Explore the opinions and attitudes of the application of CDM in regional databases from the perspective of Chinese population

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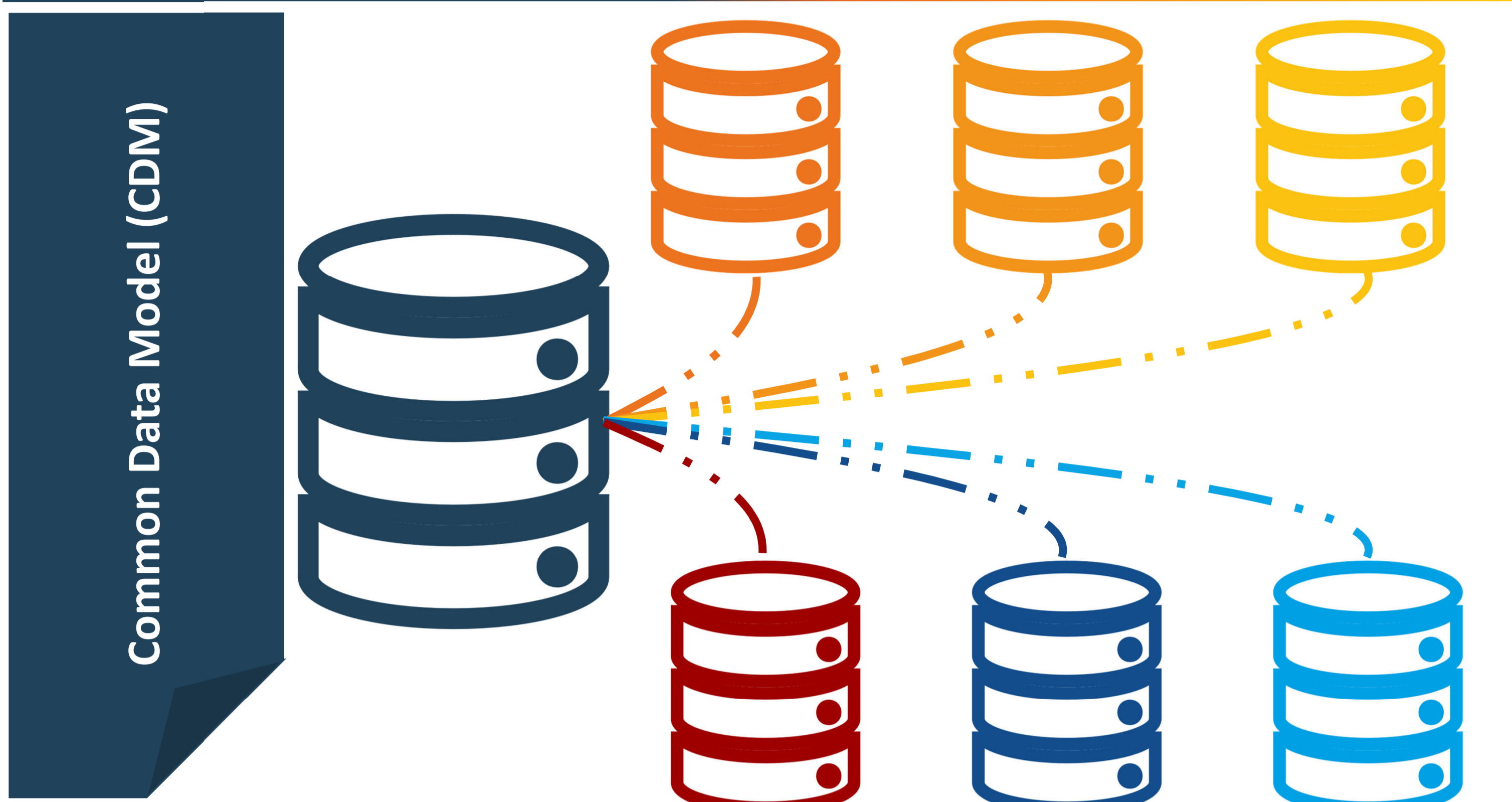* Corresponding Author: Dr. Feng Sun (sunfeng@bjmu.edu.cn)

Background

The role of CDM in the interconnection of healthcare data

CDM has become **an effective tool** for inter-regional and inter-institutional connectivity, integration, and collaborative analysis and utilization of **health medical data**, which plays a significant role in ensuring data consistency in **multi-center cohort**, **epidemiological analysis**, **public health decision-making**, and other research areas.

