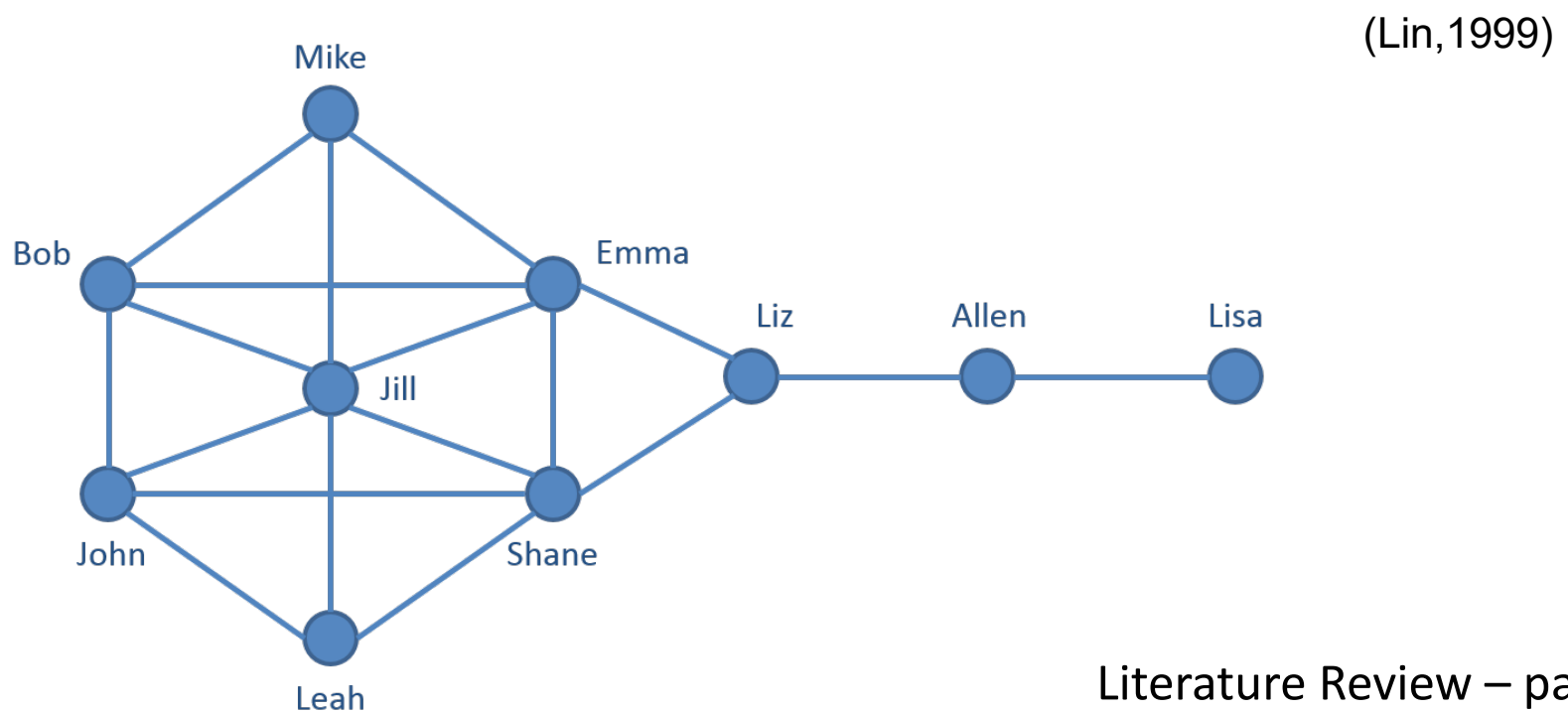
Literature review result in one line;

