

Extended data and graphs for the 2022 Career Arcs survey

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This document provides additional data and visualizations from the survey conducted in later 2021 and early 2022. This survey of RCD professionals was designed to gather data on the key factors that influence decisions in the course of their careers. This survey was opened from November 16, 2021 through February 1, 2022 and gathered responses from more than 200 respondents at institutions across the US. The initial analysis of the data (as well as an explanation of the survey and analysis methodology), is presented in a PEARC22 paper: *Understanding Factors that Influence Research Computing and Data Careers* (Chaudhry, S., Pazouki, A., Schmitz, P., Hillery, E., & Kee, K., <https://doi.org/10.1145/3491418.3530292>).

For visually impaired readers who would prefer tabular data to understand the graphs, please contact the working group at career-arcs-participate@carcc.org and we will work with you to provide data in an accessible form.

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Respondents by gender

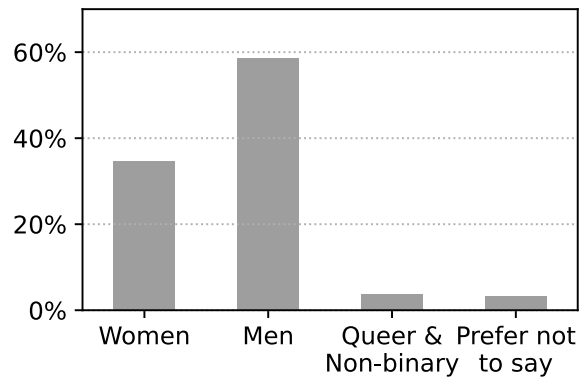


Figure 1: Proportion of respondents by gender

Respondents by race

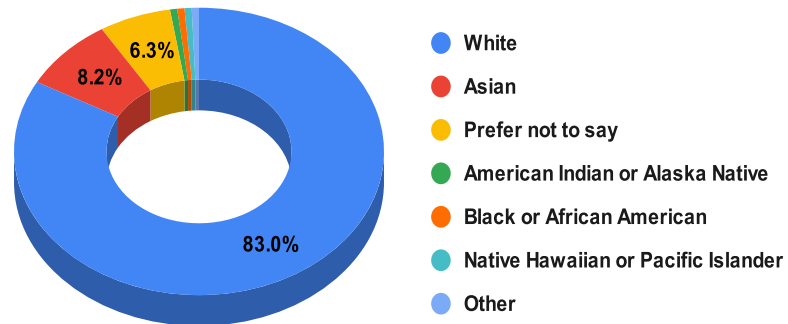


Figure 2: Proportion of respondents by race

Age of respondents

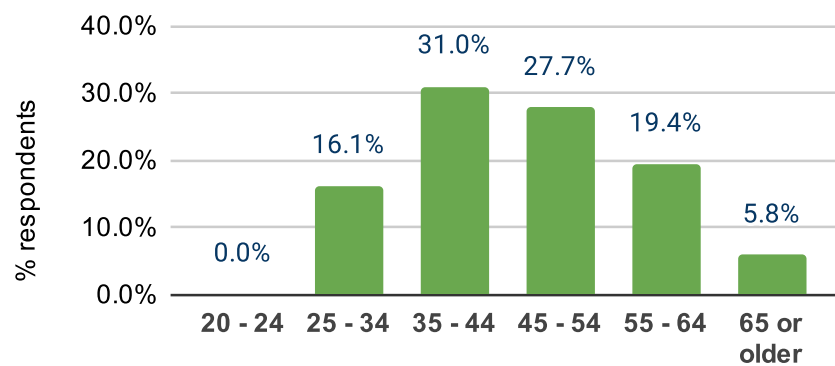


Figure 3: Distribution of respondents by age

Respondents by Facing

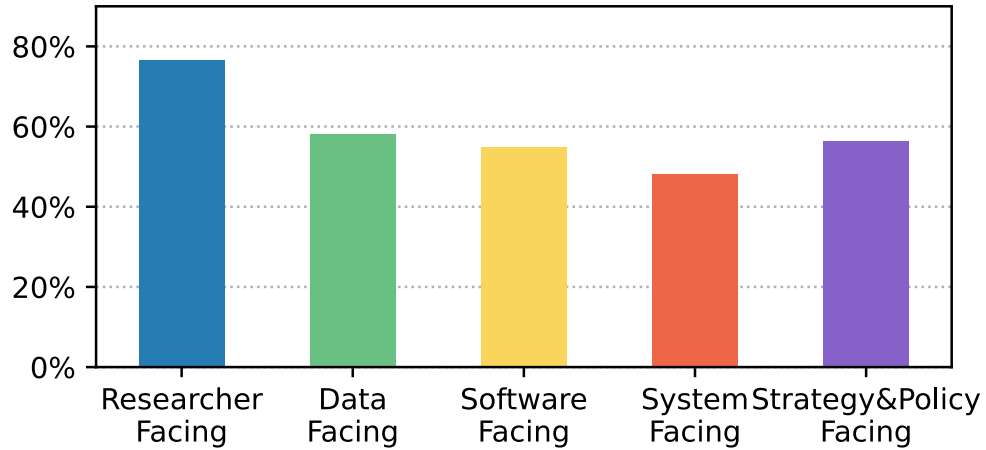


Figure 4: Proportion of respondents by Facings (multiple choices allowed)

Respondent gender in each Facing

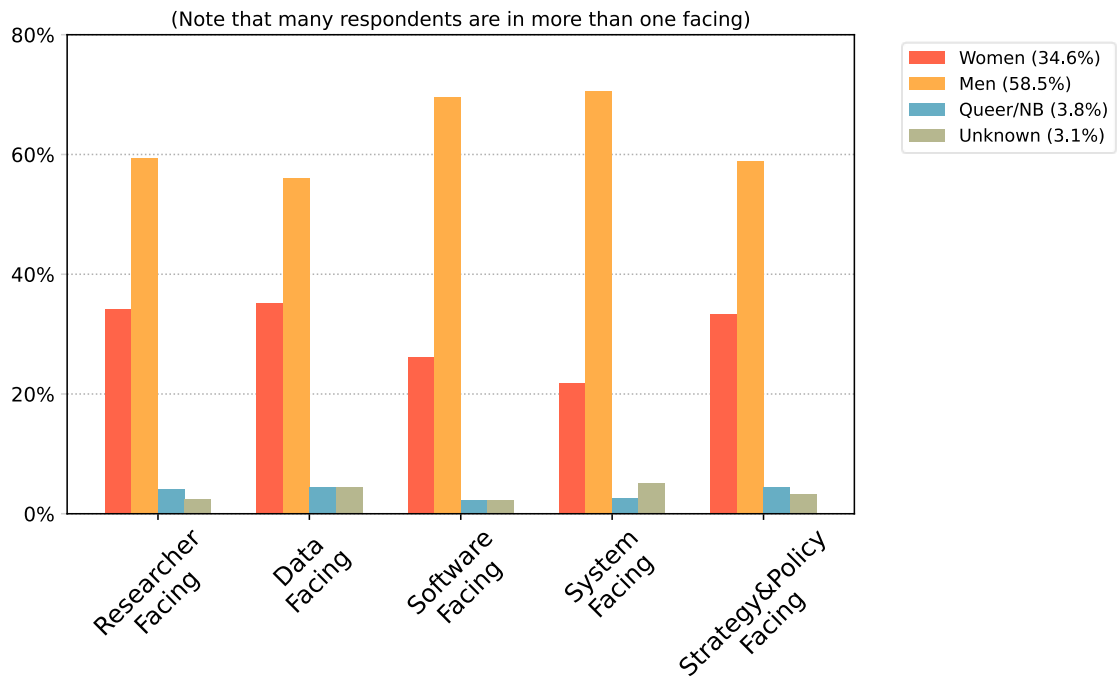


Figure 5: Gender distribution of respondents in each Facing

Combinations of Facings indicated by respondents

RF: Researcher-Facing, **DF:** Data-Facing, **SWF:** Software-Facing, **SYF:** System-Facing, **SPF:** Strategy and Policy-Facing

| Facings | Proportion marking |
|-----------------------------|--------------------|
| RF, DF, SWF, SYF, SPF (All) | 18.30% |
| RF, SPF | 7.70% |
| RF, DF, SWF, SYF | 6.70% |
| RF, DF | 6.20% |
| RF, DF, SWF, SPF | 5.80% |
| RF, DF, SPF | 5.80% |
| RF, DF, SWF | 4.80% |
| RF, SWF | 4.80% |
| DF | 4.30% |
| SYF | 4.30% |
| RF | 3.40% |
| RF, SYF, SPF | 3.40% |
| RF, SWF, SYF, SPF | 3.40% |
| SPF | 2.90% |
| RF, SWF, SYF | 2.40% |
| SWF, SYF, SPF | 1.90% |
| RF, SWF, SPF | 1.40% |
| <i>(None of these)</i> | 1.40% |
| RF, DF, SYF, SPF | 1.40% |
| SWF | 1.40% |
| RF, SYF | 1.00% |
| SWF, SYF | 1.00% |
| DF, SYF, SPF | 1.00% |
| DF, SPF | 1.00% |
| DF, SWF, SYF, SPF | 1.00% |
| SYF, SPF | 1.00% |
| DF, SWF, SYF | 1.00% |
| DF, SYF | 0.50% |
| SWF, SPF | 0.50% |
| DF, SWF | 0.50% |

Table 1: Combinations of Facings indicated by respondents

Co-occurrence of Facings

For each Facing, what is the percentage of respondents in that Facing who are also in another Facing

| | Data-Facing | Software-Facing | System-Facing | Strategy and Policy-Facing |
|-------------------|-------------|-----------------|---------------|----------------------------|
| Researcher-Facing | 49% | 48% | 37% | 47% |
| Data-Facing | | 38% | 30% | 34% |
| Software-Facing | | | 36% | 32% |
| System-Facing | | | | 31% |