- The application of CDM in China is **relatively low**, which may be related to a lack of understanding and recognition of CDM[1]. Promoting and applying CDM in China requires **more education and training** to enhance the awareness of medical and health professionals about the importance of CDM.
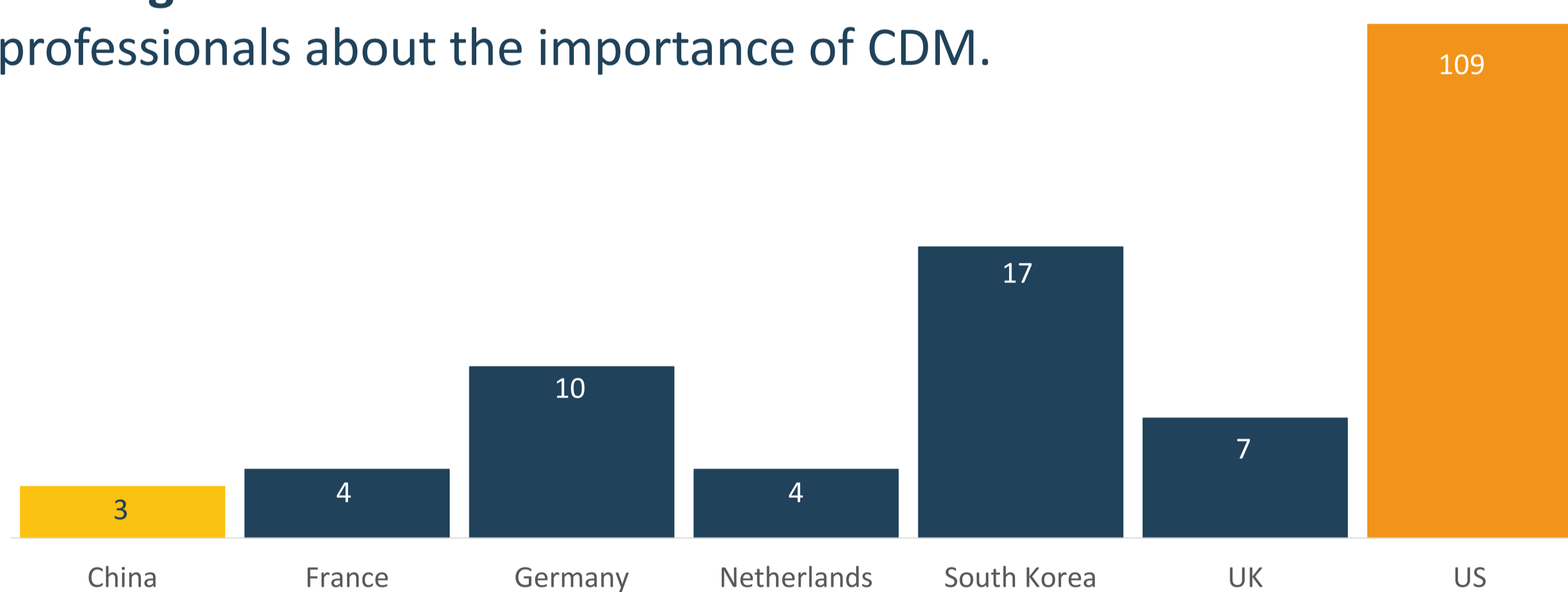

Figure 1. Distribution of Published Articles by Countries.

Methods

- A questionnaire study was conducted to measure the acceptance of transitioning from regional databases to standardized CDMs among the Chinese population.
- The study explored participants' understanding of CDM and the Observational Medical Outcomes Partnership (OMOP), as well as their views on the necessity of CDM for regional databases in China.

Table 1. Questionnaire Items.

