

COSC 6323 - Statistical Methods in Research

Project Phase - 1

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Contributions:

Fig 3:

Fig 2A:

Fig 2B:

Fig S1:

Fig S2:

Fig S3:

Fig S4:

March 08, 2019.

Fig. 3 :

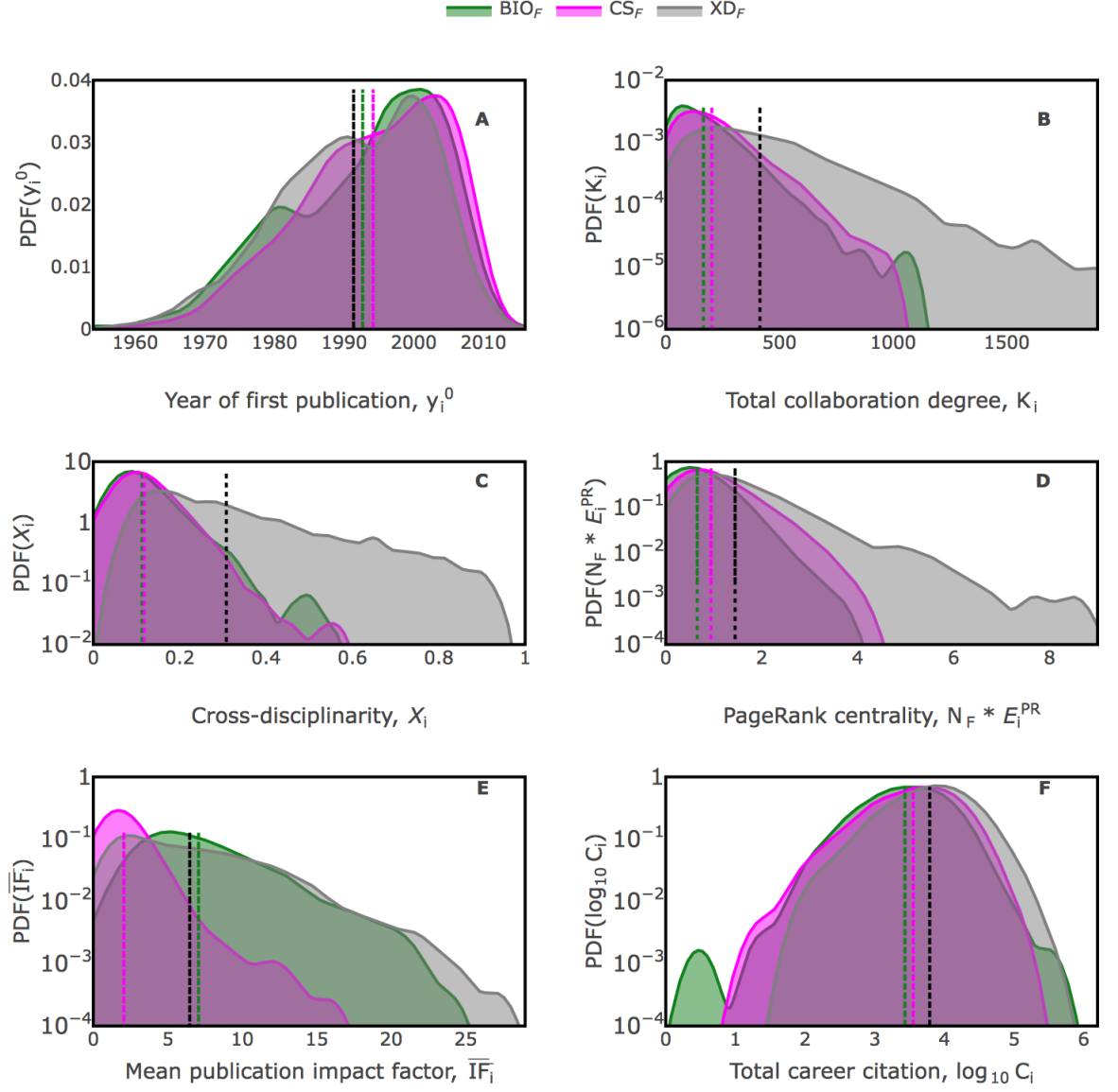


Fig. 3. Descriptive statistics for the career data set.

Extended caption:

Here, the vertical lines indicate the distribution means for the corresponding

subsets. **(A)** ... **(B)** ... **(C)** ... **(D)** ... **(E)** ... **(F)** ...

