

Best Practices for Cyber Hygiene: A Systematic Literature Review

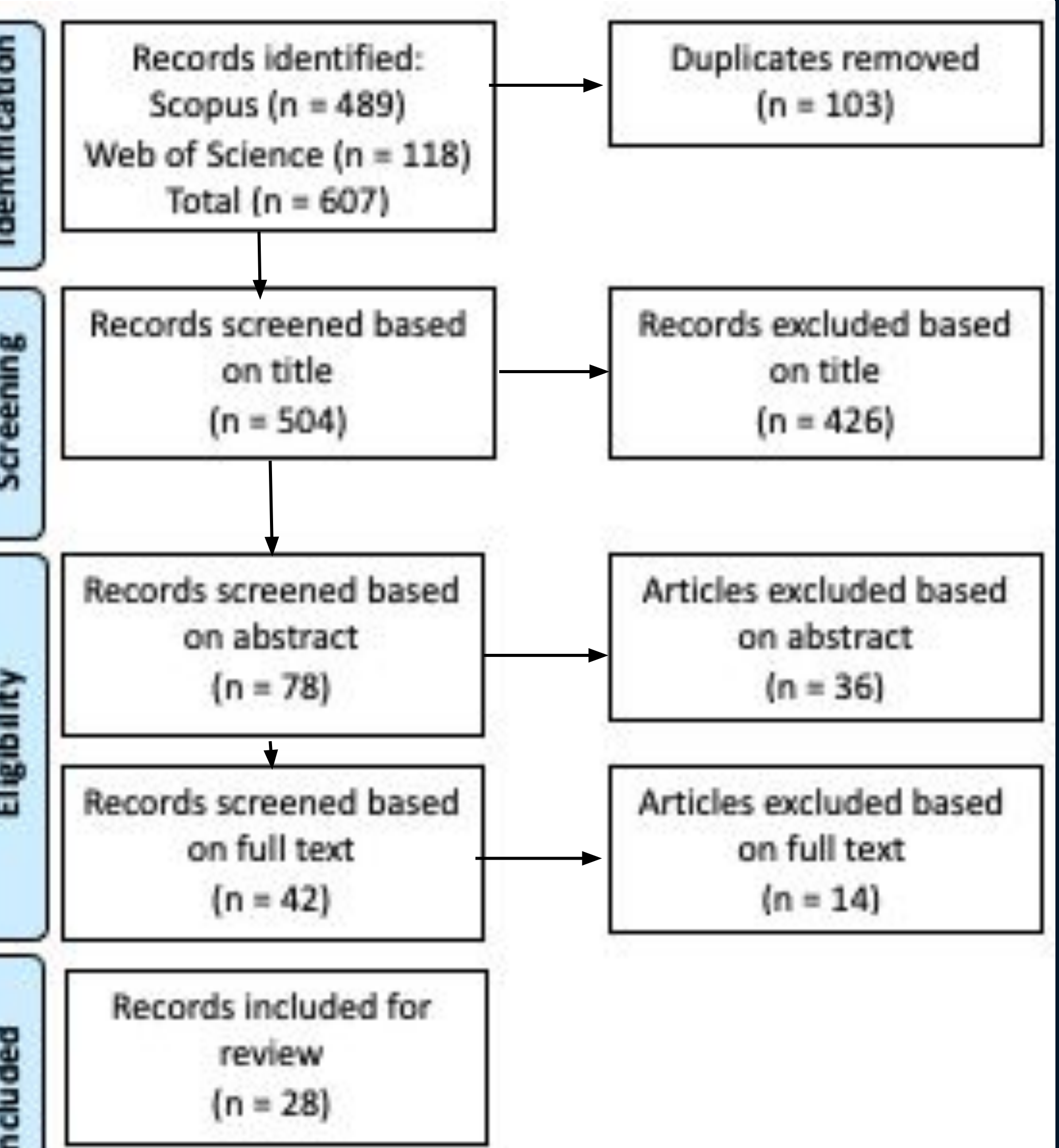
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INTRODUCTION