Questionnaire Items		
Gender	CDM Awareness	OMOP Awareness Source
Age	CDM Awareness Source	OMOP Mainstream Ability
Working/studying Area	CDM Necessity	OMOP Benefits
Occupation	CDM Type	OMOP Challenges
Education Level	OMOP Awareness	Suggestions

- Analysis of the survey results aims to uncover the current state, challenges, and trends of CDM implementation in the **Chinese medical field**, offering a basis for future data standardization and sharing.
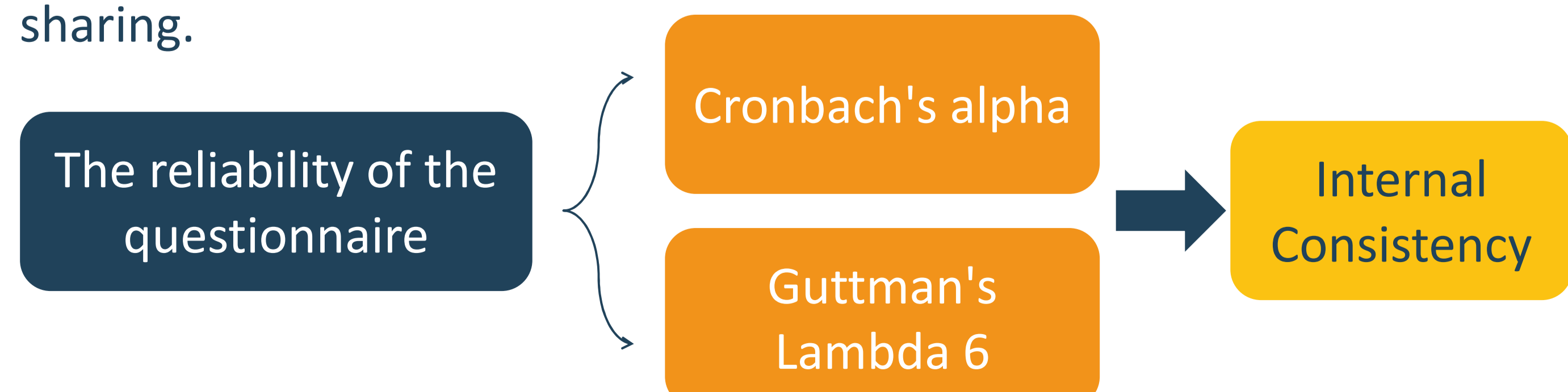
- All statistical analyses were performed using R version 4.4.1.

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Results

200 Responses

From **18th September 2024** to **22nd September 2024**

Cronbach's alpha **0.96**
Guttman's Lambda 6 **0.98**

→ **High internal consistency** and **strong inter-item correlations**

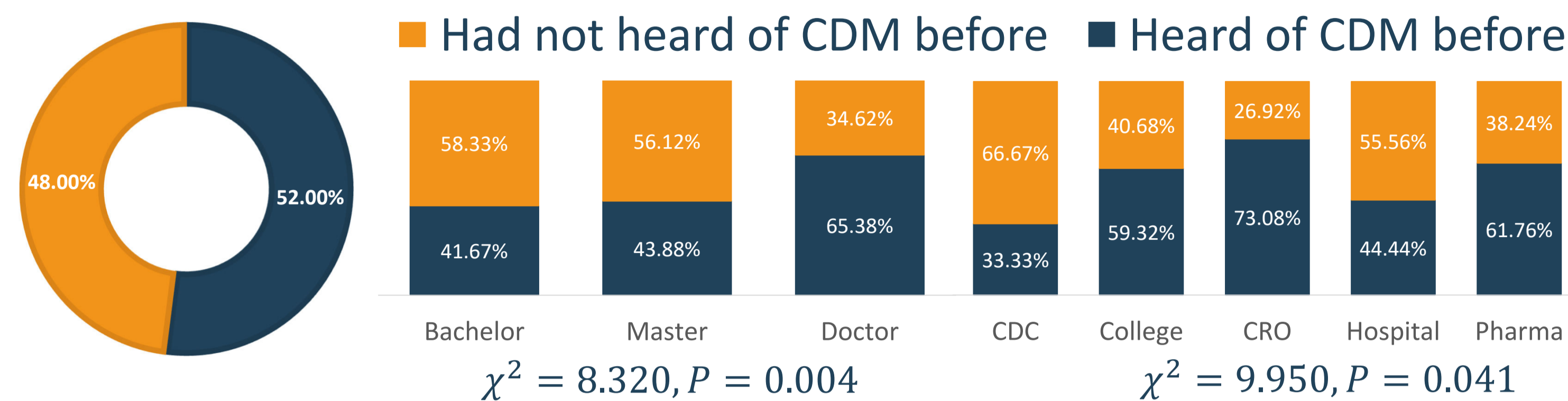$\chi^2 = 8.320, P = 0.004$ $\chi^2 = 9.950, P = 0.041$