Despite these efforts to measure social capital,

- there is a "lack of standardized, reliable, theory-driven measurement instruments" (Van Der Gag, 2005) for social capital
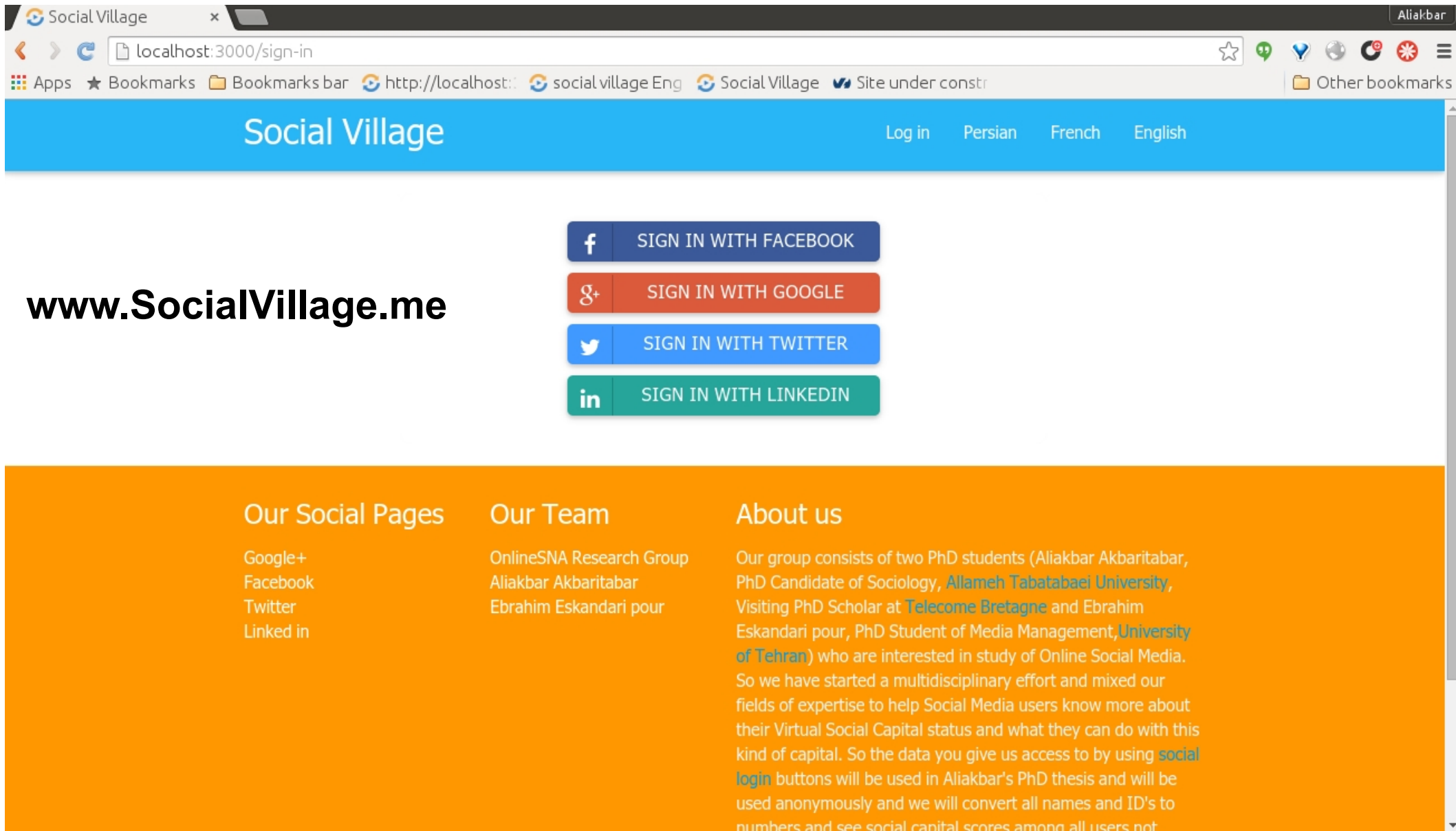
Nan Lin's (1999) model of Social Capital

Collective Assets
(trust, norms, etc.)

Returns

Instrumental

Wealth

Accessibility (Network
Locations and Resources)

Power

Reputation

Structural and
Positional
Variations

Expressive

Mobilization
(Use of Contacts
and Contact
Resources)

*Physical
Health*

*Mental
Health*

*Life
Satisfaction*

| Inequality | Capitalization | Effects |

Methodology

- Operationalized Metrics to measure Lin's model concepts:

    - Social Capital questionnaire

        - including position, resource generator (Wellman, 2005, Van Der Gaag & Snijders, 2004a/b, Bos & Van Der Gaag, 2010) and type of relationship questions

