Understanding Interest in Studying IT – "Desire for Change" Among Adult Women

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ABSTRACT

Information Systems education has been concerned with student recruitment and diversity. We asked 123 students in an introductory course why they had chosen the Information Technology field. The course provided an opportunity to inquire the motivation of a diverse set of students as the course is open to anyone. We wanted to learn about our students' backgrounds and whether the answers would differ based on age or gender. The most important themes we found were "interest," "IT identity," "potential of the field," "study opportunities," "people," and "desire for change." We found differences between age and gender groups that can inform inclusion efforts. People referred to recent experiences in their motivation and influences varied in different life stages. Particularly women seemed to develop interest in IT later in life. Our findings point to the significance of having the opportunity to study and the potential of the field, and the problematic online information about the field. Our findings can inform recruitment efforts and highlight potential of different groups of people that may have been overlooked so far.

Keywords: IS education, Developmental psychology, Career choice, Inclusion, Diversity

1. INTRODUCTION

Information Systems (IS) has been concerned with student recruitment and raising interest in the field (Granger et al., 2007; Li et al., 2014). Diversity and the lack of women is a long-term concern in Information Technology (IT) related fields such as IS (Main & Schimpf, 2017; Vainionpää et al., 2019b). This is an economic issue, as IT companies struggle to find enough skilled workers (Eurostat, 2019). Moreover, we need diverse IT professionals to ensure we are shaping our digital world in a way that is inclusive and serves different people. Education is in a key role in this. We asked why students chose to study IT from a diverse selection of students: degree students and open university students taking the same course**.** Our aim was to gain a deeper understanding through the students' reasons to choose this field.

IT includes disciplines such as Information Systems (IS), Software Engineering (SE), and Computer Science (CS). Adolescents are unfamiliar with the various IT careers (McLachlan et al., 2010; Vainionpää et al., 2019a), given that degree programs within IS can vary in entry requirements, duration, workload, and the focus in computing and business (Karsten et al., 2015). Thus, it can take time to find one's path. We were interested in inquiring our students in different life stages what influences their choice. We know age influences career choice. Our identities become stronger as we age, and fitting in becomes less important (Rommes, 2010). People can find their calling as adults, and change careers (Ahn et al., 2017). We had an opportunity to conduct a survey with students in our introductory IT course and investigate the intersectionality of age and gender in choosing IT.

We inquired, *for what reasons do students enroll to IT studies?* We conducted a qualitative questionnaire study in the University of Oulu to inquire why students chose the field. The introductory course had 150 participants, degree students and open university students. We were able to use 123 responses in this analysis. As the course is open to anyone, the dataset provided insights into study motivations of individuals from different backgrounds and life stages. We compared the answers between different age groups and genders. We ended up with nine different themes that will be elaborated in more detail. We discuss our findings in light of developmental psychology (Berger, 2017). We contribute with insights on students' choice to study IT through qualitative analysis. The findings are relevant for recruitment and inclusion efforts in IS, work on gender balance and diversity in higher education.

2. BACKGROUND

IS educators have faced problems with student recruitment (Koch & Kayworth, 2009). Choosing an IT career is influenced by interest in the field, self-efficacy, expectations, employment opportunities, perceptions of difficulty, and social support of family and other people such as teachers and

role models (Annabi & McGann, 2019; Dee & Boyle, 2010; Fisher et al., 2015; Zhang, 2007). Adolescents lack knowledge of IT related careers like IS, and images of the field are largely based on stereotypes of boring, difficult, and technical work (Jung et al., 2017; Lang, 2012; Vainionpää et al., 2019a). Students can also draw these images from their experiences at school (Kindsiko et al., 2020). This is a problem as interesting work is important in IS major choice (Walstrom et al., 2007). Career choice is a complex issue, as it is influenced by discourses at various levels, interactions with different actors at home and at school, and life histories that shape our IT identity (Carter & Grover, 2015; Vainionpää et al., 2019a).

The internet was a primary source of information about careers already over a decade ago (Walstrom et al., 2007). IT careers remain unfamiliar, and efforts to include new technology and current topics in IS curricula may have contributed to the obscure identity of the field (Case et al., 2019). Introductory courses are important for building the image of the IT field, and classroom experiences can shape career choices (Akbulut, 2015; Kindsiko et al., 2020). Thus, the context of our study seemed interesting.