Figure 2. Proportion of CDM Awareness in different factors.
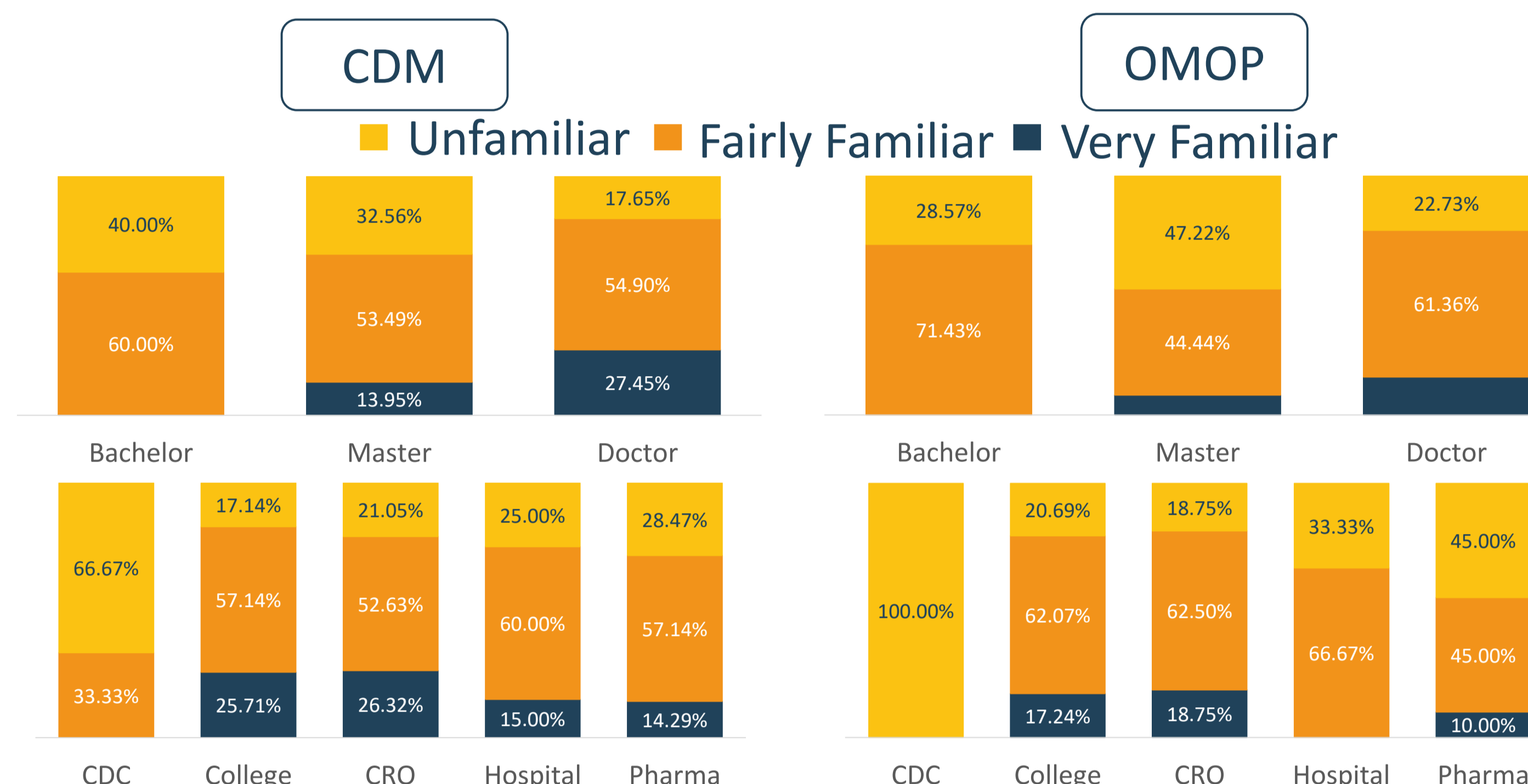