Fig. 2(A) :

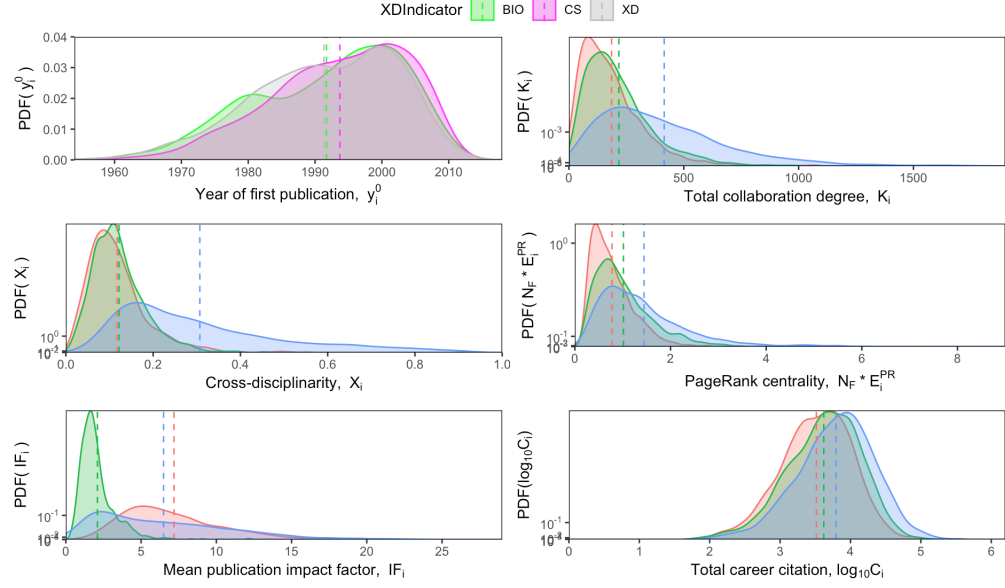


Fig. 2. Growth of cross-disciplinary social capital. (A) Evolution of the giant component in the U.S. biology-computing network.

Extended caption:

Here, ...

Fig. 2(B) :

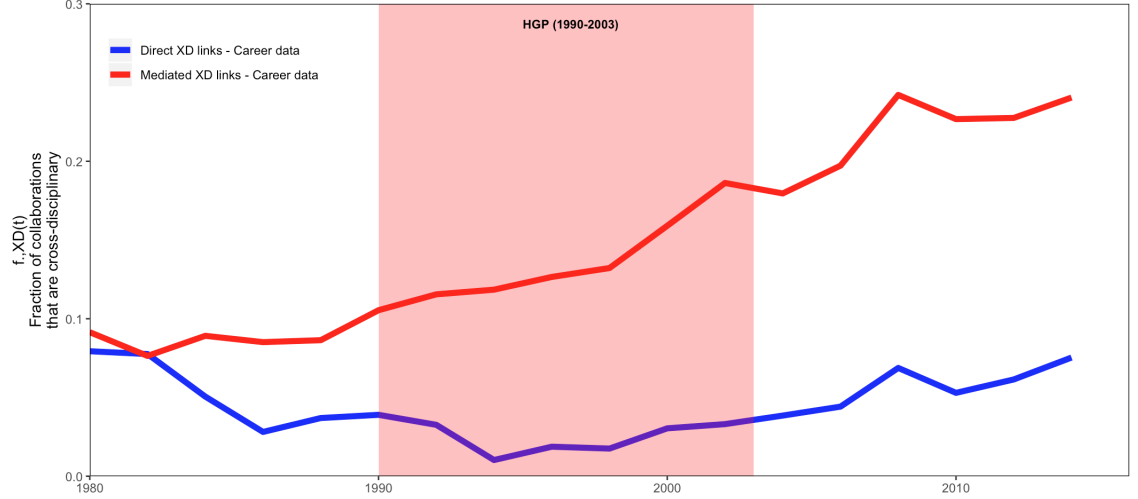


Fig. 2. Growth of cross-disciplinary social capital. (B) Evolution of the fraction of collaboration links in the F network that are cross-disciplinary.

Description of figure content:

Here, in Fig 2B, we plotted the fraction of cross-disciplinary collaboration for each nonoverlapping 2-years period through (1979-1980) to (2013-2014). The blue and red line represents the trend of Mediated-XD links and Direct-XD links, respectively. For each nonoverlapping 2-years period, we collected all the publication data from **GoogleScholar_paper_stats.csv** file. Then, for the Direct-XD links, we count total direct (F-F) links and total cross-discipline direct links for each period. Finally, we calculated the fraction of direct cross-disciplinary collaboration by **total F-F direct links / total cross-discipline direct links**. Similarly, for the Mediated-XD links, we count total mediated (F-P-F) links and cross-discipline mediated links for each period. Finally, we calculated the fraction of mediated cross-disciplinary collaboration by **total F-P-F mediated links / total cross-discipline mediated links**.