Table 2: Co-occurrence of Facings indicated by respondents

Current type of employment

| % of respondents | Type of Position |
|------------------|---|
| 94.2% | Full-time with benefits |
| 1.4% | Part-time salaried |
| 1.9% | Part-time hourly |
| 2.4% | Some other situation (contract, self-employed, retired, etc.) |

Table 3: Proportions of respondents by type of position

Types of institutions worked at

| Type of institution | % Respondents |
|------------------------------------|---------------|
| Academic Institution or University | 93.7% |
| Non-academic Non-profit | 22.0% |
| Federal National Laboratory | 10.1% |
| Government | 19.5% |
| Company or Corporation | 53.5% |
| Self-employed | 17.0% |
| Other | 0.6% |

Table 4: Types of institutions respondents have worked at
(respondents chose all that applied)

Years of RCD experience of respondents

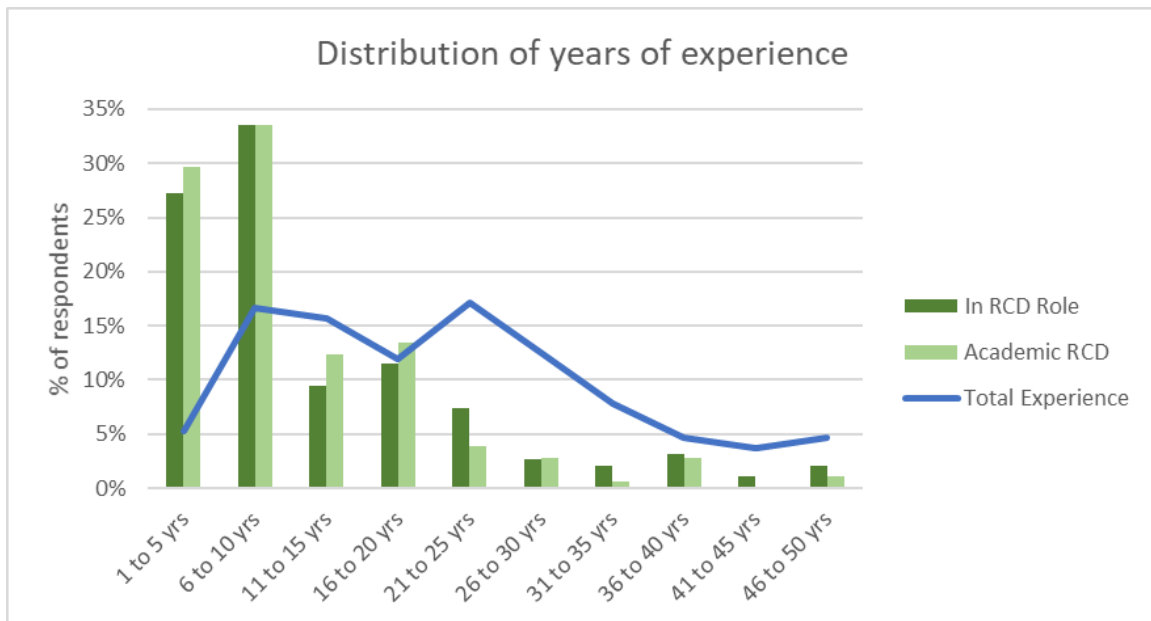


Figure 6: Years of experience overall in RCD and in academic RCD

Respondent Career Stages by gender

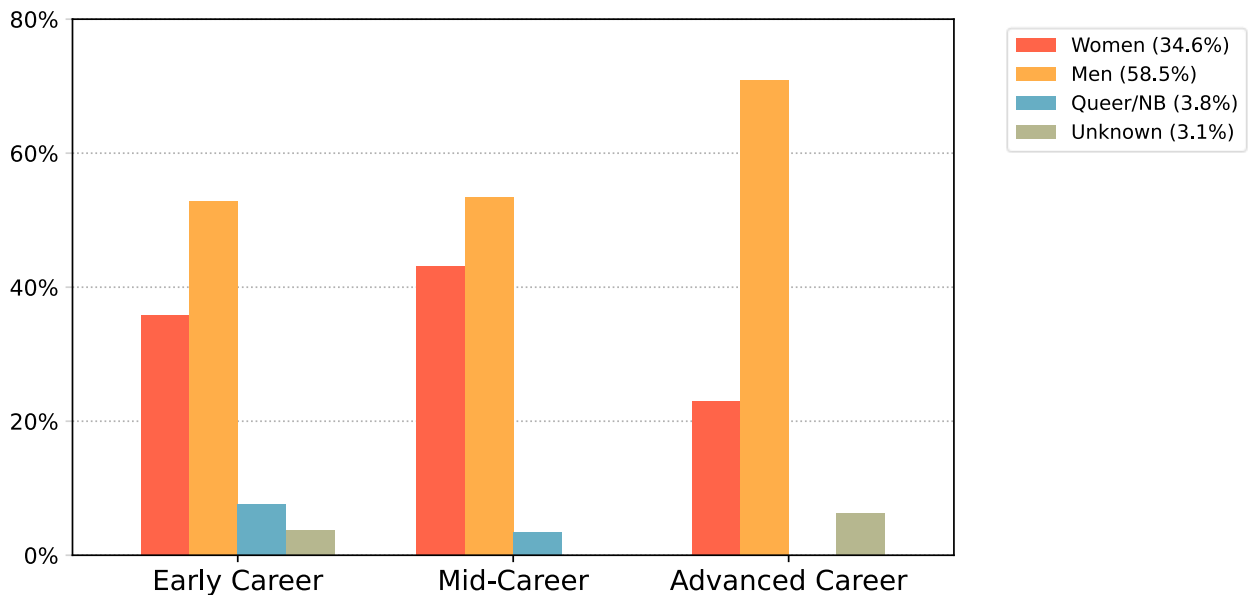


Figure 7: Proportion of respondent genders for each Career Stage

(Career Stage was defined to group respondents into three roughly equally-sized groups, based upon years of RCD experience:

Early Career is up to 7 years,

Mid-Career is 7 to 14 years,

Advanced Career is more than 14 years)

Time spent in a given RCD role

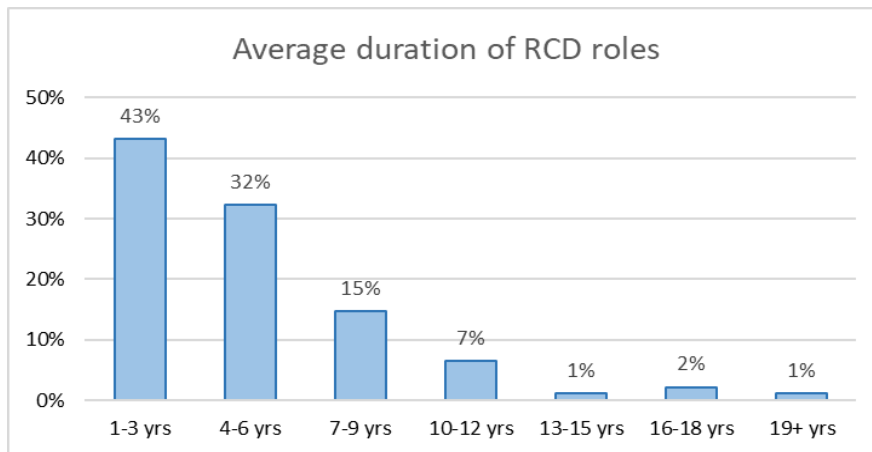


Figure 8: Average duration of each RCD role

RCD roles/positions held by respondents

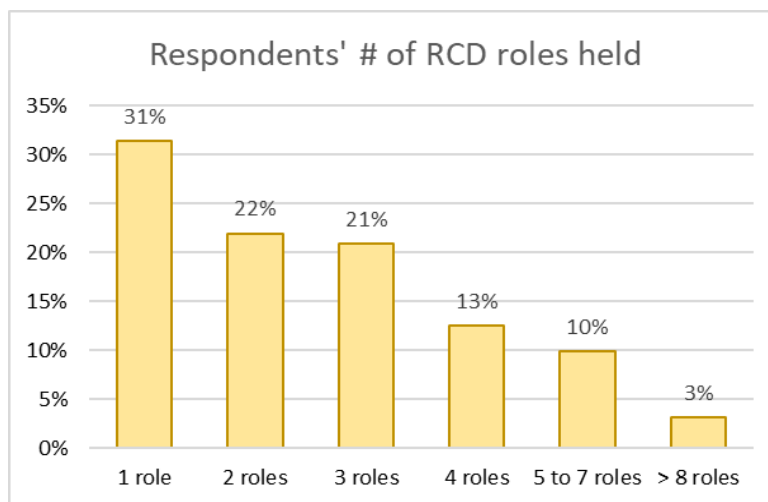


Figure 9: Distribution of the number of RCD roles held by respondents

Disability status

| Identify as having a disability | % Respondents |
|---------------------------------|---------------|
| Yes | 7.5% |
| No | 86.8% |
| Prefer not to say | 5.7% |

Table 5: Respondents identifying with a disability

Citizenship/Residency status

| Citizen/Permanent Resident? | % Respondents |
|-----------------------------|---------------|
| Yes | 92.5% |
| No | 4.4% |
| Prefer not to say | 3.1% |

Table 6: Citizenship/Residency status

Education domain

Which of these best describes the field, content area, or domain of your formal education?