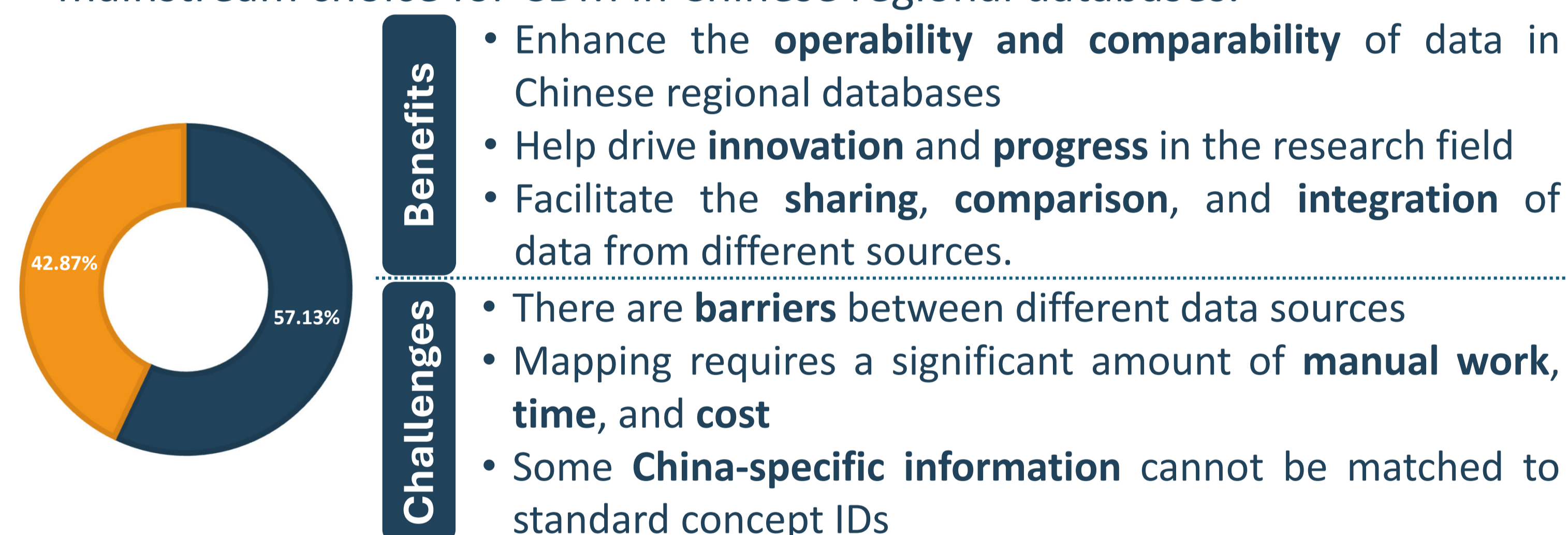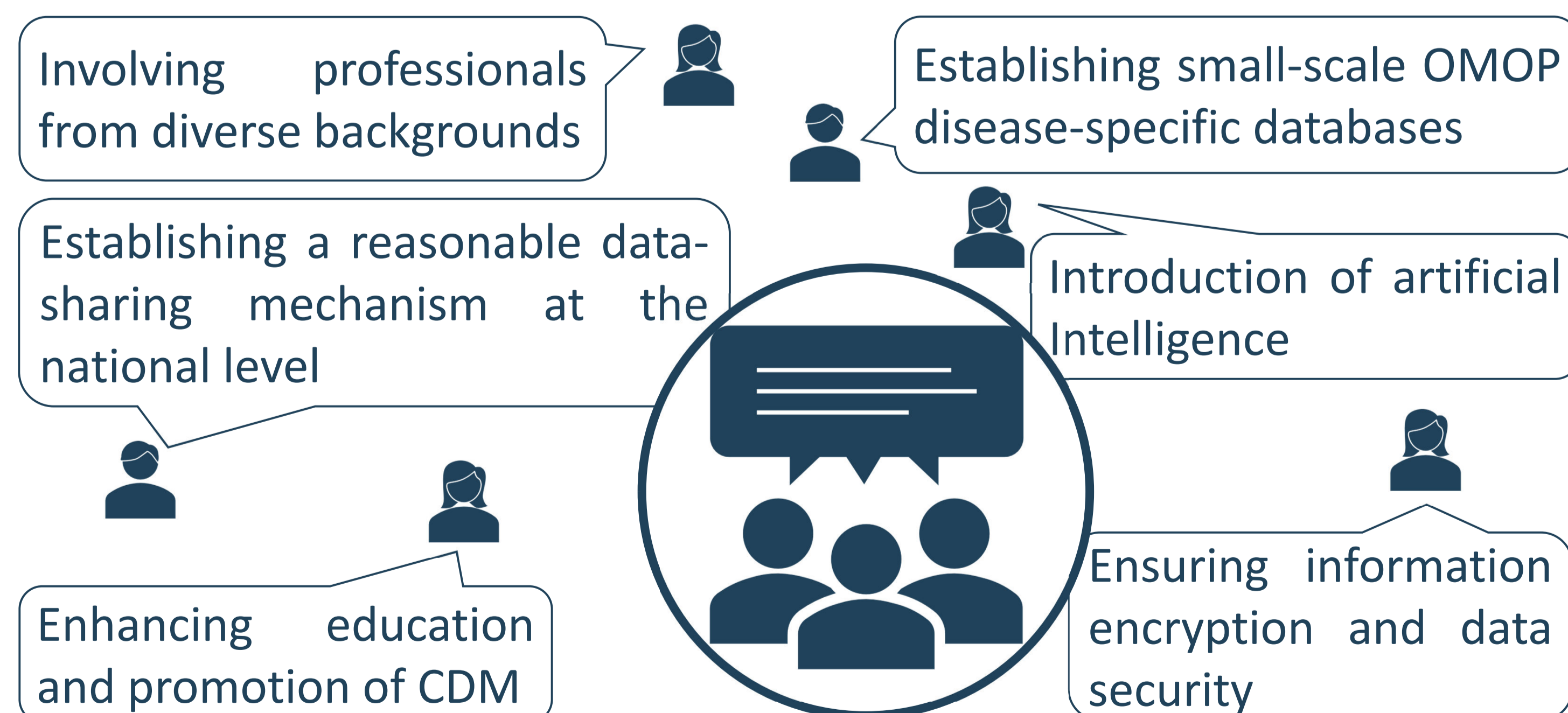