    - Netizenship (being a citizen in networked world) questionnaire

        - Motivators for being a SM user, activities, usage stats

    - Quality of life questionnaire of WHO

        - Dimensions on Physical and mental health, life satisfaction and environmental and relationships health factors

    - Personal & Demographic questionnaire

Results 1; Online Research Platform Designed

www.SocialVillage.me

Particular Questions about each friend
based on name generator results

Simple & Comparative visualization + Gamification
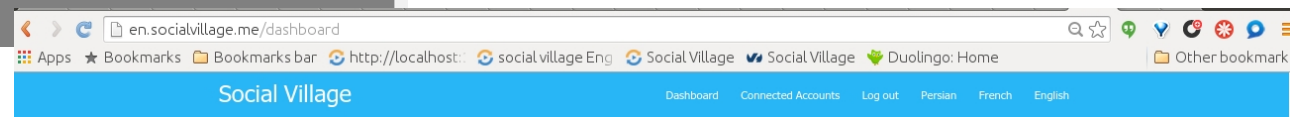
Scale questions for more accurate measurement

Real-time Score & Interpretation for respondents

Results 2; Based on data gathered so far

Increased response rate compare to Online surveys

Social Village's 3 languages response rates compare	
Social Village language	Response rate (%)
Persian	49.80
English	43.93
French	37.64
Mean of three languages	**43.79**

Based on the literature, **average response rate in Online surveys are 10 %** ;

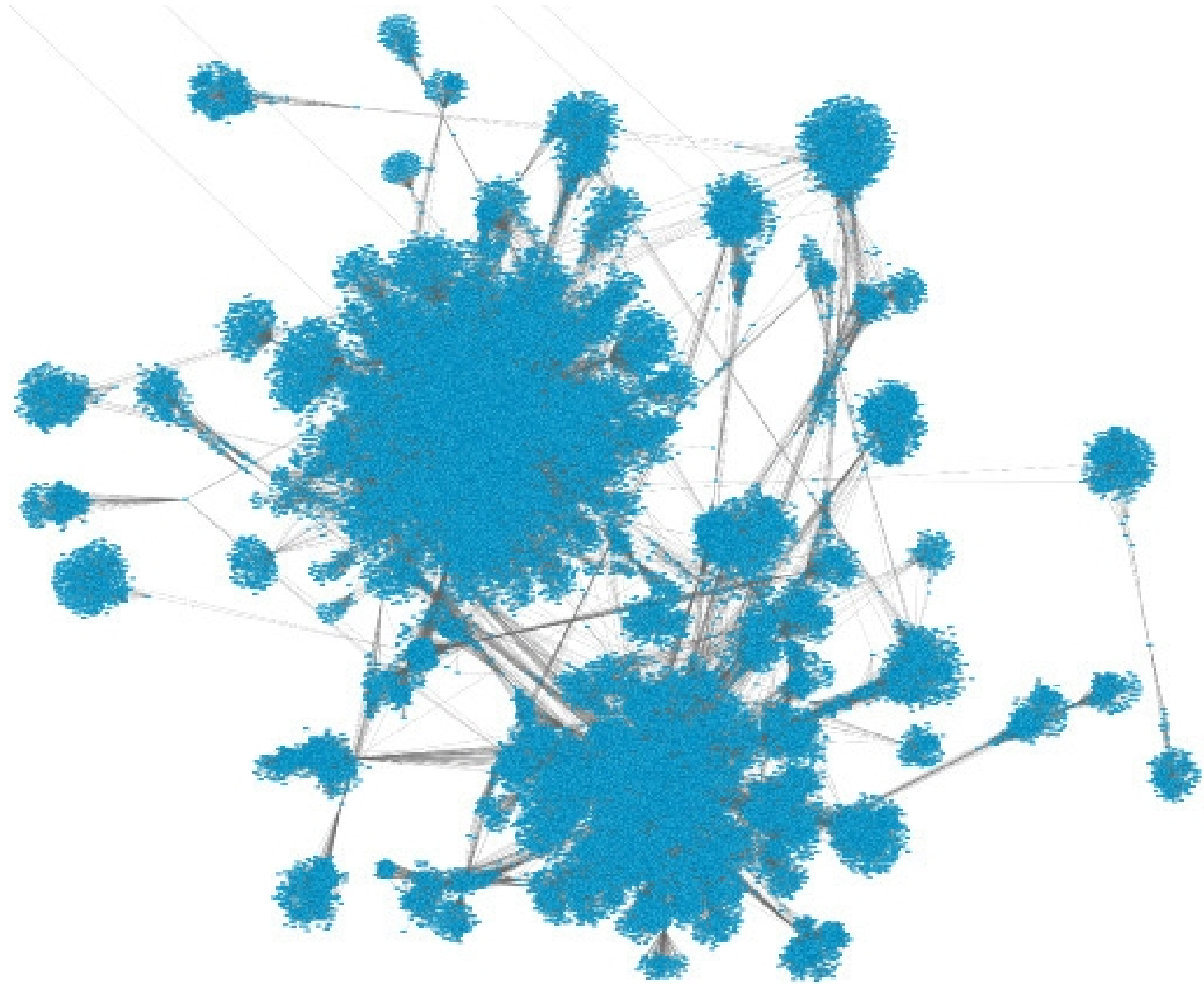- http://www.surveygizmo.com/survey-blog/survey-response-rates/; accessed on May 6th 2015
- Cechanowicz, J., Gutwin, C., Brownell, B., & Goodfellow, L. (2013, October)