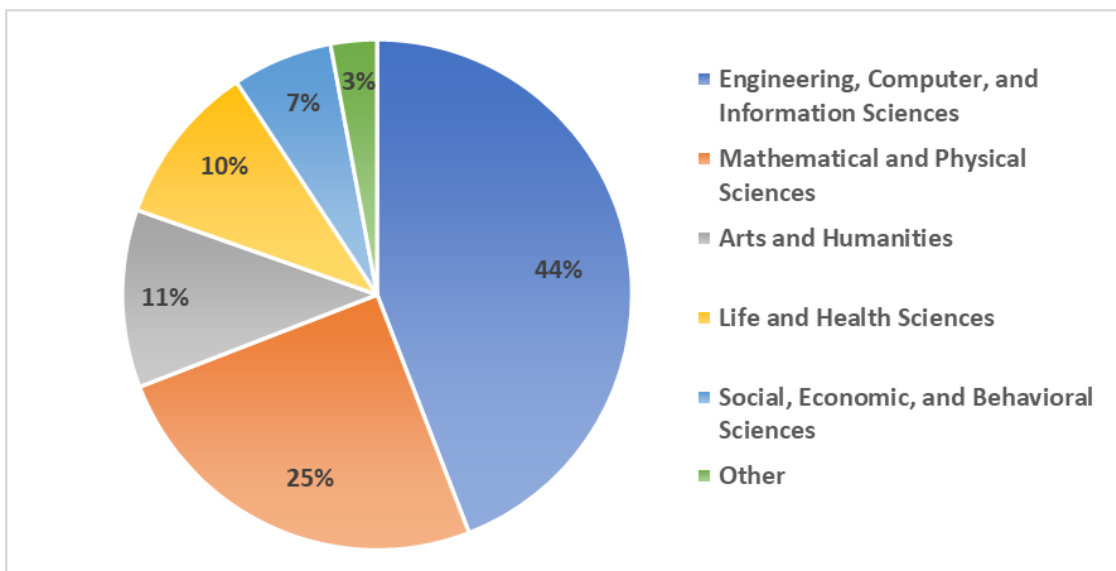


Figure 10: Domain of education of respondents

Exposure to RCD roles

| How did you first learn about or get introduced to RCD roles and careers? | % Respondents |
|--|---------------|
| Through my field of study (e.g., my major or special emphasis) | 23% |
| A particular person or mentor | 18% |
| A particular project or opportunity (like internship or funding opportunity or graduate/undergrad career fair as an RA/GRA) | 15% |
| Recruiter/job posting | 14% |
| An institution or organization ("I really wanted to go work for this institution or organization, and they introduced me to RCD"). | 13% |
| Other | 10% |
| Attended an event/conference and was introduced to RCD | 6% |
| Read or heard about RCD roles and career options through a journal article, blog post, social media etc. | 1% |

Table 7: How respondents were introduced to RCD roles and careers

Familiarity with RCD roles in first position

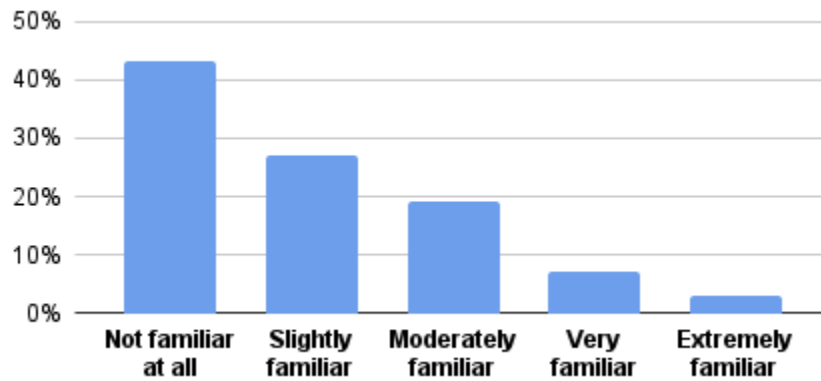


Figure 11: How familiar were you with RCD roles and an RCD career path when you got your first full time position in RCD?

Clarity on current career path and options

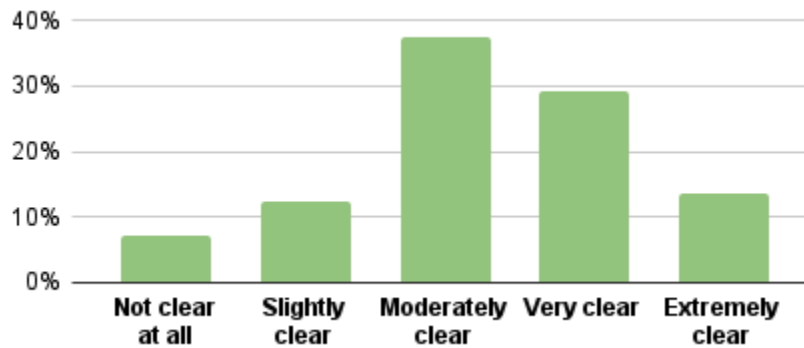


Figure 12: How clear is your understanding of your current RCD career path and/or your options for the future?

Satisfaction with current career path and options

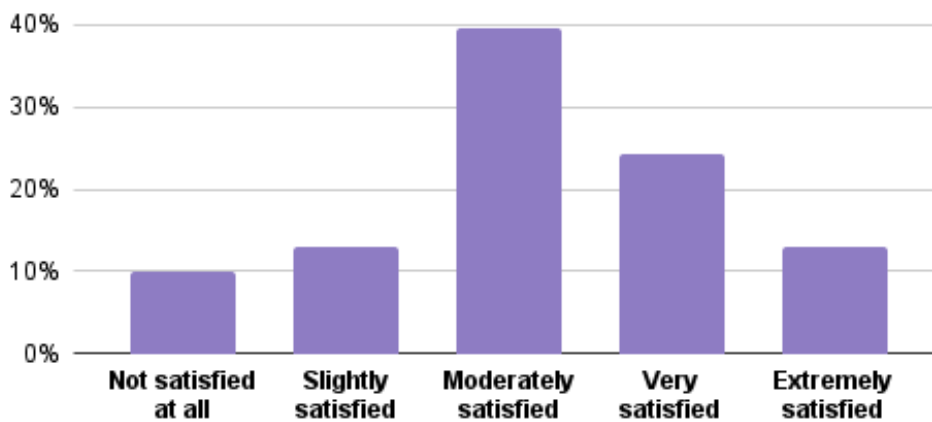


Figure 13: How satisfied are you with your current RCD career path and/or your options for the future?

Ranking of factors in successfully pursuing RCD opportunities

For the question: How important were the following factors in your successfully pursuing RCD opportunities?

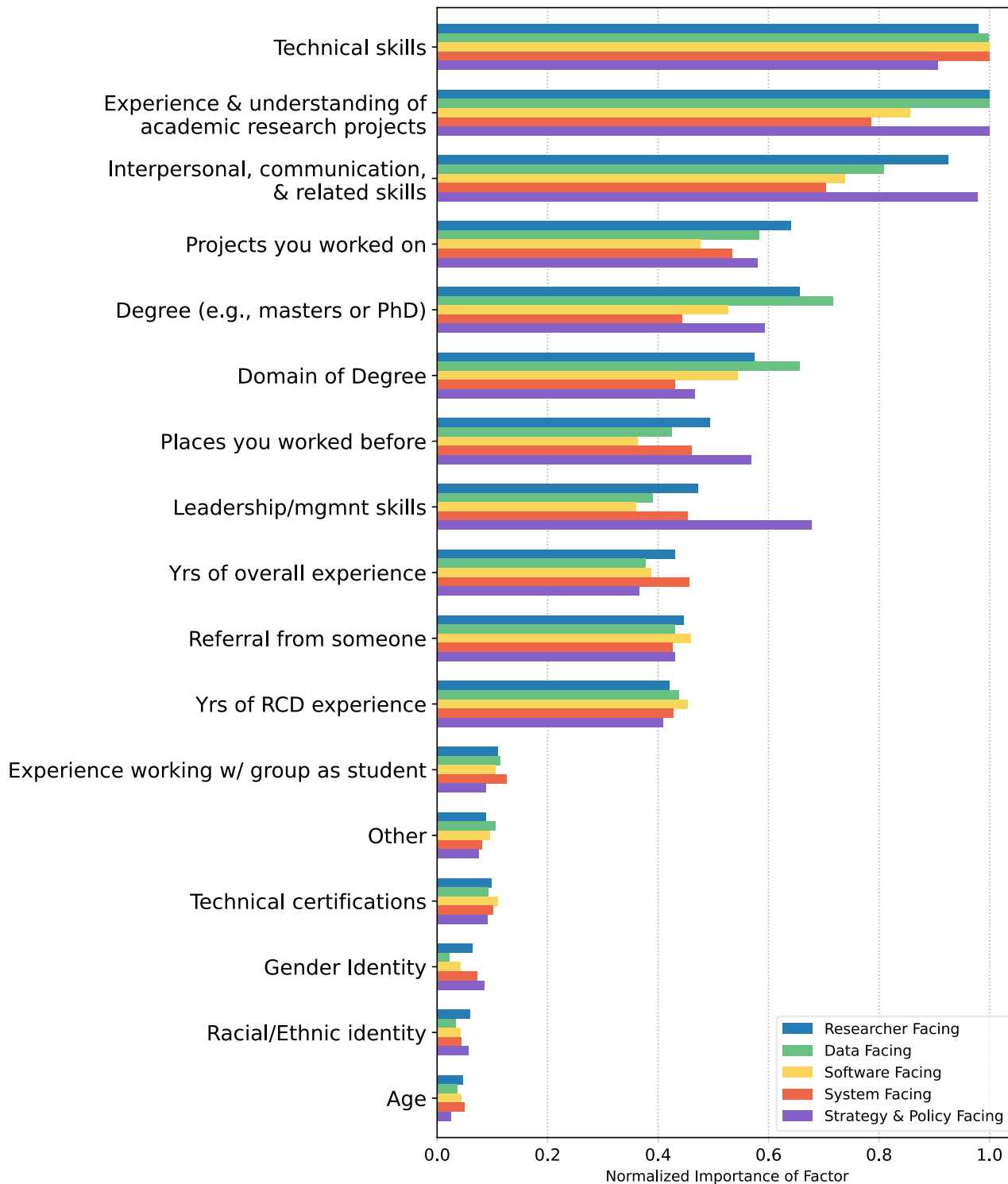


Figure 14: Ranking of factors in successfully pursuing RCD opportunities, by Facing