In Finland, choice of secondary school courses affects students' higher education opportunities. Thus, high school is the last step before choosing a field. For high schoolers, experience builds confidence and self-efficacy in IT (Hatlevik et al., 2018). Adolescents' daily technology use may not increase interest or knowledge of careers in IT (Vainionpää et al., 2019a), and schools may not keep up with current developments (Kindsiko et al., 2020). Young students may have more computer experience, but it does not mean they have higher self-efficacy (Karsten & Schmidt, 2008). While high school students are the obvious group of potential students, less attention has been paid to adults.

Studies have discussed exclusion in IT with focus on intersectionality of gender, ethnicity, and class (Kvasny et al., 2009). Women have been underrepresented in IT for decades (Main & Schimpf, 2017; Rogers, 2015; Vainionpää et al., 2019b). Societal discourses paint technology as masculine (Boivie, 2010), making girls feel like outsiders (Master et al., 2016). Explanations for the lack of women include individual differences, gender differences in interest, self-efficacy, perceptions of aptitude, and the social construction of IT clashing with girls' gender identity (Anderson et al., 2008; Serenko & Turel, 2021; Trauth, 2013). During studies, men tend to prefer engineering and women the humanities and social science orientations (Ioannis & Maria, 2019). While discourses on IT careers remain heavily gendered, women can be resistant, indifferent, or curious about IT, and shift between these positions (Vainionpää et al., 2020; Wong & Kemp, 2018). Women can choose IS, if they have interest, encouragement, positive experiences, aptitude for problem solving, desire to challenge or prove themselves, or opportunity of better salaries (Croasdell et al., 2011; Serapiglia & Lenox, 2010).

There are different views of IT careers: the narrow one which is prominent in society, and another among women who see it as challenging, exciting, and rewarding (Lang et al., 2010). Some women reconcile their individual, gender, and work identities, with motivation from enjoying interesting and challenging work (Kenny & Donnelly, 2020). Our identities and subject positions can develop through our lives, and people can end up in the field in adulthood (Vainionpää et al.,

2020). Research has revealed uninformed adolescents, and some motivated women. Gender and career studies could benefit from a life-course perspective, i.e., considering age an important variable as adult women's agency in their choice and knowledge of employment possibilities is significant (Donelan et al., 2019). A study investigated adult women's motivations to change careers (Hyrynsalmi & Hyrynsalmi, 2019) found that women saw software engineering (SE) as attractive but had trouble navigating its career paths. Adult students and career changers appear little in IS research. We see potential in looking outside the usual pool of applicants who enter higher education through traditional paths.

We were inspired by developmental psychology, specifically Berger's (2017) textbook on person development through the life span, the periods of emerging adulthood and adulthood.

Emerging adulthood (ages 18-25) is between adolescence and adulthood, when adult roles and preferred occupations emerge. At this age, social norms have a strong influence, approval from peers matters and gender is an important factor. When something is considered as a way of being a (wo)man, it affects one's behavior (see also Serenko & Turel, 2021). At this age, most young people move out of their parent's house and have their first job (Berger, 2017, pp. 484-488).

Impulsive and reactive behavior is typical for adolescence, whereas emerging adults use their intellect for educational and occupational purposes. They are better at thinking of their personal emotions and traits, obligations, and practical considerations. Emerging adults can question childhood assumptions with less influence of stereotypes, although it is not easy to recognize them. Berger (2017) introduces the concept of "*stereotype threat,*" potentially experienced when becoming aware of what other people might think of them. It is self-imposed, especially when a person is hypersensitive to others' prejudiced attitudes. This stereotype threat might somewhat explain girls' tendency to have internalized self-doubts regarding IT studies. Due to their capability for "*dialectical thought,*" adults may confront self-doubts after success on the job, coping with a crisis or after "*affirmation from a partner,*" reducing the stereotype threat. Emerging adults, however, are only developing these skills; based on their new experiences, they form new insights for new syntheses to emerge. As for adults, they keep learning due to life span challenges that require change, also opening the window for continuous education opportunities (Berger, 2017, pp. 493-497).