Name Generator Results

A sample of Components found (Facebook) 1

N= 54908
E= 1198469

Name Generator Results

A sample of Components found (Facebook) 2

N= 59
E= 149
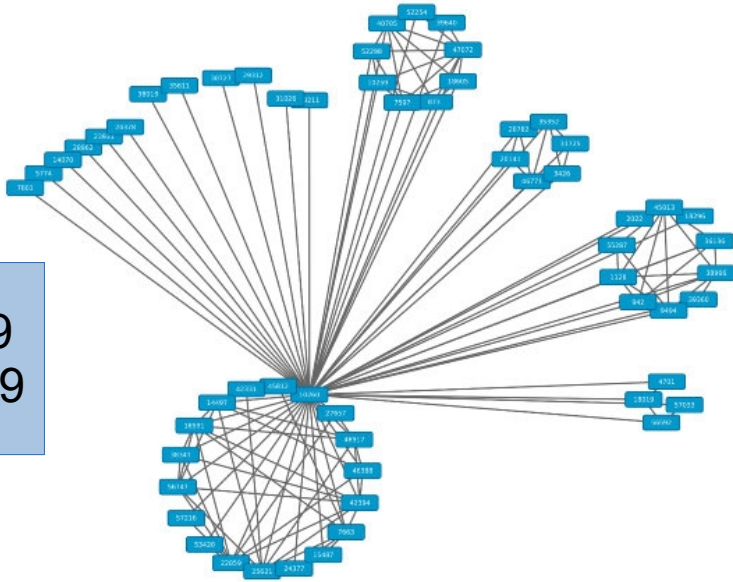
N= 43
E= 104
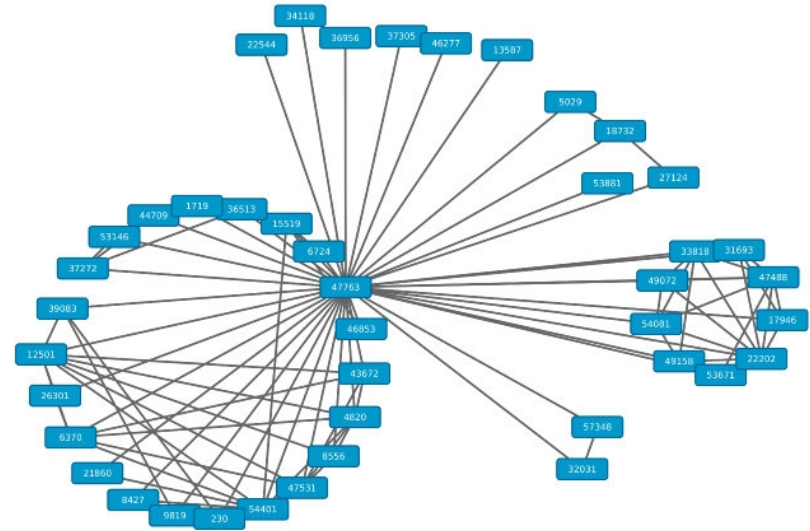
N= 207
E= 1000
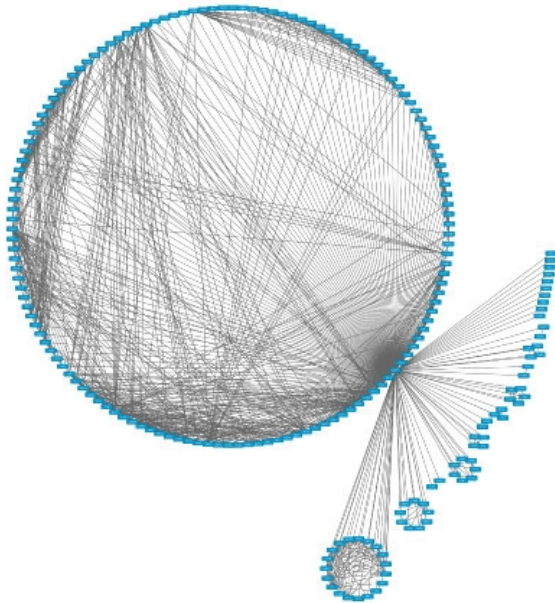
N= 168
E= 1820
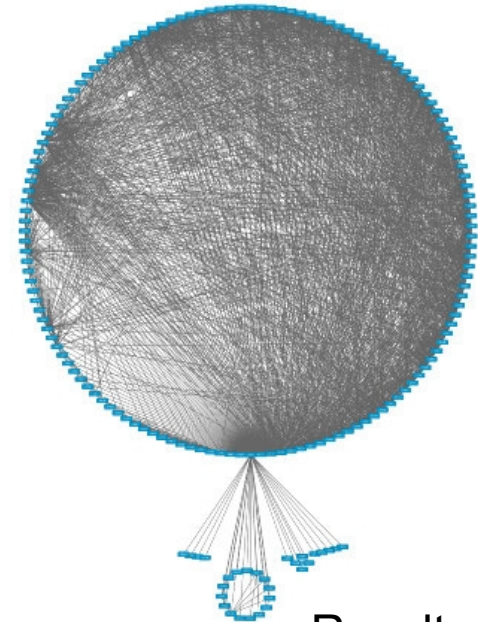
Position Generator Results

