

# Academic relevance of caffeine and evaluation of coffee provision at the University of Lübeck

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## Abstract

The University of Lübeck is a high quality teaching and research facility in the area of medicine as well as in computational, mathematical and biological science. Coffee, a hot caffeine containing drink, is an essential part of research in these fields. Here we offer an overview to the coffee available in randomly chosen institutes of the University of Lübeck. Thereby we found further support for the assumption, that academic work in Lübeck, although improvable, is well worth living.

## Introduction

The University of Lübeck (UzL) is well known for excellent research in medicine, informatics, mathematics and life sciences. Furthermore, UzL is ranked among the best teaching facilities of the nation [1].

In spite of numerous studies and statements about the positive effects of coffee on scientific research, this is yet not a prevalent factor for the evaluation of universities. Well understood positive effects of caffeine consumption include general performance increase [2] as well as escalation of information processing capabilities [6]. These effects are of crucial importance for successful activities of students and researchers alike.

In this work we show that caffeine provision might be taken as an indicator for university ranking. In addition, we give a survey of today's coffee situation at UzL.

## Methods

In order to estimate the importance of caffeine on research, teaching and learning activities, we evaluated the physical and psychical effects of this substance according to existing studies and correlated the results on recent university rankings.

The current caffeine situation at UzL institutes was determined by means of random sampling: A sample of five institutes was chosen randomly from the total set of institutes at the UzL. In those institutes, namely "Institute of Neuro- and Bioinformatics", "Institute of Chemistry", "Institute of Biochemistry", "Institute of Telematics" and "Institute of Microbiology", coffee samples were taken in arbitrary intervals. The cafeteria and "Stadtbäckerei Junge" (Stadtbäcker) were taken as a commercial reference.

The following measures were taken to evaluate the overall quality of a coffee-break experience in the indi-

vidual institution: temperature, taste, pricing and the availability of coffee, milk and sugar, respectively. Additionally the ambience in the social room was taken into account.

## Results and Discussion

Recent university rankings show that the rate of British and Scandinavian institutions among the fifty best European Universities accounts to an disproportionately high ratio of 25% [7]. Likewise, both areas are well known for their enormous consumption of tea and coffee, respectively [3, 4]. When the positive effects of caffeine on mental capability are taken into account [2, 5, 6], it therefore seems reasonable to assume a correlation between university ranking and per capita caffeine consumption.

The accessibility of coffee at UzL can be estimated using table 1. Accessibility was similar in most of the examined institutes at UzL: Powder was almost always at hand, but in about 50% of the test cases the brewing had to be performed by one of the authors. If ready made coffee was found, it was sufficiently hot in rates higher than 95%. The only, while noteworthy exception to this rule is the Institute of Telematics, where a fully automated coffee machine facilitates just in time compilation of hot java. Ahead of time provision for larger groups of coffee demanding scientists requires complementary logistics in this institute.

The atmosphere in the room designated to coffee production and elimination was above average in the institutes of microbiology, chemistry and neuro- and bioinformatics.

Depending on the institute, coffee was either charged per cup, or a monthly fee had to be paid to obtain coffee consuming rights. Pricing was reasonable in all tested institutes and generally reflected production costs. Contrary to this, expenses increased by an

Table 1: Coffee supply on campus of UzL.

Institute	price per cup	availability	milk'n'sugar
Neuro- and Bioinformatics		95%	85%
Microbiology		95%	80%
Biochemistry	0.12 Euro	85%	58%
Chemistry	0.10 Euro	95%	80%
Telematics		99%	95%
Cafeteria	0.85 Euro	99%	99%
Stadtbäckerei	1.15 Euro	100%	100%

order of magnitude if commercial coffee sources were chosen.

## Conclusions

In this work, we have shown the usability of coffee as an indicator for university excellence. Furthermore, we have proven the coffee availability on the campus of UzL to be sufficient. Further work is required to evaluate tea provision at UzL institutes.

It should be stressed, however, that high prices at coffee sources accessible to students (i.e. cafeteria and Stadtbäcker) result in rapid bankrupts and decreased coffee uptake in this group of consumers. Since caffeine leads to an increased effort of performing auditive attention tasks under certain conditions [5], we suggest that coffee supply for students should be increased to achieve even better ranking positions of UzL.

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