Emerging adults go through identity exploration (Berger, 2017, p. 519). The identity crisis started in adolescence is typically not resolved until adulthood. It is a challenge for emerging adults who are developing their career options while achieving vocational identity. Parents and adults typically see the labor-market opportunities of the future narrowly. Thus, while emerging adults consider their career as part of their identity and who they want to be, they tend to drift. They might take a series of temporary jobs to try various kinds of work. They make choices that "break with the past" and live free from settled lifestyles. While emerging adults increase agency and authority in their own lives, they are still vulnerable regarding their evolving personalities. Social contexts still influence their priorities, attitudes, and assumptions (Berger, 2017, pp. 519-525). Parents provide substantial help and support and these links are evident in

emerging adults' attitudes. Friends might expand each other's thinking by absorbing experiences and ideas. During this period people make more friends than later, and the significance of friendship is at its highest. Friends provide useful information about everything in life. In addition, social media and the internet are used to learn from others and to form opinions (Berger, 2017, pp. 527-531).

In *adulthood* (ages 25-65) context and culture are still important, as adults build on their pasts and prepare for the future (Berger, 2017, p. 553). A characteristic of this period of life is "*selective optimization with compensation*" which applies to every aspect of adults' lives. According to Berger (2017), adults enhance or diminish their abilities depending on their choices and can learn if they are motivated (p. 596). Adults are not required to learn everything, they become selective experts in personally meaningful activities (Berger, 2017, p. 602). Adults' actions, attitudes, and choices regarding education and vocation are linked to their personality traits. People under 30 are more likely to try changing their environment, older adults are more likely change the self instead to fit their community. Although adults try to match their personality traits with their social contexts, they also aim for work that fits their personalities (Berger, 2017, pp. 617-618). Work fulfills many psychosocial needs, e.g., developing and using personal skills, expressing creative energy, contributing to the community, and aiding coworkers. Considering the extrinsic (salary, etc.) and intrinsic (pleasure, etc.) rewards of work, the importance of intrinsic rewards increases with age. Employment is changing in many ways and the workforce is becoming more diverse. Gendered job discrimination is decreasing but has not disappeared (Berger, 2017, pp. 633-635).

3. METHODOLOGY

3.1 Data Collection and Respondents' Background

We collected data in an introductory IT course titled "*Humans as users and developers of technology*." The course is a part of an IT curriculum with elements of IS and SE. While the course is intended for bachelor's degree students, it is open to anyone providing one avenue to becoming a degree student. The course is fully online, entailing 133 hours of work. We collected data from all 150 participants in this course from October 28 to December 20 in 2019. Interviews were not possible, so we opted for a questionnaire. We wanted to understand what led students to enroll to IT studies.

	Emerging Adults (E)		Adults (A)			Σ %
	15-20	21-25	26-30	31-40	40+	
W *%*	9 *7.3*	19 *15.4*	8 *6.5*	9 *7.3*	6 *4.9*	51 *41.5*
M *%*	18 *14.6*	30 *24.4*	10 *8.1*	7 *5.7*	3 *2.4*	68 *55.6*
O *%*	1 *0.8*	3 *2.4*	0 *0*	0 *0*	0 *0*	4 *3.3*
Σ%	28 *22.8*	52 *42.3*	18 *14.6*	16 *13.0*	9 *7.3*	
Σ%	80 *65*		43 *35*			123

Table 1. Demographics: Women (W), Men (M), Other (O)

We asked students to indicate consent to using their responses to a qualitative questionnaire as research data. We asked the respondents' age (15-20, 21-25, 26-30, 31-40, 41-50, 50+) and gender (woman/man/other). In addition to this background data, we focus on one question regarding what affects students' interest in the IT field: *why they chose the course or IT field*. We wanted to learn how different life experiences had led to the choice.
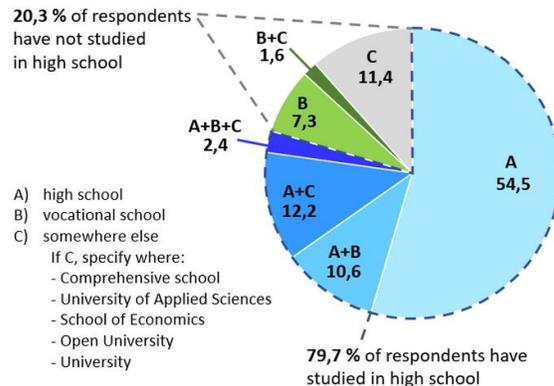
Figure 1. Study Background of Respondents

Out of 150 responses, 128 gave us consent to use their data. Five did not answer relevant questions, so our final dataset included 123 responses (Table 1). The students came from 42 different places around Finland, and their study background varied (Figure 1). Most (79.7%) respondents had studied in high school, but many "somewhere else" (see Figure 1).