Observations, conclusions, and hypotheses:

- The first thing we can see that, the growth is comparatively higher for mediated cross-disciplinary collaboration but slower for direct cross-disciplinary collaboration.
- The impact of HGP on cross-disciplinary collaboration is clearly visible here, the cross-disciplinary collaboration has increased during HGP(1990-2003)

period. The increasing rate also continues upward after the HGP as well, that clearly represents the HGP evolution.

Fig. S1 :

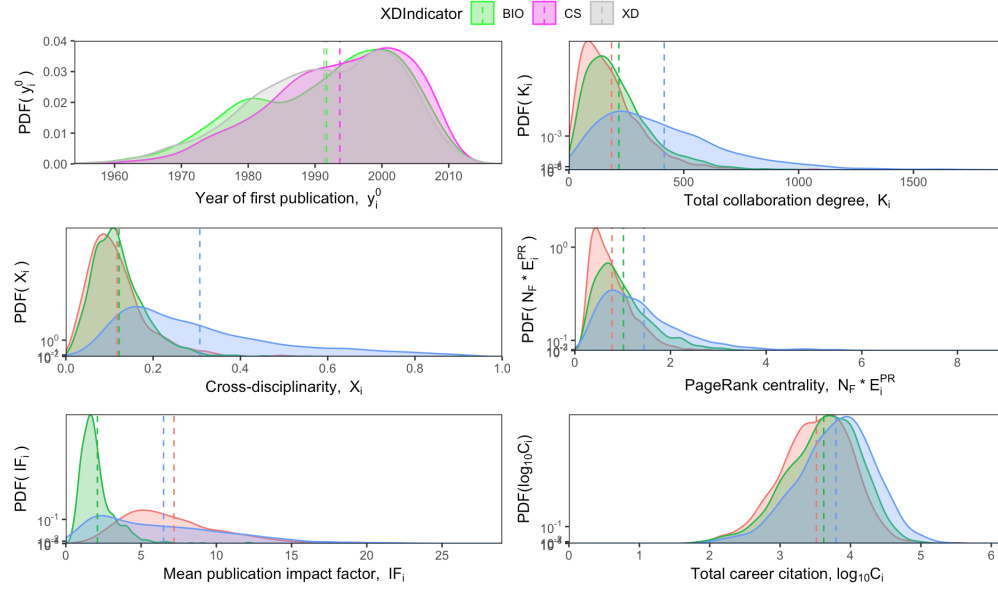


Fig. S1.

Extended caption:

Here, ...

Fig. S2 :

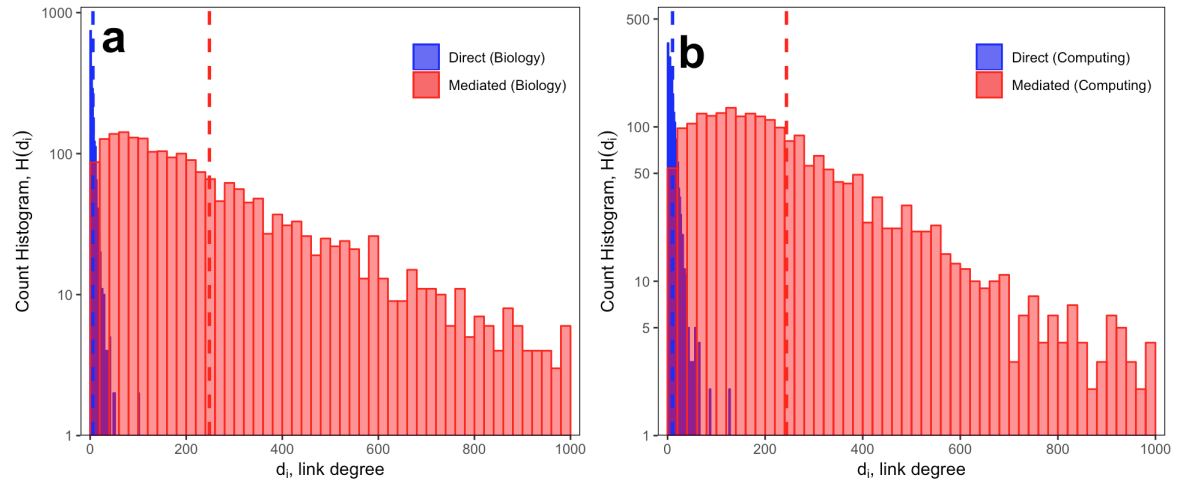


Fig. S2. F network distributions for direct and mediated associations. for a. biology and b. computing.