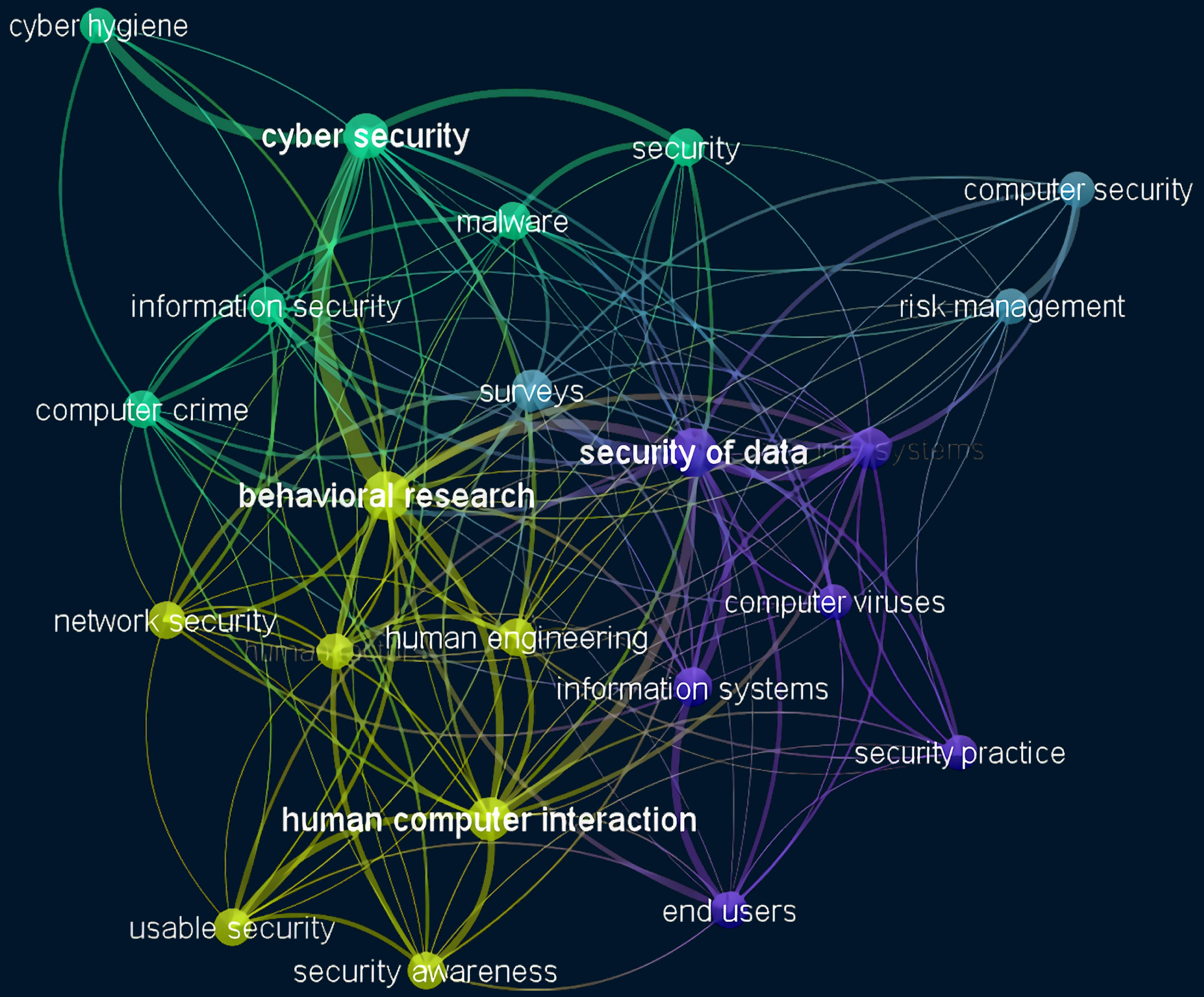
- Cyber hygiene is currently best understood as a set of cyber security steps that should be taken to ensure safety and protection for users of computers and other technological devices (Vishwanath et al., 2020).
- The current recommendations for cyber hygiene protocols and methods contain varying standardized procedures, many of which are idiosyncratic to particular companies, organizations, and specialties.
- Here, we report the initial results of a systematic literature review instituted to develop our own empirically grounded set of best practices for novice end-user cyber hygiene.

METHOD

- Databases Scopus and Web of Science were searched
- The following terms were combined via boolean operations: "cyber hygiene", "end-user", "behavior", and "security".
- Records were included and excluded based on predefined criteria
- Full-text papers were reviewed to distill elements of cyber hygiene, such as secure and insecure behaviors.



Towards developing a usable security framework and better cyber hygiene recommendations.



RESULTS

- Browser and Network Hygiene
- Password and Credential Hygiene
- Workplace Hygiene
- Device Hygiene
- Email Hygiene
- Malware Hygiene
- Personal Information Hygiene
- Social Media Hygiene
- Physical Hygiene
- Data Hygiene

Figure 2. Reporting of initial results from academic literature review.

LESSONS LEARNED

- There isn't a typical end-user.**
 - People have different threat models.
 - It may not be possible to recommend a blanket set of security practices that work for everyone.
- User effort and attention are not unlimited resources.**
 - Recommendations typically ignore the cost of user effort.
 - Reducing risk is not enough, we must also consider cost.
- Research literature may not be representative of current cyber hygiene behavior guidelines.**
 - Recommendations for secure behavior may be outdated.
 - Recommendations for secure behavior may be controversial.

Poster layout adapted from Morrison (2019). Vishwanath, A., Neo, L. S., Goh, P., Lee, S., Khader, M., Ong, G., & Chin, J. (2020). Cyber hygiene: The concept, its measure, and its initial tests. Decision Support Systems, 128, 113160.