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# Are we connected? A social network approach to measure social capital in Higher Education

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2020 has changed how we are all working, including how educational institutions are engaging with everyone within their network. The recent increase in cyber-attacks have had a crippling effect on Higher Education Institutions (HEIs) generating renewed calls for collaborative efforts through sharing Cyber Threat Intelligence (CTI) to generate timely, actionable insights for institutions. In fact, the higher education system is one of complex adaptive systems, where cyber resilience can be supported by social relations that encourages information sharing, cooperation and connectivity among central nodes of the system. Even though researchers have already investigated the cybersecurity collaborative work practices, very little research has emphasised the role of social capital among organisations in the cybersecurity market space. This paper takes a mixed method approach to exploring the structural and relational dimensions of social capital. Social interactions (a form of the structural dimension of social capital), and collaboration (a form of its relational dimension), were significantly associated with the exchange of resources(cyber intelligence information exchange). Our findings show the importance of the network position related to the nodes in bonding and bridging social capital within the higher education sector, which may influence the ability to respond to a cyberattack. These results provide empirical evidence on how social capital that operates through networks propagates throughout cybercommunities.

## Keywords

cybersecurity, cyber threat intelligence information, social network analysis, multiplex ties, social capital

## Topics

• Network analysis for security and cybersecurity

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