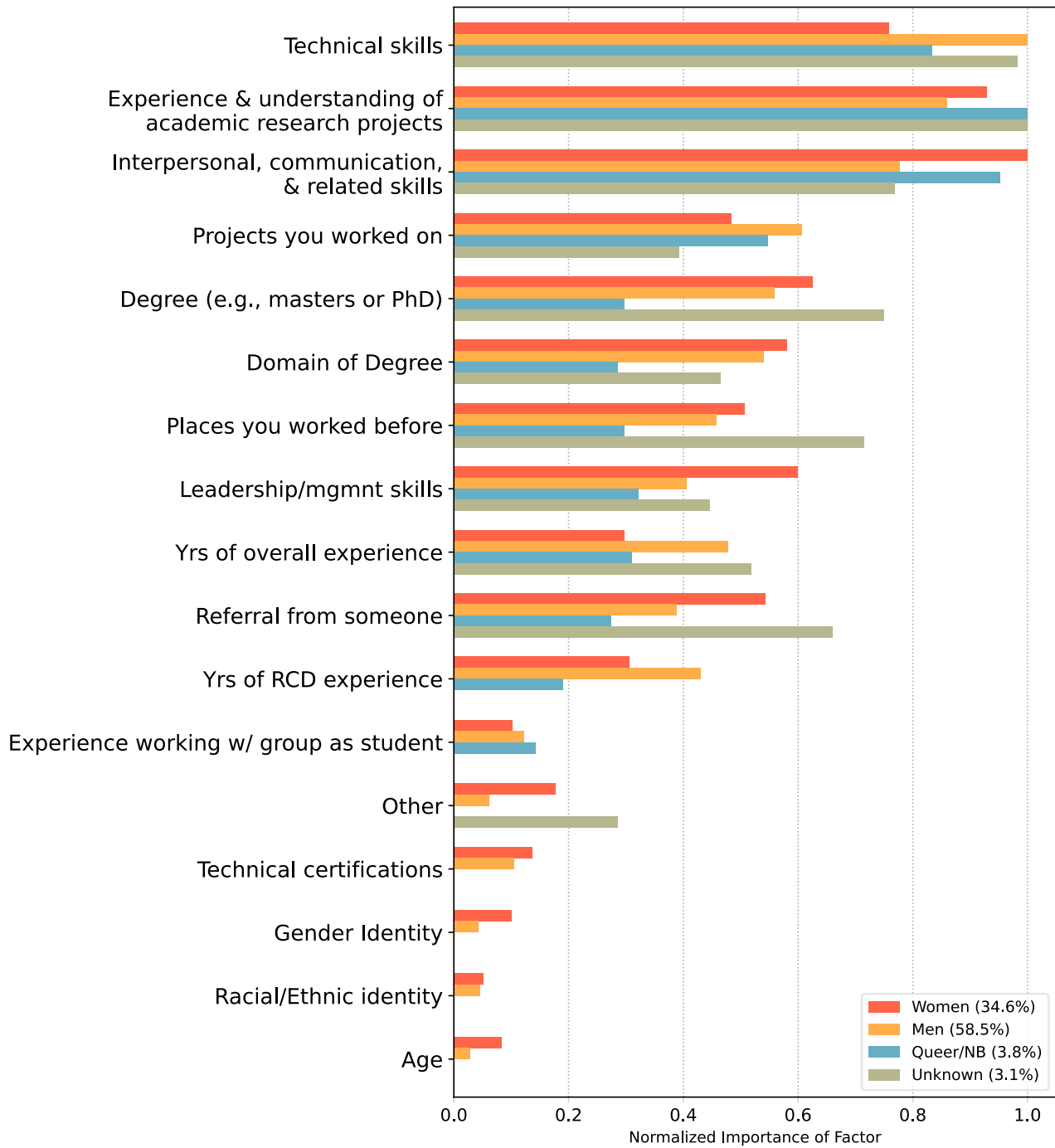


Figure 15: Ranking of factors in successfully pursuing RCD opportunities, by gender

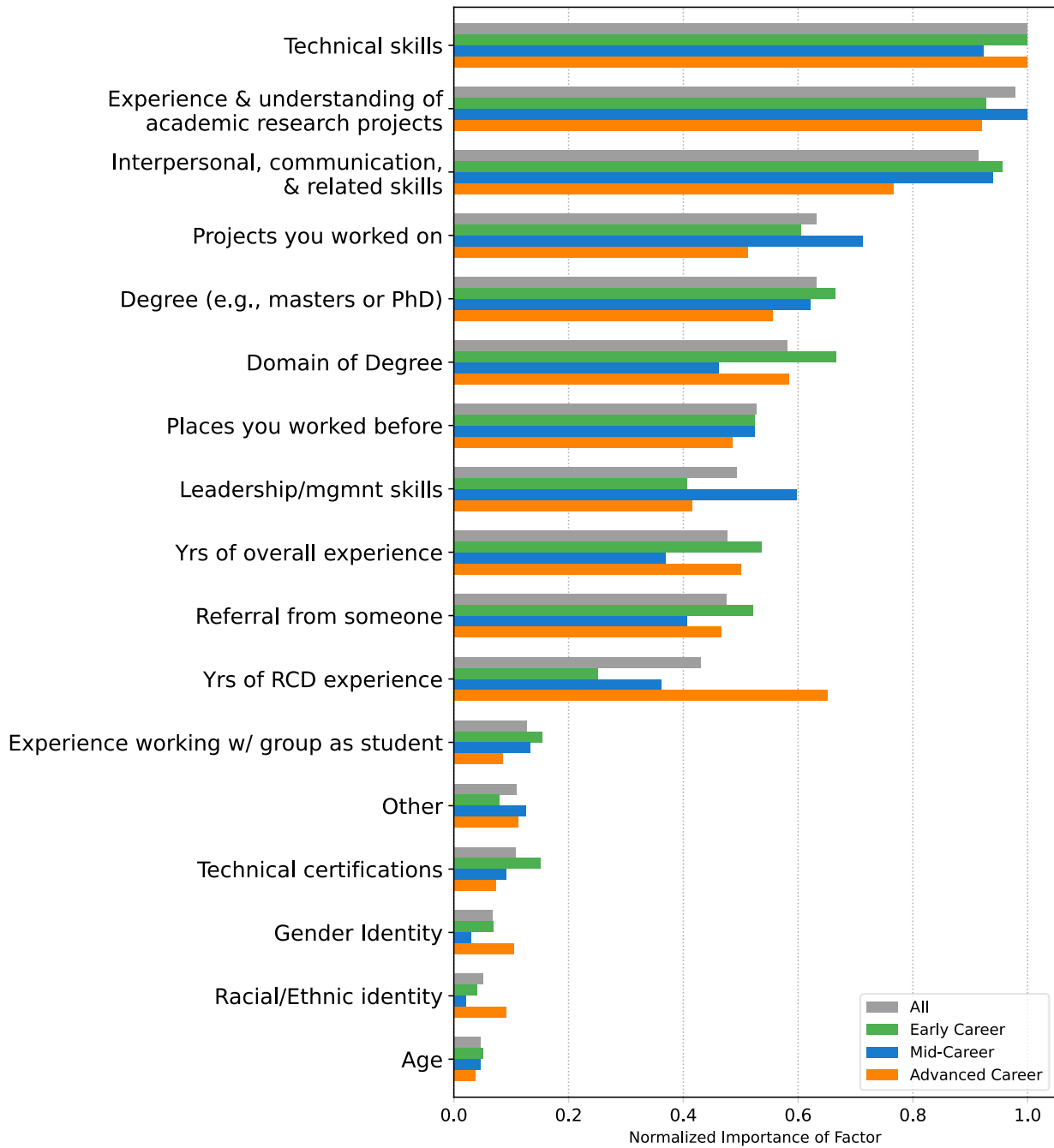


Figure 16: Ranking of factors in successfully pursuing RCD opportunities, by career stage
 (see Figure 7 for career stage definition)

Ranking of factors when hiring for RCD roles

For the question: How important is each of the following when hiring someone into an RCD role?