3.2 Data Analysis

The open questions provided rich information for a qualitative analysis. While a quantitative analysis would be possible, the data was not collected with consideration for validity of a statistical analysis. A thematic analysis was most suitable for making sense of the qualitative data.
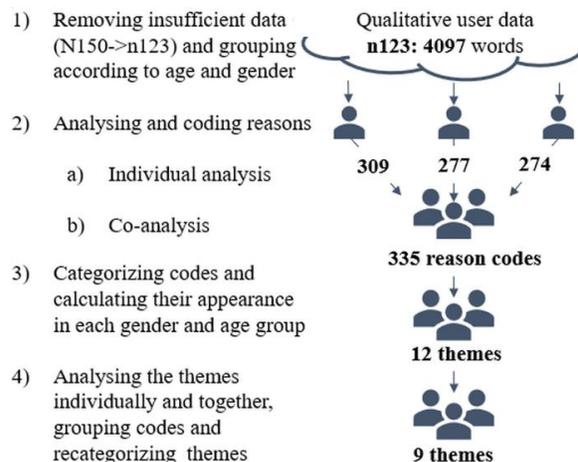
Figure 2. Analysis Process

First, we coded each answer individually for reasons the students chose IT (Figure 2), and whether the reply related to choosing the course or the field. Second, we discussed each reply and code together. This ensured all authors had interpreted the answer in the same way and similar codes were unified. Third, we made a table to see what codes appeared in which age group and gender. To minimize mistakes, one author read the codes, one marked them, and one followed the process. We discussed the grouping of the codes and found 12 larger themes, then analyzed the table individually. Fourth, we further discussed the findings, resulting in nine themes, including interest in usability, user interface, service design within human-computer interaction (HCI), and others.

4. FINDINGS

Based on the analysis, we identified nine themes (Figure 3). Out of all responses, four themes were mentioned most: interest (24.5%), IT identity (16%), potential of the field (15.3%) and study opportunities (14.4%).
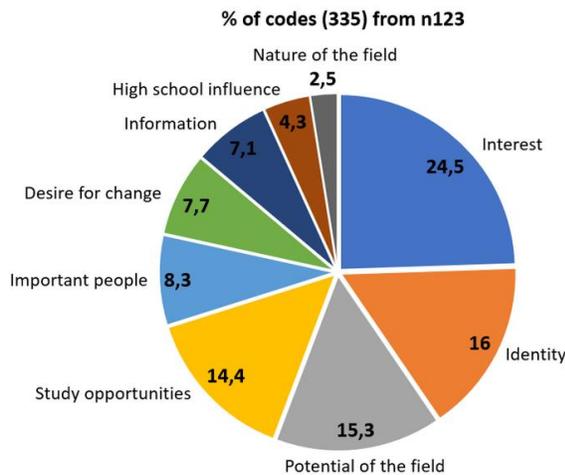
Figure 3. Themes from Respondents' Reasons for Enrolling into IT Course or Field

Inspired by developmental psychology, we compared the answers between different age groups and genders. The findings are divided into the emerging adults (E) aged 15-25 and adults (A) aged 26 and older. The most significant themes for E's were interest (25%), potential of the field (15.3%) and study opportunities (15.3%). For A's, the themes were interest (23.7%), IT identity (18.7%) and desire for change (15.8%) (Figure 4). Next, we present findings relating to nine themes with quotes from the data, where gender is indicated with W for women, M for men, and O for other, and the number identifies the individual.

4.1 Emerging Adults
Interest was the most significant theme among E's, including programming, devices, technology, and software (mostly EM). IS, usability, and user interfaces were all mentioned once. Two EW wanted to take a course to understand the field, showing uncertainty and interest in IS: "*I signed up for the*

course because I wanted to see what it's like" (EW61). Interest in games was not mentioned by anyone among the E. IT companies had only one mention, so their role in creating interest seems small.

Most future anticipating replies considering *potential of the field* came from E's, with little gender differences. Employment prospects were the most significant in this theme, although IT companies were only mentioned once. Other things were work-life requirements, future benefits, salary, and improving societal systems and services. The E's saw IT studies useful for teaching, entrepreneurship, and other fields.
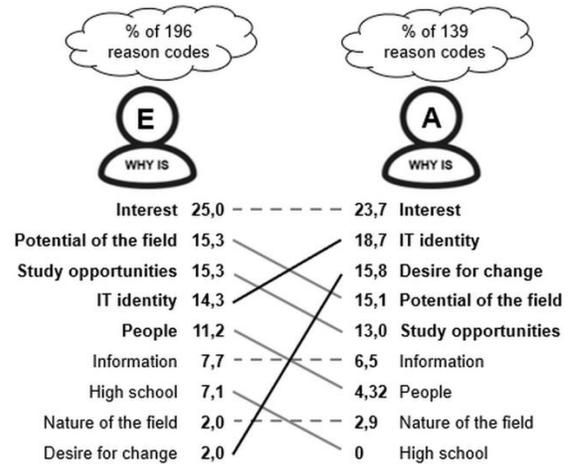
Figure 4. Themes Based on Codes Divided into Age Groups and Ordered Based on Percentages

