

## CORRECTION

## Open Access



# Correction to: Network cartography of university students' knowledge landscapes about the history of science: landmarks and thematic communities

Henri Lommi and Ismo T. Koponen\*

\* Correspondence: [ismo.koponen@helsinki.fi](mailto:ismo.koponen@helsinki.fi)The original article can be found online at <https://doi.org/10.1007/s41109-019-0113-8>

Department of Physics, University of Helsinki, Gustaf Hallstromin katu2, P.O. Box 64, FI-00014 Helsinki, Finland

**Correction to: Appl Netw Sci 4, 6 (2019)**<https://doi.org/10.1007/s41109-019-0113-8>

Following the publication of the original article (Lommi and Koponen 2019), multiple errors were identified in the Results section, and Tables 1 and 2.

The correct data and tables are given below, and the changes have been highlighted in **bold typeface**.

Results – Heavy tails:

All these values are quite similar in all the networks, with values in the ranges of  $0.15 < CC < 0.24$ ,  $0.07 < CL < 0.10$ ,  $0.66 < Q < 0.84$  and  $-0.12 < A < -0.07$

**Table 1** Summary of symbols and abbreviations used recurrently in the text and figures

Symbol/Abbreviation		Symbol/Abbreviation	
<b>A</b>	Adjacency matrix	<i>D</i>	Degree centrality
<b>[A]<sub>ij</sub></b>	Element <i>ij</i> of matrix <b>A</b>	<i>K</i>	Katz centrality
<i>a</i>	Damping factor	<i>E</i>	Katz efficiency
<i>Z</i>	Z-scores	<i>Q</i>	Modularity
<i>N</i>	Number of nodes	<i>A</i>	Assortativity
<i>M</i>	Number of links	<i>C<sub>L</sub></i>	<b>Local Clustering</b>
<i>γ</i>	Inverse power	<i>C<sub>C</sub></i>	<b>Closeness centrality</b>
<i>σ</i>	Width of lognormal distr.	<i>Φ</i>	Fragility

**Table 2** Characteristics of networks  $g_X$  corresponding to distinct periods  $X = i, \dots, vi$  and  $G_X$  of aggregated periods  $X = I, \dots, IV$ 

Netw.	Sizes		Fitted parameters		Correlations		Global invariants				Fragility $\Phi$
	$N$	$M$	$\gamma$	$\sigma$	$R_2$	$\tau_B$	$C_C$	$C_L$	$Q$	$A$	
$g_i$	239	356	$1.0 \pm 0.3$	$1.23 \pm 0.07$	0.90	0.51	0.24	<b>0.10</b>	0.66	-0.09	0.04
$g_{ii}$	311	392	$1.5 \pm 0.4$	$1.17 \pm 0.07$	0.74	0.45	0.18	<b>0.08</b>	0.80	-0.10	0.10
$g_{iii}$	326	424	$1.5 \pm 0.2$	$1.13 \pm 0.07$	0.75	0.34	0.16	<b>0.09</b>	0.80	-0.09	0.18
$g_{iv}$	158	190	$0.9 \pm 0.6$	$1.13 \pm 0.07$	0.77	0.57	0.18	<b>0.07</b>	0.78	-0.12	0.17
$g_v$	208	254	$1.6 \pm 0.3$	$1.13 \pm 0.07$	0.77	0.51	0.16	<b>0.07</b>	0.79	-0.12	0.14
$g_{vi}$	308	375	$0.7 \pm 0.3$	$1.16 \pm 0.07$	0.77	0.44	0.19	<b>0.08</b>	0.80	-0.11	0.20
$G_I$	826	1212	$1.7 \pm 0.2$	$1.27 \pm 0.05$	0.71	0.51	0.18	<b>0.09</b>	0.78	-0.06	0.03
$G_{II}$	858	1149	$2.0 \pm 0.2$	$1.26 \pm 0.04$	0.75	0.42	0.16	<b>0.09</b>	0.83	-0.08	0.03
$G_{III}$	796	1053	$2.3 \pm 0.2$	$1.26 \pm 0.03$	0.69	0.46	0.15	<b>0.08</b>	0.84	-0.08	0.07
$G_{IV}$	757	992	$1.6 \pm 0.2$	$1.27 \pm 0.05$	0.76	0.48	0.17	<b>0.07</b>	0.83	-0.09	0.16
GTOT	1613	2306	$2.1 \pm 0.1$	$1.60 \pm 0.04$	0.62	0.53	0.16	<b>0.08</b>	0.83	-0.07	0.03

Power  $\gamma$  is for fitted inverse power law distributions fitted to degree ( $D$ ) centrality distributions. The (logarithmic) width  $\sigma$  is for lognormal distributions fitted to Katz ( $K$ ) centrality distributions. The relative errors of fits are estimated from the standard deviation of residuals. The correlations between values  $D$  and  $K$  are for Pearson ( $R^2$ ) and Kendall- $\tau_B$  ranking ( $\tau_B$ ) correlations. The summarised global invariants are average values of Closeness centrality ( $C_C$ ), Local Clustering coefficient ( $C_L$ ), Modularity ( $Q$ ) and Assortativity ( $A$ ). For each network, the number of nodes  $N$  and links  $M$  are provided, as well as the fragility  $\Phi$

Published online: 24 July 2020

#### Reference

Lommi, Koponen (2019) Network cartography of university students' knowledge landscapes about the history of science: landmarks and thematic communities. *Appl Netw Sci* 4:6. <https://doi.org/10.1007/s41109-019-0113-8>