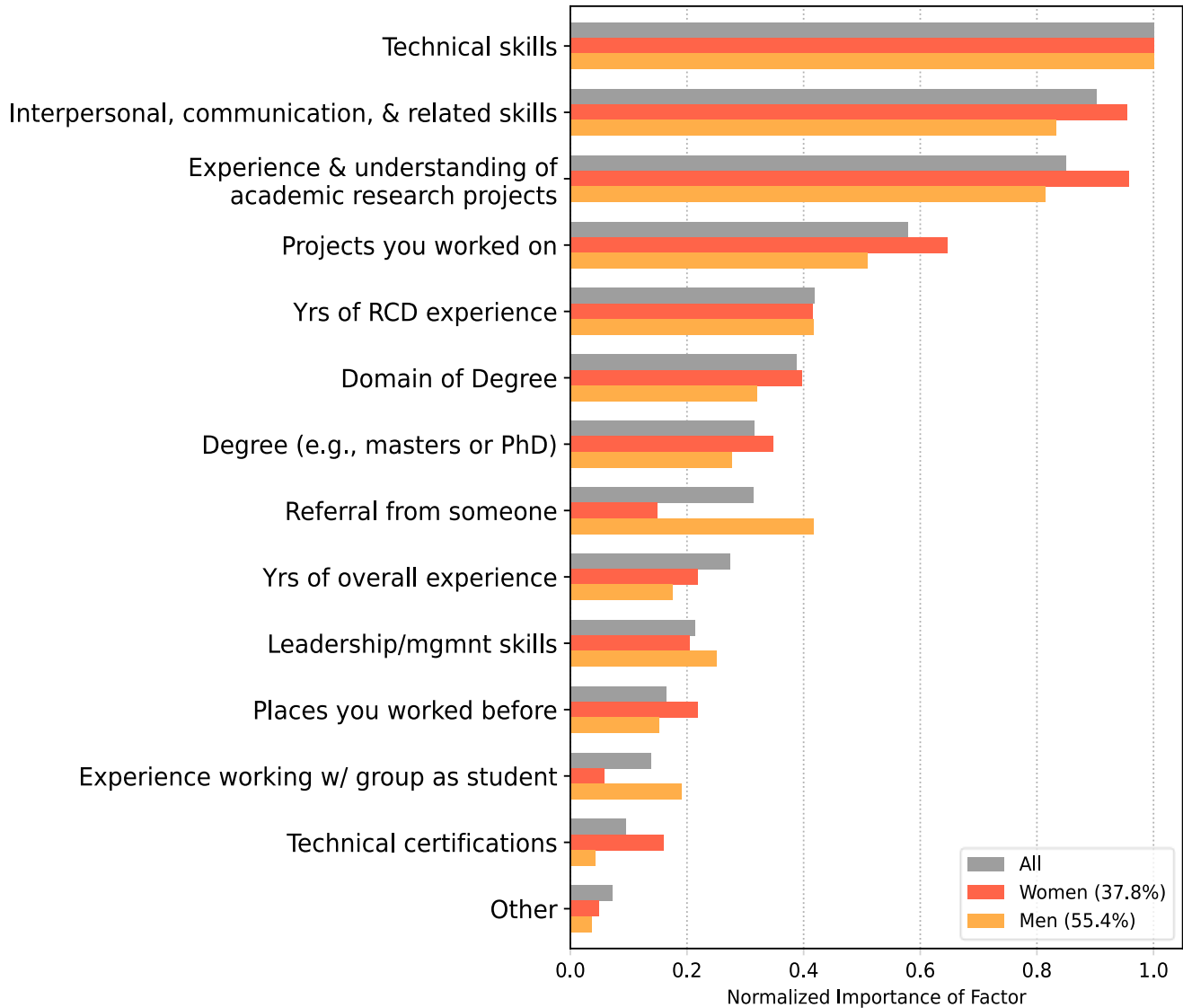


Figure 17: Ranking of factors for hiring into RCD roles, by the gender of the hiring manager

Ranking of factors in what advancement means

For the question: What does advancement in your current RCD role mean to you?