Study opportunity was as important as potential of the field. Many take IS as a minor (optional, recommended, or mandatory to their field). Open university courses are marketed to high schools, and five students mentioned this. Project work had influenced four students: "*Career change and interest are why I signed up for the DEFA (digital education for all) project*" (EW57). Three ended up in IS by accident and one did not get into their primary field of choice. University location was a factor for one EM.

We considered prior IT experiences a part of respondents' *IT identity*. EM mentioned experience the most, with the field's suitability for oneself and programming at the top. There was a need for expanding existing knowledge in the field, building on a degree in computing or some other experience. Regarding work experience, only one summer job and one internship in IT were mentioned. This also shows the small role our companies have in getting the young generation into IT.

People influence E's choices to study IT. Friends gathered most mentions overall, mostly from EM. Two EW used the term "acquaintance," implying a more distant relationship. All genders mentioned family: a father, parent(s), and a brother. Only one student mentioned a role model. Perhaps they do not exist for these students, are not recognized, or do not have a significant impact on this.

Information about the field is important for E's. Both men and women mentioned websites, often with negative feedback about the information. "*The information was a bit lacking, but during the studies I have become more enthusiastic about the*

field” (EW94). Many had difficulties determining which major to choose: “*It was very difficult to find information and to understand what is done where, and that studies with the same name can vary drastically between different universities*” (EM4). Some made the choice despite online information, convinced by other sources: “*I was largely influenced by what my father told me about the field*” (EW44). Some answers specified videos, media advertisements, news, and (women’s) career stories: “*I got enthusiastic by reading about the experiences of other women working in the field*” (EW98).

High school influenced E’s through guidance counseling, teachers, events, and an IT oriented high school: “*The study guidance counselor suggested IS*” (EM77). One mentioned a course in middle school. This shows the importance of personal interactions, extracurricular events, but also the lack of IT education.

There were some remarks on the *nature of the field*, EW mentioned creativity, logical thinking, and the field’s multidisciplinary nature. As programming, technology, and devices gathered so many EM mentions in comparison, it indicates how the younger students see the field.

Among E’s, three EW and one EO showed a *desire for change*, as they wanted to change their field of study.

4.2 Adults

Interest was also most significant for A’s. Many were interested in the field generally. Some specified an interest in technology, HCI subjects, IS, wanting to try it out, and games. Here we could see a shift from programming and technology to different domains of IT professionals, less accidents and a clear sense of what to do after the studies: “*Particularly usability and users interest me, and this course offers perspective on the user perspective*” (AW74). None mentioned IT companies; one AM mentioned games.

The A’s *IT identity* showed life and work experience. The A’s have worked in IT or other fields and found a need to learn more: “*I have worked in the IT field for about ten years… I am a humanist. I am studying in the open university because I want to gain new information and knowhow for my work*” (AW11). A’s mentioned programming experience, unspecified knowhow, hobbyism, and the field’s suitability for oneself. Some also specified work experience in the IT field, design experience, and encountering bad web design. Some recognized that they had matured: “*I enrolled to IT studies in vocational school but did not finish because I thought that I wanted to do something else, with people… An old friend in the field finally convinced me to enroll to university studies*” (AW114). One AW showed frustration and will to defy stereotypes: “*I’m vexed and angry that back in the day no one encouraged me to math and natural science studies… I wanted to challenge myself more, so I enrolled to the IS studies now at 40 years of age*” (AW32).

Desire for change was significant for the AW. Some AM and AW wanted to expand their knowhow and skills, building on another career, combining careers, or doing something new: “*Challenges in work life, using different systems raised interest in understanding more*” (AW107). More mature students looked forward to challenging themselves: “*It was*

important for to me to get into a field where constant development is necessary” (AM53). Compared to E’s, the A’s life situation or timing and using one’s earlier profession in career change is a clear difference: “*I want to change my career and now is the right time to start working on it*” (AW65).