Extended caption:

Here, ...

Fig. S3 :

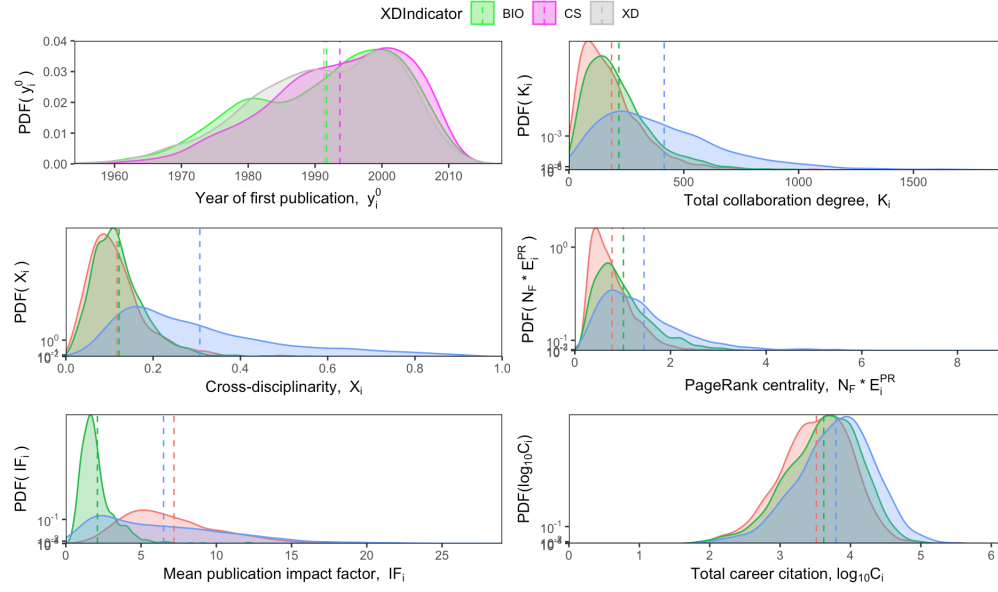


Fig. S3.

Extended caption:

Here, ...

Fig. S4 :

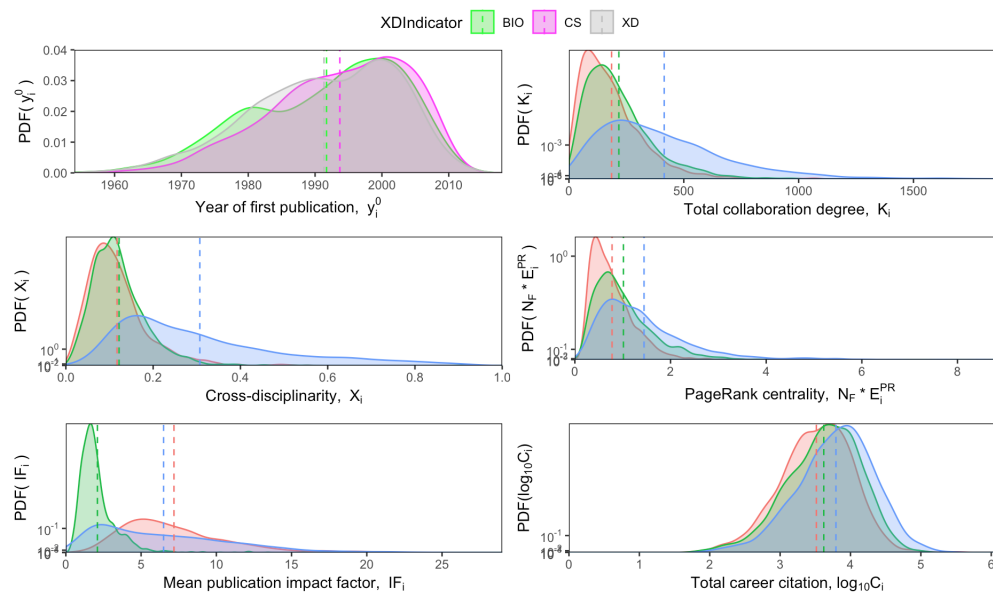


Fig. S4.

Extended caption:

Here, ...