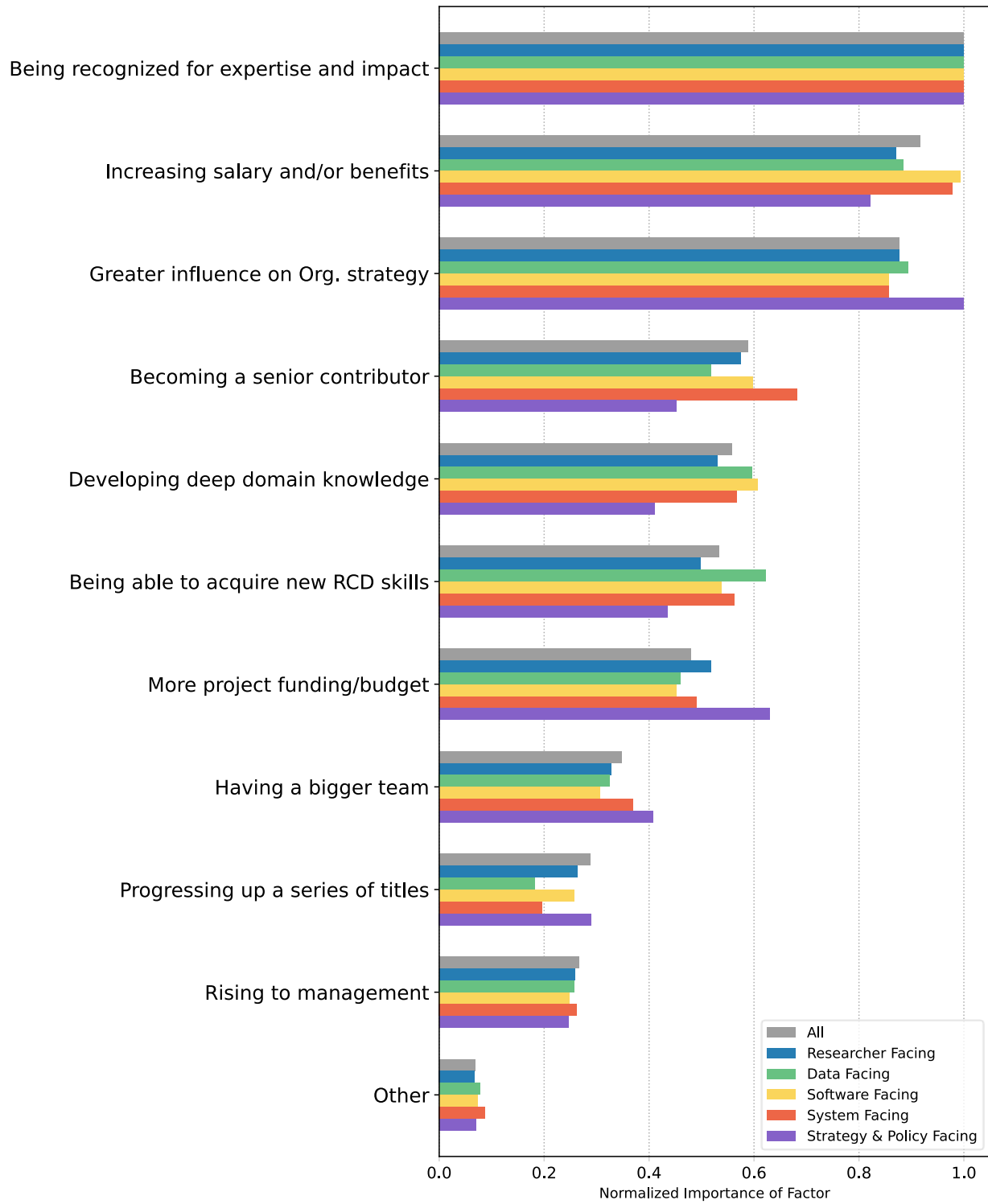


Figure 18: Ranking of factors in what advancement means, by Facing

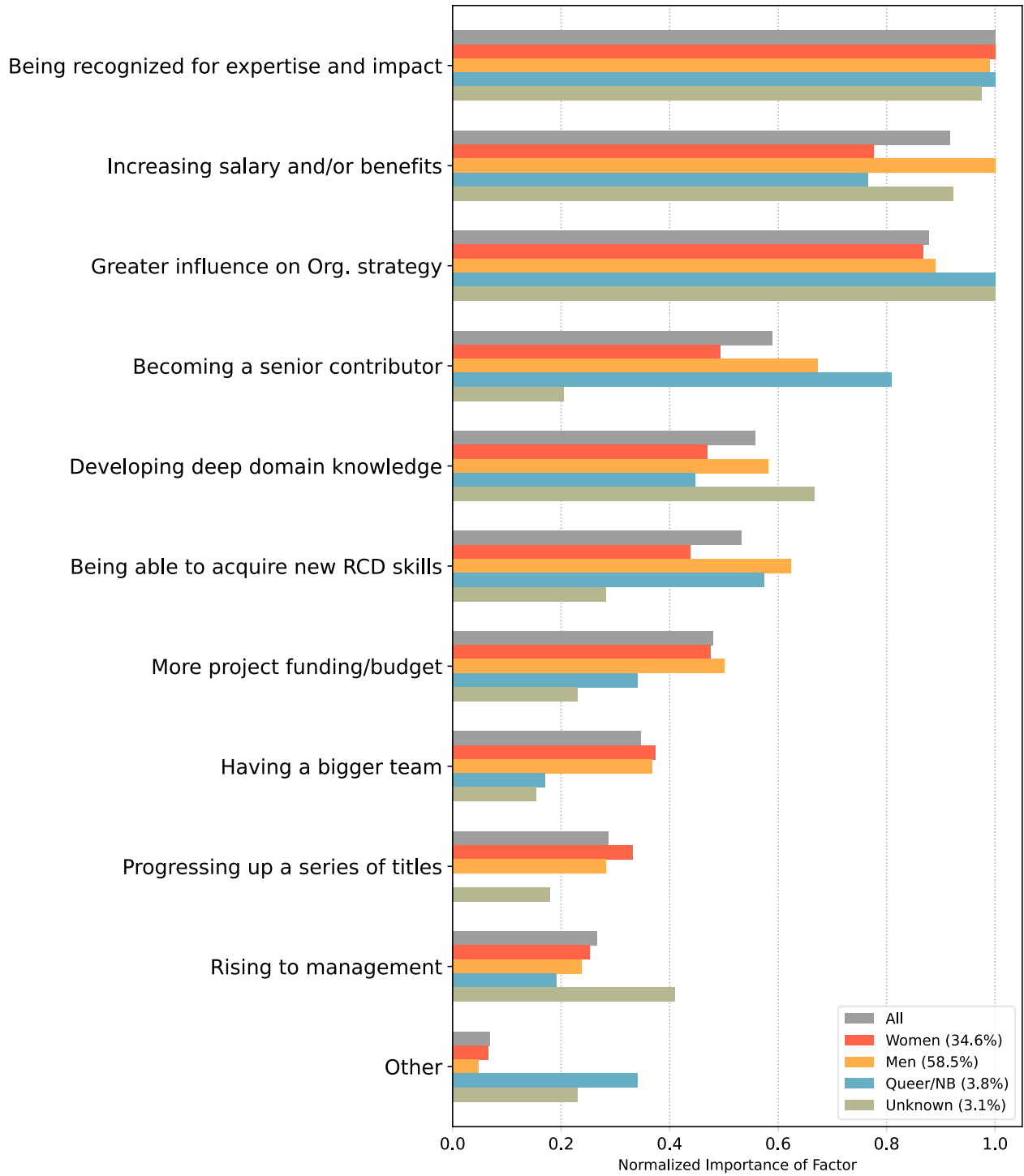


Figure 19: Ranking of factors in what advancement means, by gender

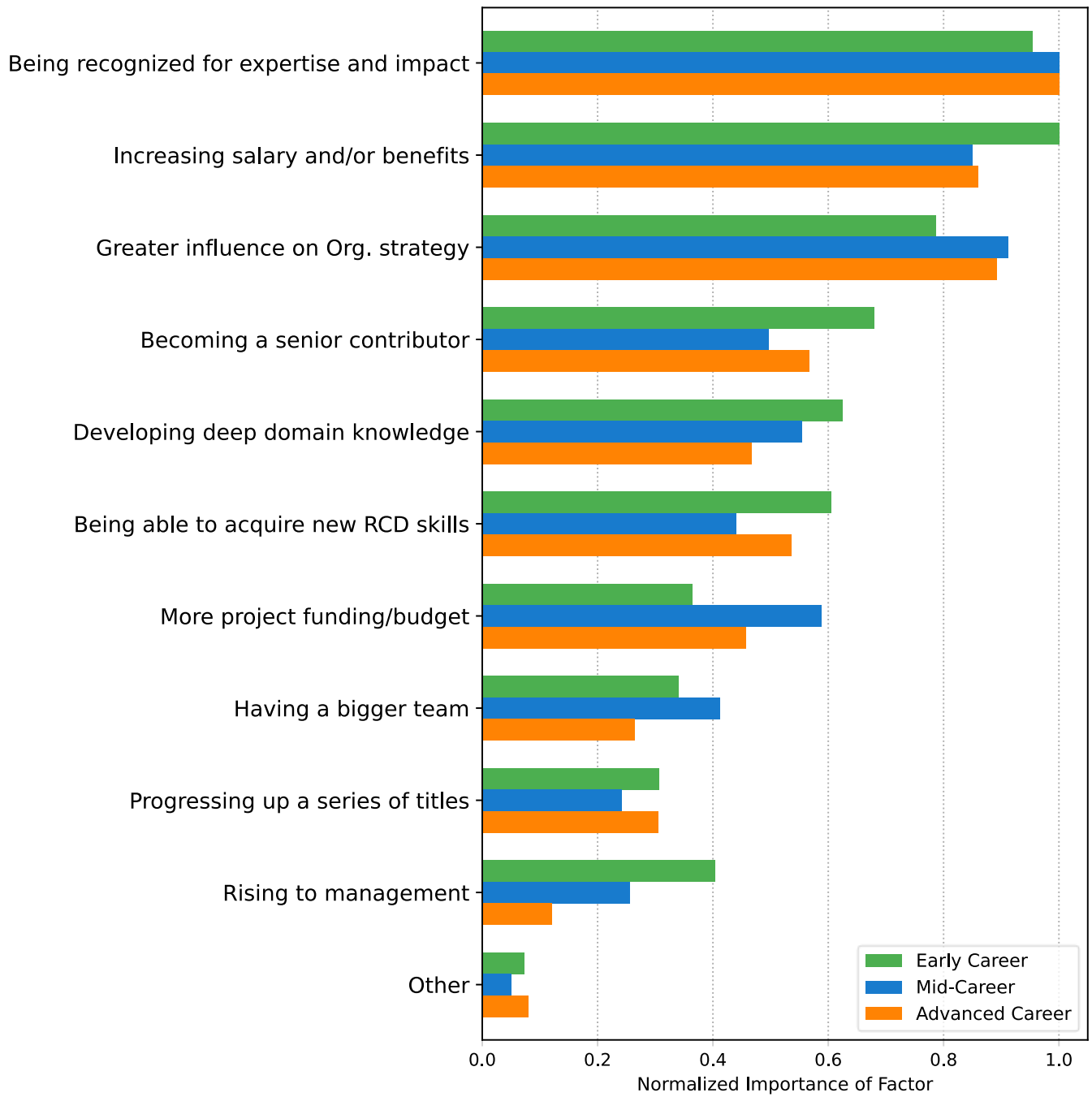


Figure 20: Ranking of factors in what advancement means, by career stage
 (see Figure 7 for career stage definition)

Ranking of factors in making a job transition

For the question: How important were the following factors in motivating you to make a previous job transition, or that would motivate you to consider a future job transition, to or within the RCD field (i.e., to a new RCD role).

