IT IS NOT FOR ME

– WOMEN'S DISCOURSES ON IT AND IT CAREERS

AUTHORS

Fanny Vainionpää
Netta Iivari
Marianne Kinnula
Xiaocan Zeng

University of Oulu, Finland
INTERACT research unit
Firstname.Lastname@oulu.fi

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Introduction

- Companies need more IT professionals

- Diversity is a social equality issue
    - Technology shapes society and culture
    - Design practices exclude people

- We need diverse views to produce technology that serves a variety of people

- The problem
    - Girls' disinterest, lack of knowledge, values, expectations, abilities, self-efficacy, perceptions of aptitude, and feelings of belonging, image of the field, lack of knowledge, influence of family, education, work environments, media, gendered traditions, biological differences, social construction of IT and gender, individual differences …
    - Issues in enrollment, recruitment, retention, leaky pipe-line…

(e.g. Anderson et al., 2008; Carter and Grover, 2015;Dasgupta and Stout, 2014; Stanko et al., 2014; Trauth et al., 2004 ; Zarrett and Malanchuk, 2005).

IS or IT ?

We use "IT" as a general term

Including e.g. Information Systems (IS), Information Technology (IT), Software Engineering (SE), Computer Science (CS), and Informatics.

High school students are not familiar with the different disciplines, so it would have been meaningless to discuss topics related to IS alone.

(Jung et al., 2017; Mandviwalla et al. 2017; Oehlhorn, 2017)

The research question

How are IT and IT career discursively constructed by women?

Methods

1. Theme interviews with 10 Finnish senior high school girls
   - Individual interviews, one as a pair

2. Focus group interviews with 11 women university students in IT disciplines,
   - women from 9 countries who study at local university, group interviews.

3. Group discussion with 8 Finnish women: 2 high school students, 3 university students, 3 women in IT
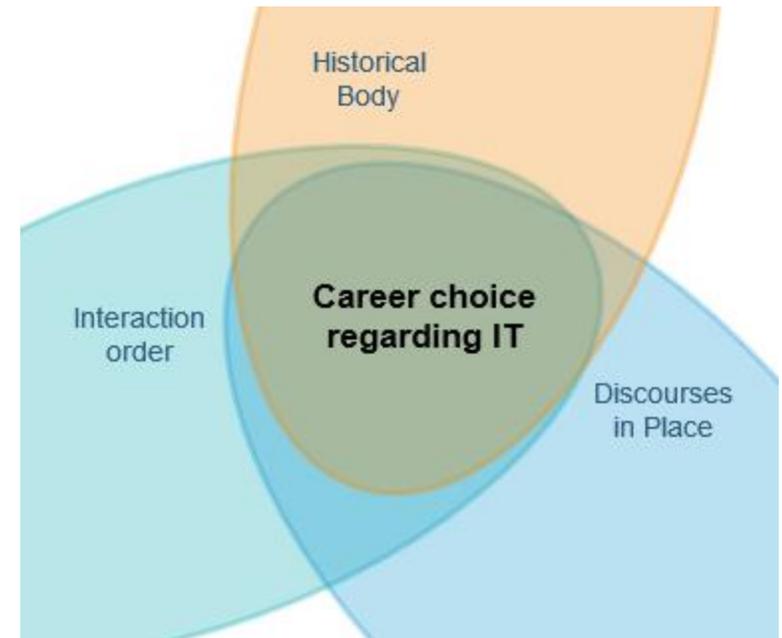   - organized as a mentoring event with unstructured conversation on the topic