Positions accessed by users of Social Village

friend_position	Frequency	Percent
craftsman, merchant, entrepreneur	16	1.85
Senior position / Executive, Intellectual profession	203	23.50
Own-account worker	28	3.24
Middle-level Profession / Intermediate Profession	169	19.56
employee	51	5.90
worker	14	1.62
retired	5	0.58
pupil, student	298	34.49
Looking for a first job	3	0.35
Unemployed	35	4.05
housewife without a job	32	3.70
None of the above options	4	0.46
I do not know	6	0.69
Total	**864**	**100**

Resource Generator Results

Resources accessed by English and French language users

Support type	Frequency	vilid percent
invest_money_given_advice	73	5.68
invest_money_receive_advice	66	5.14
lend_money	68	5.29
borrow_money	67	5.21
receive_health_care	62	4.82
provide_health_care	63	4.90
receive_profession_advice	60	4.67
give_profession_advice	61	4.75
job_interview_preparation	58	4.51
receive_professional_opportunities_information	58	4.51
give_profession_opportunities_information	59	4.59
be_there_for_talk	57	4.44
set_you_up_with_sb	57	4.44
set_him_up_with_sb	57	4.44
my_request_charity_work	46	3.58
his_request_charity_work	51	3.97
discussed_political	57	4.44
impact_on_his_voting	45	3.50
impact_on_my_voting	54	4.20
knows_lawyer_to_help	41	3.19
I_introduced_cultural_goods	64	4.98
He_introduced_cultural_goods	61	4.75
Sum	**1285**	**100**

Resource Generator Results

Resources accessed by Persian language users

Support type	Frequency	vilid percent
Occupational_advice_or_job_suggestion	345	17.22
Economic_advice_or_lend_money	296	14.78
Cultural_goods_or_set_you_up_with_sb	363	18.12
Liked_a_charity_page_or_helped_a_charity_my_request	281	14.03
Political_discussion_or_impact_on_my_voting_behaviour	349	17.42
Problem_solving_advice_or_practical_help_to_solve_problem	369	18.42
Sum	**2003**	**100**