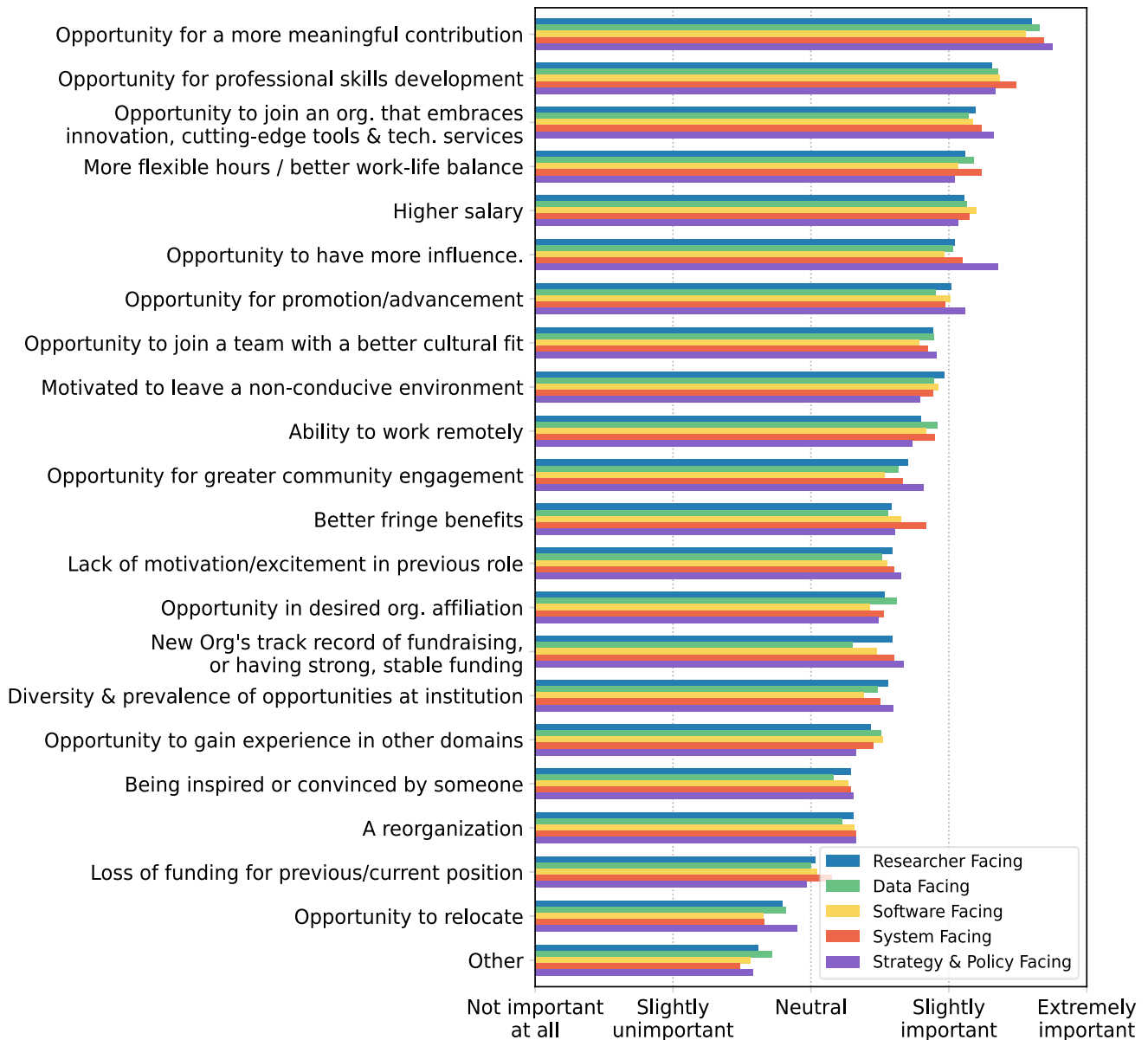


Figure 21: Ranking of factors in making a job transition, by Facing

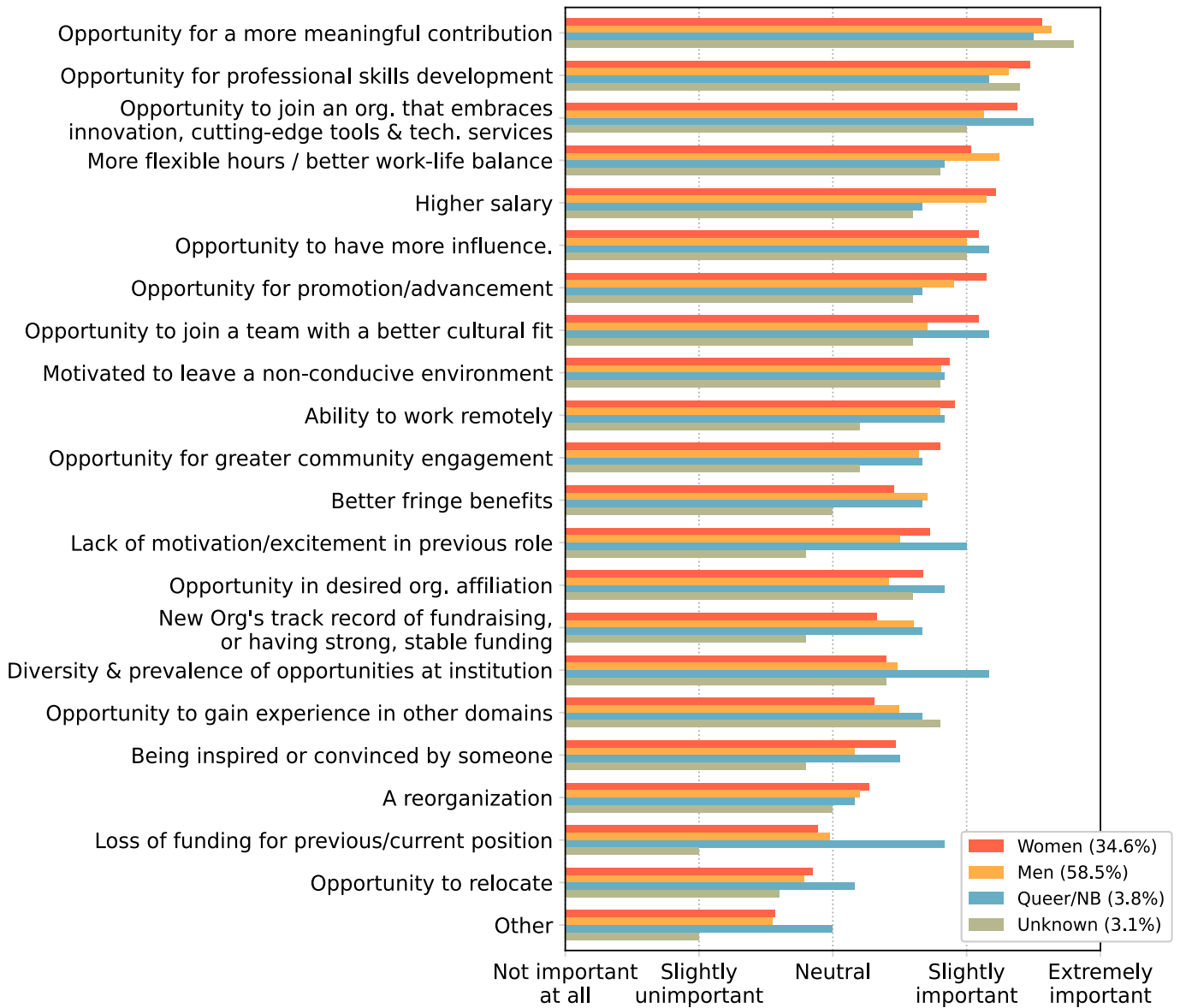


Figure 22: Ranking of factors in making a job transition, by gender

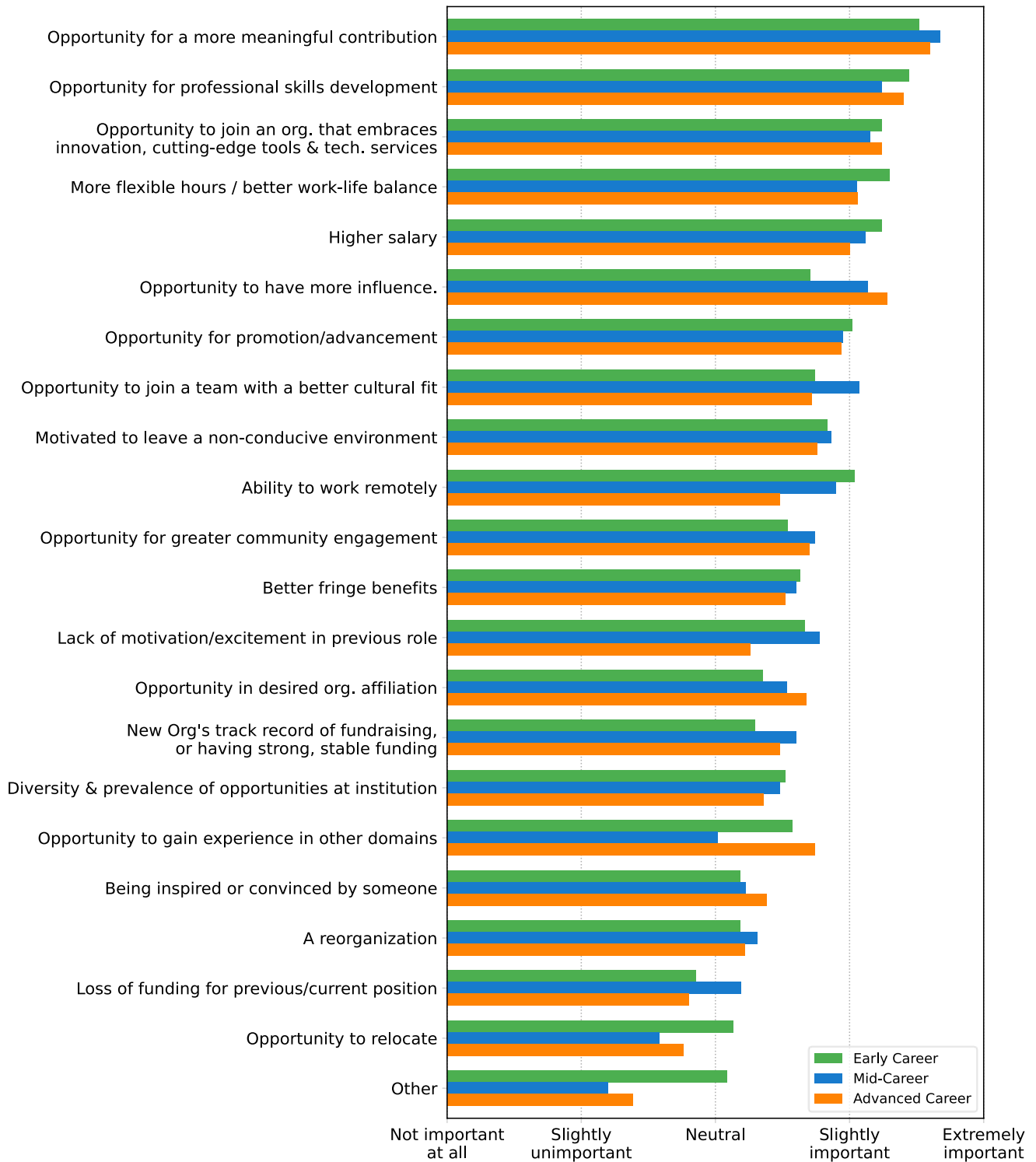


Figure 23: Ranking of factors in making a job transition, by career stage
 (see Figure 7 for career stage definition)

Ranking of factors in leaving RCD roles/careers

For the question: How important was each of these factors in motivating you to leave an RCD role/career for something in a domain outside RCD (or that would make you seriously consider leaving your RCD role/career):