HSG Interviews

Uni interviews

Group discussion
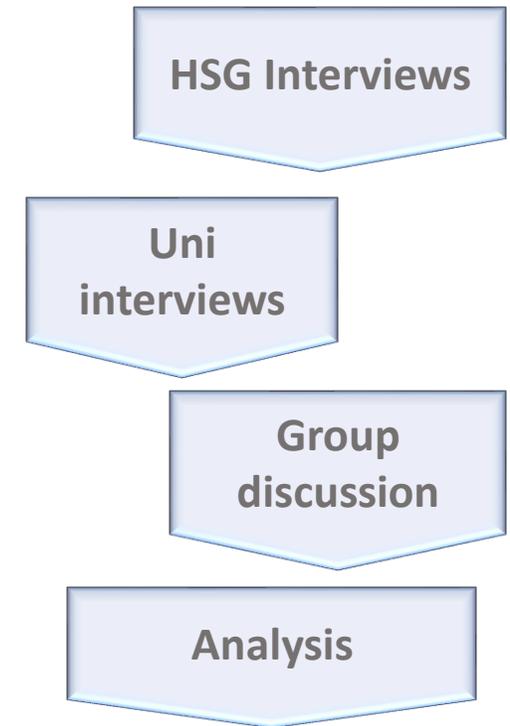
Analysis

Theoretical framework

Nexus analysis

- To look at women's choice to pursue an IT career as an evolving process
- Focus on discourses, actors and interaction between them, and how life histories and experiences shape decisions to enter IT

Foucauldian discourse lens

- Attention to "certain ways of speaking" about a topic, i.e. IT and IT careers
- how women position and construct IT and IT careers in their talk

(Based on Scollon & Scollon, 2004)

(Foucault, 1972; Iivari et al., 2015; Weedon, 1987; Scollon and Scollon, 2004; Jung and Lyytinen, 2014)

Findings – discourses on IT

IT as alien
something distant and strange. Little experience or knowledge of careers.

IT as extra
basic software use in mandatory courses, no compulsory IT courses. No time for free-choice IT courses – focus on matriculation exams.

I can't
apprehensive about skills, mobile use is easier and not considered 'proper' IT use, consider themselves 'basic users'.

You must prove yourself
To others and yourself. Exposure to gendered expectations and attitudes. Willing to be antagonists. Gender issues societal.

Men introduced me to IT
Encouraging people often men: fathers, brothers, husbands... But also women in IT.

"Well... I could try it [studying in IT], but then... I don't know, it's so alien (laughs)." (HSG3)

"I could take it [a voluntary IT course], but when you think about the matriculation exams, and it doesn't fit there [the study program](...) and then you just leave it" (HSG1).

"I don't say I am very good at programming. I've done that a little at school but not that much, only mandatory ones." (US2)

"When I started studying programming, I had no background or hobbies and I was always panicking that I don't get it (...) I felt that I was the underdog, but it was all in my head..." (ITW1)
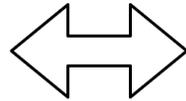
"because I didn't know what to do, encouraged by my brother who studied IT (...) there was a program called information networks which was IT and economics (...) that I studied and graduated from." (ITW2)

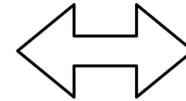Girls and women shared similar discourses on IT

Findings - discourses on IT careers

Discourses on IT careers and subject positions the girls and women shift between.

| Resistant | ⟷ | Indifferent | ⟷ | Explorer |

Not my thing
Little IT experience, assess IT skills as low, active on social media, active in mobile use, computer use at school.

Could try but probably won't
Not against or for IT– could try but probably won't, assess IT skills as basic, could be interested but not enough to try, priority in other subjects.

Curious about everything
Curious, not afraid to try new things, explores on free time, enjoys learning, less active on & critical of social media, assess IT skills as basic despite e.g. programming skills, IT an option among others.

IT: distant, no need to engage

Attitude not necessarily negative, but it is 'not for me'.

Disinterest seems connected with unfamiliarity, no need to learn.

Girls from this discourse can end up in IT, and like it.

IT an option in certain conditions.
Often already interested in something else.

Indifferent towards learning about IT, IT skills considered basic.

Girls from this discourse may end up IT, e.g. if primary options fall through.