Regarding the *potential of the field*, employment was important for A’s: “*I enrolled to study IS to improve employment opportunities*” (AW91). Problems in the employment market are driving these A’s to study again: “*I have enrolled to IT studies because the employment situation looks better than in my field. I need a plan B for the rest of my working years*” (AM54). Then there was work life demands in IT or other fields. The responses related to future prospects, future benefits, salary, and improving societal systems and services show an interest in investing in the future.

Study opportunities was important for A’s. A few had IS as a minor, but the opportunity to study in the open university was important for many: “*Curiosity and a free course inspired me to enroll in the course*” (AM25). Many study IT related skills on their own or at work, and the university studies were thought to bring something more to the table: “*I have studied software tools at work, but I think the open university studies bring new perspectives, and it’s pleasant*” (AM105). Projects encouraging people into IT education had affected two AW: “*I had considered IS as a minor already, but a workshop with the LUNO project in the equality day event sealed my decision*” (AW41). An A ended up in IS by accident and for another it was a second choice. Other reasons were university reputation, eagerness to study and getting another degree. Three A’s were motivated by a need for study credits, which we would have expected from the E’s.

A’s found *information about the field* online, mostly university websites. As with the E’s, all A’s did not find the information sufficient: “*the information was relatively scant*” (AW10). The lack of information did not stop these students: “*I am more positively surprised by what a variety of jobs there are*” (AW122). Some took advantage of their networks to supplement online information: “*When I found interesting study opportunities in the IT field, I asked my acquaintances for information and their experiences*” (AW118). Therefore, people working or studying in the field are important informants, as they can speak from experience.

A’s identified few *people* as influences; there was one husband, a few friends, and one acquaintance. Yet, the information theme shows people can talk about their experiences and fill in information that was lacking elsewhere; encouragement can be important.

The nature of the field was mostly described by AW: creativity, logical thinking, problem solving, multidisciplinarity, and constant development. “*The field is interesting; you need problem solving skills and creativity. The field develops all the time and employment is excellent*” (AW50). These views differed from the E’s.

High school was not mentioned by A’s, other than as discouraging. The A’s offered more recent life experiences as positive influences in their choice to pursue IT studies.
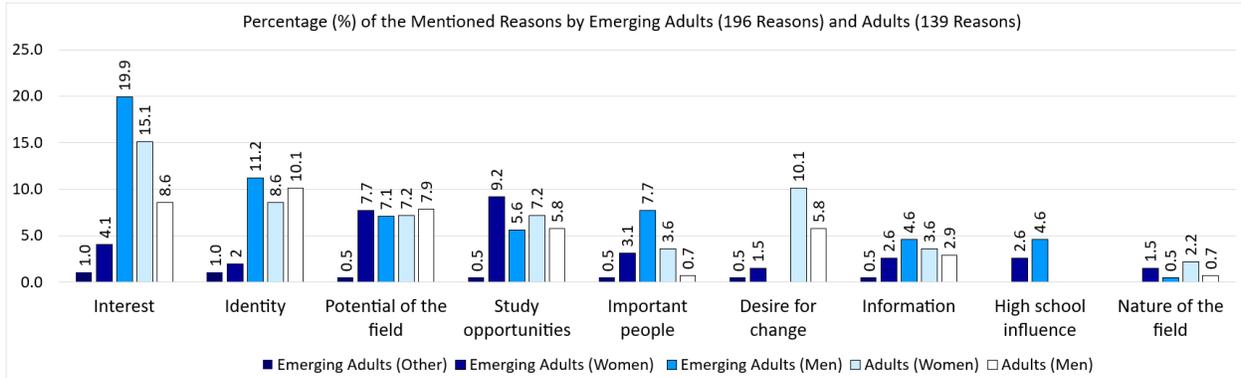
Figure 5. Importance of Themes According to Gender and Age Groups

5. DISCUSSION

5.1 Implications of Findings

We asked students in an introductory IT course why they chose this course or the IT field and found nine themes. As we divided responses by age and gender (Figure 5), we found similarities and differences in what influenced the students. This study offers novel qualitative insights from a fully open online course that can inform recruitment and inclusion efforts in IS education.