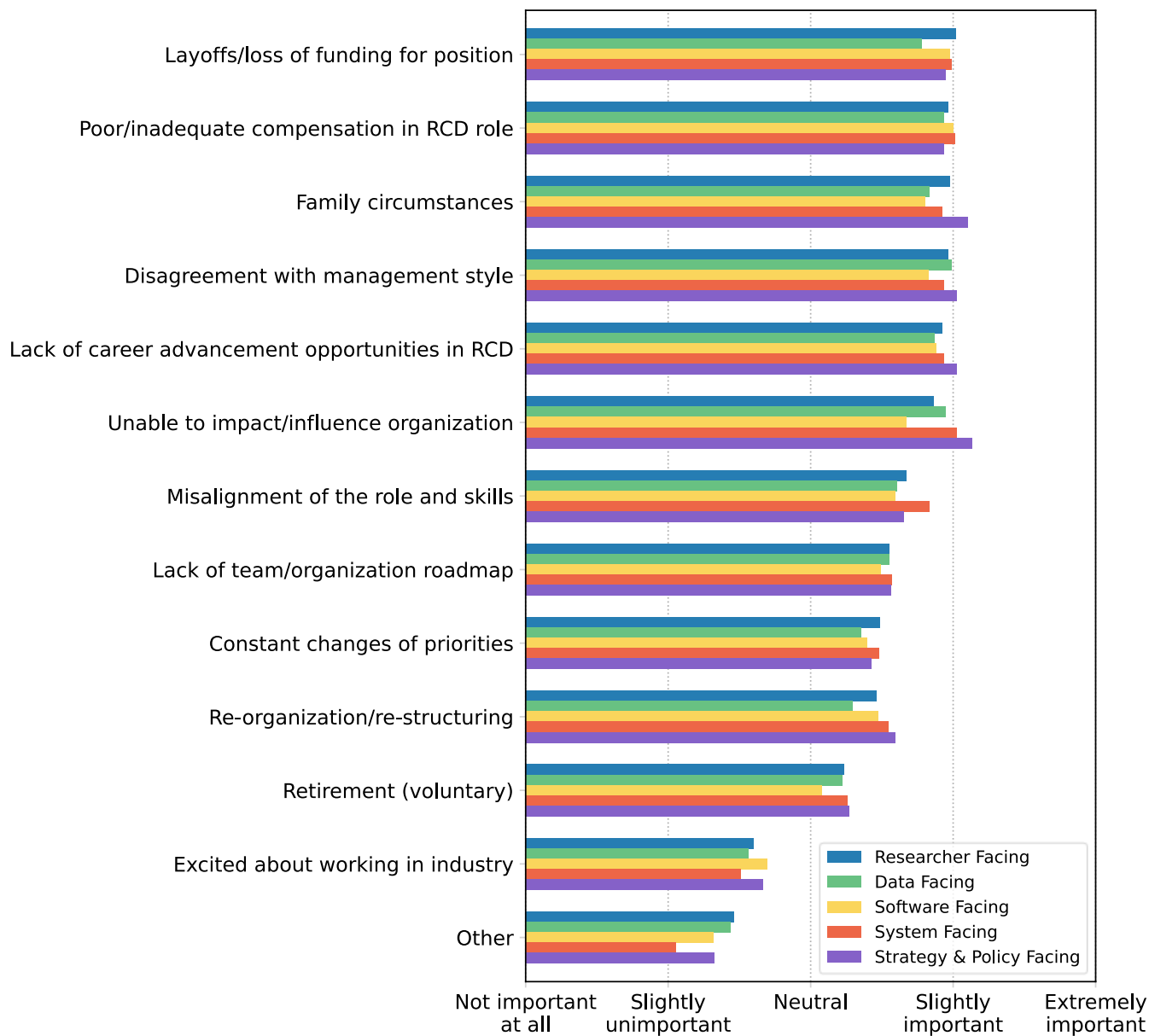


Figure 24: Ranking of factors in leaving RCD roles/careers, by Facing

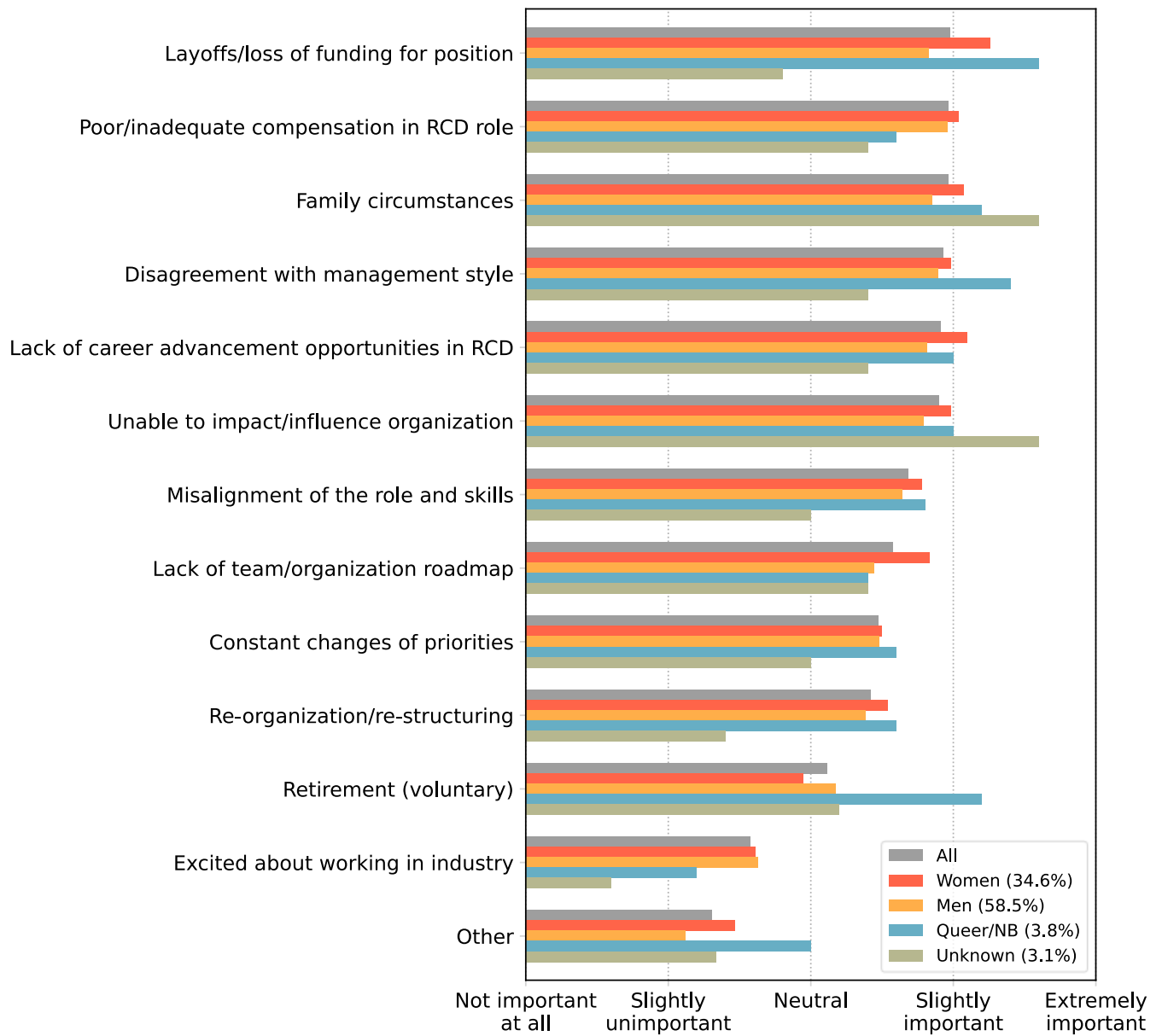


Figure 25: Ranking of factors in leaving RCD roles/careers, by gender

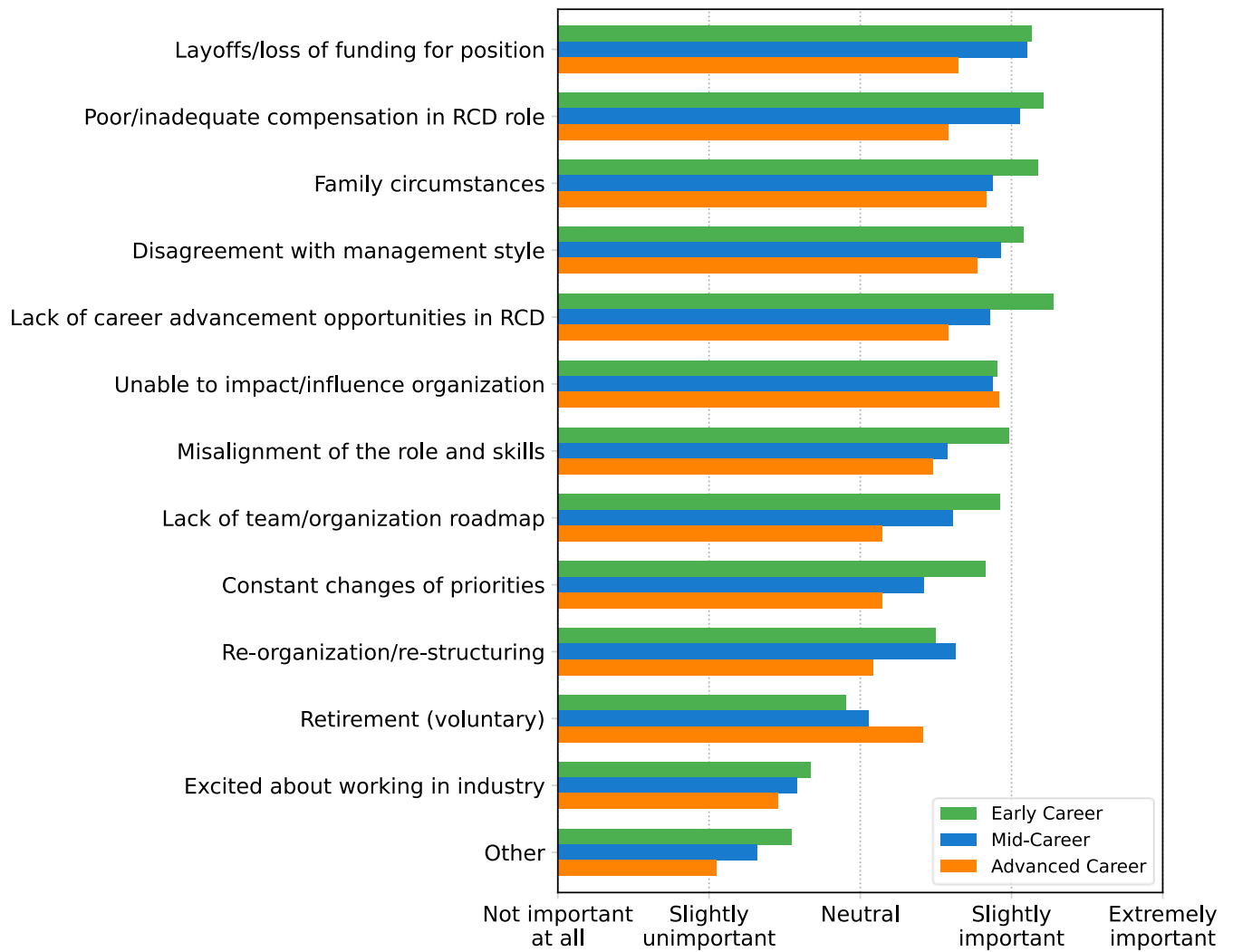


Figure 26: Ranking of factors in leaving RCD roles/careers, by career stage
 (see Figure 7 for career stage definition)