Conclusive remarks

A sample of possible conclusion in individual level for one of respondents

Respondent	Potential Social Capital metrics				Mobilized Social Capital
	Degree	eigenvector	betweenness	closeness	Supports & outcomes
XAxvYAe	53	0.59	0.91	1	0.20

Sex: Female
Relationship:Colleague
Position: employee

Sex: Female
Relationship:Colleague
Position: employee

Sex: Female
Position: employee

Sex: Female
Relationship: --
Position: --

Sex: Male
Relationship:Family
Position: Senior position / Executive, Intellectual profession

Sex: Female
Relationship:Friend
Position: employee
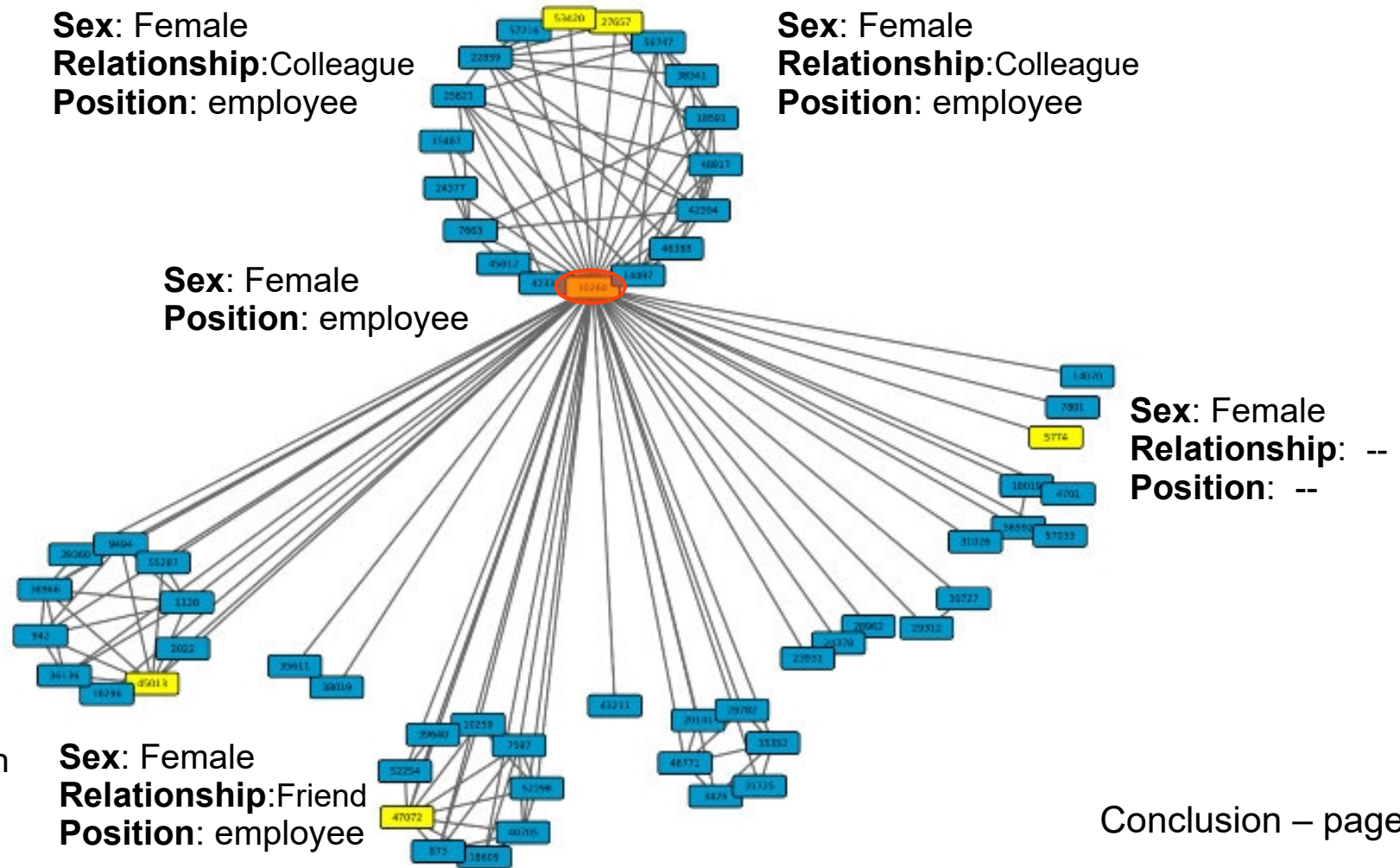
Our Innovations in a nutshell