As we looked at the intersectionality of *gender and age*, we found more men among E and more women among A. This may be because E's tend to be more influenced by gender norms and stereotypes (see Berger, 2017). Similar to Ioannis and Maria (2019), men in our study mentioned more technical interests than women. If we look at Figure 5, the AW have significantly more mentions in interest than EW which indicates that women can find their interest later in life. This links to maturing and the desire for change. With the men it is the opposite, EM have more mentions in interest than AM. In identity, the difference between EW and EM is vast, showing EW have less experience. The potential of the field and study opportunities matter to all respondents. Many students with a minor in IS are women, so their primary choice was something else. When it comes to gender, "other" gender only had four respondents, so they did not weigh heavily in the dataset.

Interest was the most significant factor for both age groups, as indicated by earlier studies (Zhang, 2007). Our dataset showed interest had brought people with various backgrounds to the course and how age factored in the areas of interest. The E's mentioned concrete technology and linked their interest in technology, software, and programming. IT's technical image was evident in these responses (cf., Jung et al., 2017; Vainionpää et al., 2019a). Meanwhile the A's showed more varied understanding of the field. They mentioned IS related things like usability and management and had plans for their future careers. The field's suitability for oneself is related to identifying these interests.

Many AW described the *nature of the field*, recognizing the variety within IT careers. For this part, our findings are in line with Donelan et al. (2019), on adult women's agency and knowledge of employment possibilities. Hyrynsalmi and Hyrynsalmi (2019) found women seeing IT as attractive, and the women in our study showed an interest in an IS orientation. Since women can develop an interest in IT and

become highly motivated, adults can help including women – hopefully instigating a cultural shift where more young women see the field as an option. As we need more IS professionals, investing in adult women could lead to social change.

IT identity (Carter & Grover, 2015) emerged as a theme through IT experiences. This was significant for both age groups. It seems life experiences and maturing can bring people to the IT field in adulthood, as per the life-course perspective. Career choice is a lifelong process where women can particularly change their subject positions in the IT field (Donelan et al., 2019; Vainionpää et al., 2020). Developmental psychology says there are assumptions that our identity is more "static" than dynamic as adults. According to Berger (2017), A's are more likely to change themselves to fit in their community, thus changing their career. Finding a calling in a career (Ahn et al., 2017; Berger, 2017) was visible among many A's and some E's. Open university studies gave the A's an opportunity for change (Berger, 2017), required or desired.

Desire for change was prominent among A's. Those working in other fields had found a need to develop their understanding of IT. Some wanted to change their career trajectories entirely, particularly the AW. The Open University made this continuous education possible (Berger, 2017). Employment and work-life demands make the *potential of the IT field* visible. Yet, IT companies only came up once, and few E's had summer work or internship experience. This shows how far the companies are from the lifeworld of the E's.

The importance of *study opportunities* is a new finding for both E's and A's. The course was free of charge and open to anyone. This seems to be a useful avenue for students to gain a better understanding of the field and motivate into further studies without full commitment. Considering inclusion, this opportunity can be important for students from remote areas or different educational backgrounds – it was reflected in participants from all over the country and varying education (before COVID-19). The option of studying a minor in IS was also significant in our data. Often our marketing efforts focus on regular secondary education students, and this indicates that we could have a broader perspective.

Considering *people*, earlier studies highlight family, particularly men, as important for choosing IT careers (e.g., Serapiglia & Lenox, 2010). When family members were

mentioned and gender was indicated in our study, it was fathers, brothers, and a husband. Interestingly, friends and acquaintances (gender not indicated) were mentioned most. This aligns with developmental psychology on the significance of friends for E's (Berger, 2017). We can consider how our current students could help with recruitment. Notably, men talk of friends and women talk of acquaintances, implying that the recommendations come from people more distant to women. Only one student (EM) mentioned a role model. This is interesting, as there is a lot of talk about role models (e.g., Dee & Boyle, 2010). It is possible that our respondents have role models but did not think of them in the questionnaire.

Naturally, *information* is important, and it is no surprise that the internet is a primary source. We found that students chose the course or the field *despite* the lack or ambiguity of information online. We know that lack of knowledge is an issue (Jung et al., 2017), and our findings underline the need to reconsider how we try to explain our field. Students had trouble choosing a major in IT due to lack of knowledge (in line with McLachlan et al., 2010). Other people's experiences were used as an additional source of information. IS educators should consider different ways to communicate about our field. While it is no surprise that information is important, we found problems in how we are communicating about IT education and disciplines.