Interested in IT, and other things; may not pursue IT despite positive attitude.

Many interested in math, physics, engineering, creativity, design.

Most engaged in learning activities, but say they have little IT experience.

Enjoy learning and exploring.

Findings - shifting between discourses on IT careers

People can engage in different discourses at different times in their life, and end up in IT from any of these subject positions.

Many chose to study IT after trying out some other field. This works both ways. A girl started off as an Explorer ended up as Resistant:

"I had the optional ICT course in 8th-9th grade, and it probably comes from there, when I lost my temper, I named all the files as 'trying my patience.'" (HSG6)

Implications for research

We identified three discourses on IT careers and related subject positions among the women. We found women can shift between them, which shows anyone can become interested in an IT career.

Considering career choice as a lifelong process, we can find new ways to show IT might offer satisfying career options.

The destination can change, and the process view and use of discourse lens help make the complexity visible.

People's subjectivity as constantly constituted and continuously negotiated in discourses. Our data shows a person can shift between subject positions in different phases of life; their subjectivity is not stable, but it fluctuates and is constantly re-considered.

Our study hints that 'frivolous' IT use is not thought to provide useful IT skills that could be transferred to a future career.

Future research

→ Discourses on IT and IS in society (e.g. online), and who takes part?

→ Organizations try to increase women's representation in IT. What kind of social change do they create?

→ How are educational institutions defining their IS education? Links to employment? How to reach students?

Implications for practice

Viewing career choice as a lifelong process shows there is potential in anyone. Women shifting between different discourses and subject positions show it is possible to improve women's inclusion. Efforts must be continuous.

What kind of alternative discourses on IT and IT careers there are and could be, and how can we introduce them?

- We see unfamiliarity of IS and IT, and difficulties in explaining them
- Women also found positives in their field; social aspects, freedom, creativity, and having an impact. We need to highlight them.
- Our students need more support in their professional development and building confidence

Limitations

We had participants identifying as girls and women because of their well-established underrepresentation in IT

We did not examine gender as a spectrum

Our study discusses women's individual and shared discourses and positions in relation to IT

No analysis on construction of gender, but the process view allows consideration of individual experiences of IT and gender

Terminology: We used IT in our interviews and discussions, so we do not have empirical data purely on IS

The context

Our informants are women living in Finland (20/29 Finnish)

- Informants have different perspectives and background (age, life stage and nationality)

- University students from 9 countries represents the local international community in IT

- Finland: Has a reputation of good gender equality, but heavily gendered occupations. Mothers are engaged in working life. Finland is not a class society, university education is free, enabling career choices for people with varying backgrounds.

We acknowledge the **impact of culture** on (IT) career choice but cannot make conclusions on it. Despite age and cultural differences between the informants, the discourses among them were rather similar. We did not address intersectionality of class or ethnicity.

(Bray, 2007; Wajcman, 2010; Kvasny et al., 2009; Morley and McDonnell, 2015; Vehviläinen, 1999)

Summary

Nexus analysis to look at career choice as a complex, evolving process. Discourse lens to inquire *how IT and IT career are discursively constructed by women.*

Girls and women reproduce and criticize old discourses on IT

Women's discourses on IT

- IT as alien / IT as extra / I can't / You must prove yourself / Males introduced me to IT
- They constitute IT in particular ways which has implications on women's career choices

Three discourses IT careers, three corresponding subject positions

- IT career as 'Not my thing'; 'Could try but probably won't'; and 'Curious about everything'
- Discourses position speaker as 1) the Resistant; 2) the Indifferent; or 3) the Explorer
- None prioritized IT as a career option but any can change their position

Looking at career choice as a lifelong process, where the subject position can change, anyone can end up in IT.

THANK YOU

Fanny.Vainionpaa (at) oulu.fi
INTERACT Research Unit
http://interact.oulu.fi/
University of Oulu

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