- Tried to adopt Nan Lin's model of social capital measurement to online social network members

- Tried to improve online social survey and its participation rate by Gamification

- Tried to improve social capital measurement by combining three structural generators of Name, Position and Resource

- Tried to build a dynamic and longitudinal research platform for social capital study and real-time measurement

What to do next

1) Test the hypotheses (like difference in access to position among men and women or how much potential social capital can define level of social support)

2) Correct the problems of current version

   1) Decrease the number of questions and their length

   2) Implement more interesting types of questions (like interactive sliders and scales)

   3) Ask about all friends supports (given and received) not some

   4) Implement more Gamification (increase entertaining experience) in order to increase participation

   5) Increase the number and variety of users to different countries and levels of activity on social media (social technology ladder)

3) **Measure social capital and its changes through time (Dynamic network analysis) Because of real-time changing nature of social networks and social capital**

Thanks a lot for your time

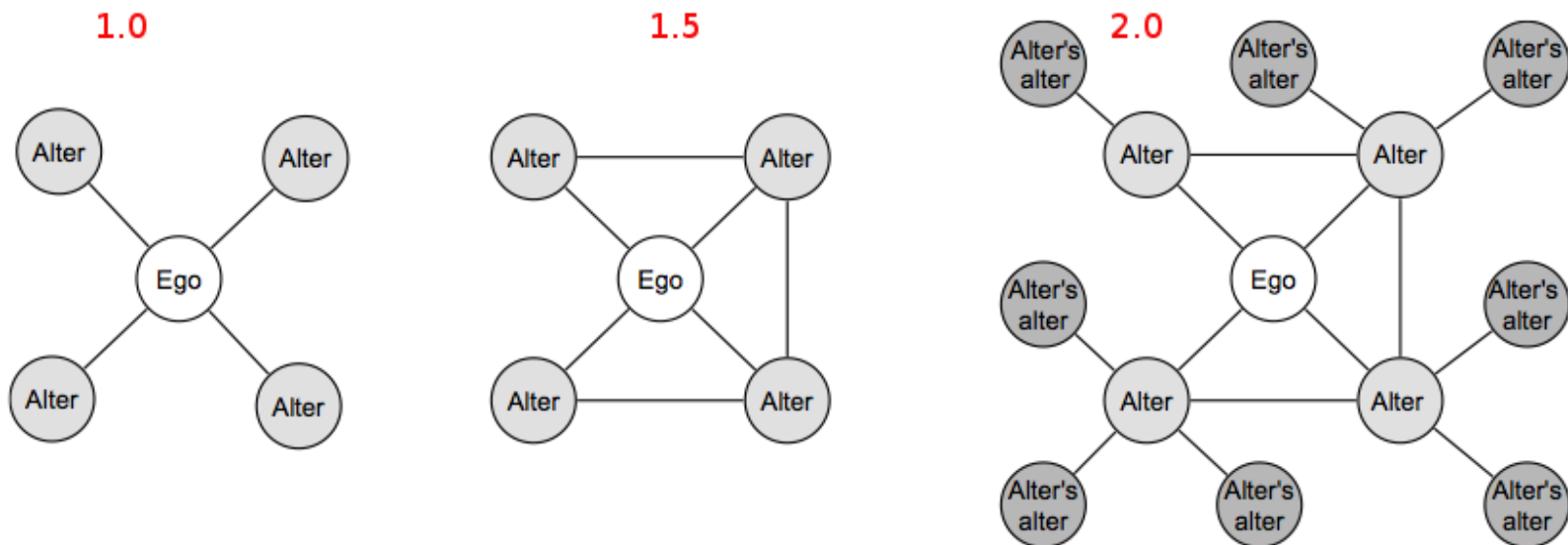Our online research platform, Social Village:

www.SocialVillage.me

I will be happy to hear your comments

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With help of our Name Generator:

- We know our respondents (their identity and survey answers)

- Who they are connected with (their friends)

- Who are their friends of friends (mutual friends in level 1.5 of their ego-network)

- As noted in Bernie Hogan's blog; We don't know about whole/complete network (not possible through Facebook API yet)