5.2 Limitations and Future Research
Regarding limitations, the terms IT and IS are not self-evident, neither is translating them. In the responses, IS was considered a part of the IT field. The study included one course, and one iteration, and we acknowledge the selection bias. The sample size was comprehensive enough for a qualitative study that aims for deeper understanding rather than generalization. We asked why students chose the course or the IT field in the same question and could mostly indicate which they answered. The answers could list one or several reasons for the choice. We did not inquire nationality or ethnicity, but the course and questionnaire were in Finnish. We did not include this in our analysis. In Finnish, the word for gender and sex is the same – we provided the options of woman, man, and other. We consider gender as a spectrum and people as individuals but focused on gendered patterns and women.

There is surprisingly little research on adult students and career changers in IS. Yet, they seem very motivated. This is an opportunity for future research. There is some discussion about the obscure image of IS careers, and we see a need for inquiries into effective ways to communicate about the field. We need to improve the online information and collaborate among professionals and educators.

6. CONCLUSIONS

We asked why students enrolled into IT studies and focused on respondents' backgrounds and reasons behind their choice. The analysis resulted in nine themes, the most significant were "interest," "IT identity," "potential of the field," "study opportunities," "people," and "desire for change." Our findings show age and gender factor in influences affecting choice of IT education, and how people draw on recent experiences in their choice. Open university studies can provide emerging adults the opportunity to find out if the field

is for them – even from a distance or while working. The adult respondents, with a notable number of women, have great potential, as they have found interest and motivation from their life experiences, and show an understanding of career possibilities and work life needs. We found students with varying educational backgrounds in the course. Universities have certain admission criteria when students apply to become degree students, but the open university courses are not limited by this.

This paper builds on IT career choice research with the life course perspective, considering career choice an ongoing process rather than a one-time selection. We see our results as relevant to inclusion regarding age and gender, but also equality in terms of providing opportunities for students from different locations and different educational backgrounds. The qualitative analysis brings a more varied understanding of diversity in education. As for inclusion and recruitment efforts, we can broaden our marketing efforts towards people from diverse educational backgrounds. Investing in adult students can be a way to improve the inclusion of women by instigating a cultural shift where more young women see IT as an option.

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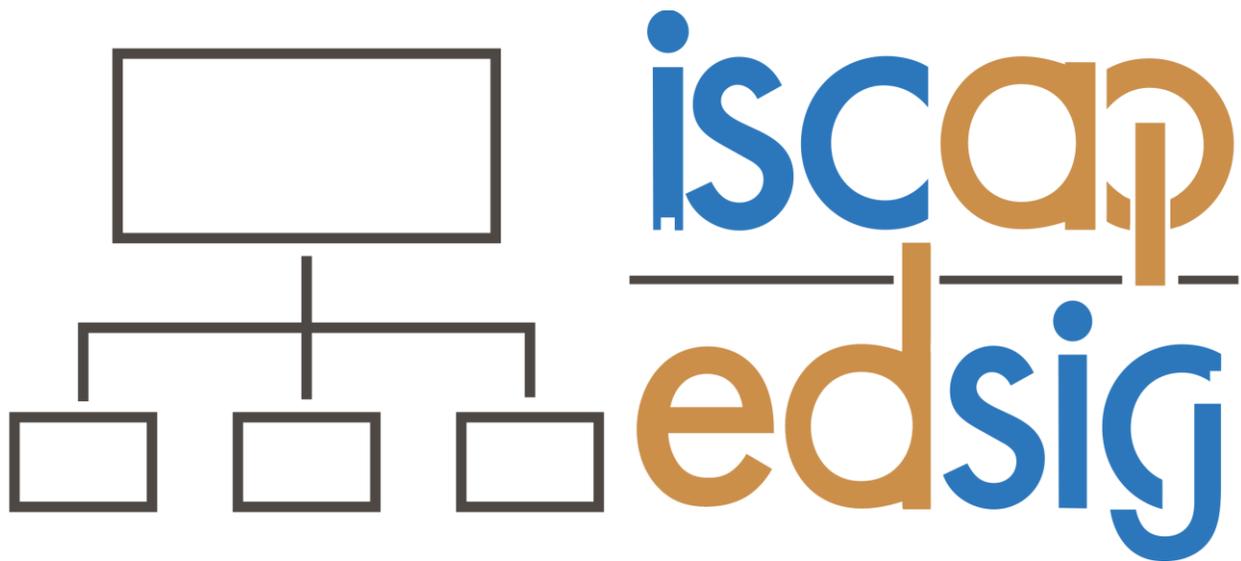
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