Figure 3. Association between Familiarity and Different Factors.

- **More than half** of the participants believe that OMOP could become the mainstream choice for CDM in Chinese regional databases.

Benefits
- Enhance the **operability and comparability** of data in Chinese regional databases
- Help drive **innovation** and **progress** in the research field
- Facilitate the **sharing**, **comparison**, and **integration** of data from different sources.

Challenges
- There are **barriers** between different data sources
- Mapping requires a significant amount of **manual work**, **time**, and **cost**
- Some **China-specific information** cannot be matched to standard concept IDs

Conclusions

- Based on the statistical analysis of the questionnaire results, participants generally hold a **positive attitude** towards the application of CDM in regional databases in China.
- They also offer their **suggestions**, which provide valuable guidance and direction for the future promotion of CDM applications in the healthcare sector in China.

Involving professionals from diverse backgrounds

Establishing small-scale OMOP disease-specific databases

Establishing a reasonable data-sharing mechanism at the national level

Introduction of artificial Intelligence

Enhancing education and promotion of CDM

Ensuring information encryption and data security

References
[1] Reinecke I, Zoch M, Reich C, Sedlmayr M, Bathelt F. The Usage of OHDSI OMOP - A Scoping Review. Stud Health Technol Inform. 2021 Sep 21;283:95-103.