



The Significance of Latent and Manifest Diversity Dimensions with Regard to Expectations of First-Year Students: Theoretical and Empirical Results

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Structure

- 1. Relevance of Diversity for the Opening Phase of Higher Education and Student Success.**
- 2. Opening Phase of Higher Education.**
- 3. Methodical Design: First–Semester–Survey and Panel Survey.**
- 4. Empirical Results: Influence of Diversity Dimensions towards Students' Expectations.**
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1. Relevance of Diversity for the Opening Phase of Higher Education Studies and Student Success

Challenges for Higher Education

- This also meets the demands stated in the Leuven Communiqué 2009:

“Access into higher education should be widened by fostering the potential of students from underrepresented groups and by providing adequate conditions for the completion of their studies.”

- No fixed sets of diversity criteria in existence (see Viebahn, 2009) the relevance of structure and learning needs to be emphasized (Pasternack/ von Wissel, 2012).
- Our focus: influence of latent diversity dimensions on student success, next to manifest dimensions.

Strategies to meet Diversity

- Strategies emphasize manifest dimensions:
- **Demographic Change**:
 - esp. in the Eastern States and less populated regions
 - leads to a lack of qualified personnel especially in technical professions.
- State-funded efforts to widen the accessibility of universities
 - intention: attraction of **non-traditional target groups**.
- Strategies to increase numbers of **international students and staff** at German Higher Education Institutions.
- Concepts for **women** to enter study programs in the technical, natural-and computer-scientific as well as the mathematical field (MINT).
- Concepts for **first-generation students** from non-academic homes and working professionals illustrate the emphasis on manifest dimensions as well.

Latent diversity dimensions, such as personality and personal stance on learning.

Big-5-Personality Traits

Five Personality traits can be considered as latent diversity criteria:

- Openness to Experience (O)
- Conscientiousness (C)
- Extraversion (E)
- Agreeableness (A)
- Neuroticism (N)

→ The „Big 5“ are a psychological concept to describe personality traits

→ Central assumption of the concept: every individual has their own personality; personality expresses different life experiences

→ The Big 5 can be clustered into 5 groups of personality traits, they develop differently, but they always exist

Scales used: Gerlitz & Schupp (2005)

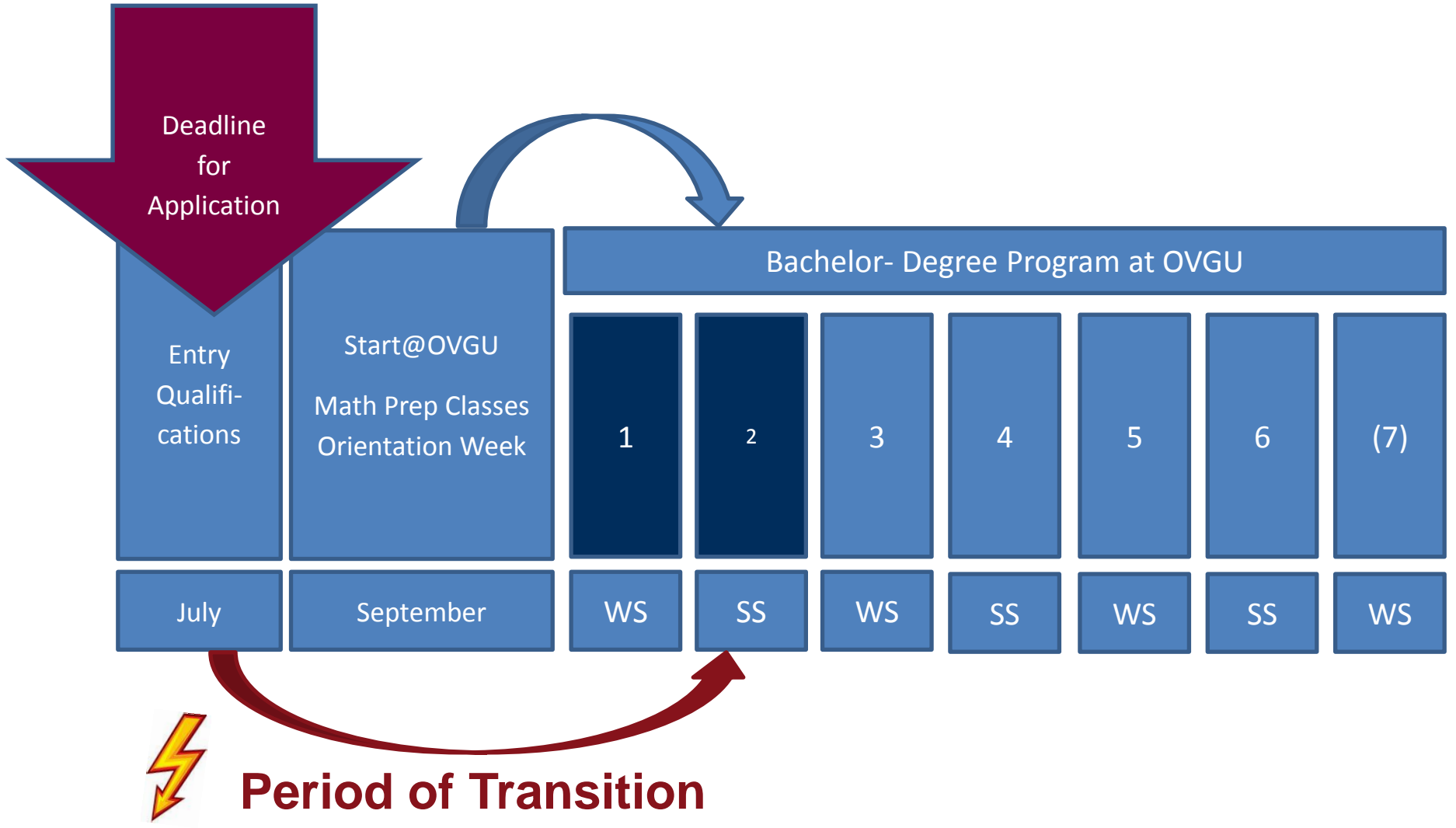
- 15 Items
- 3 per factor (BFI-S)

2. Opening Phase of Higher Education

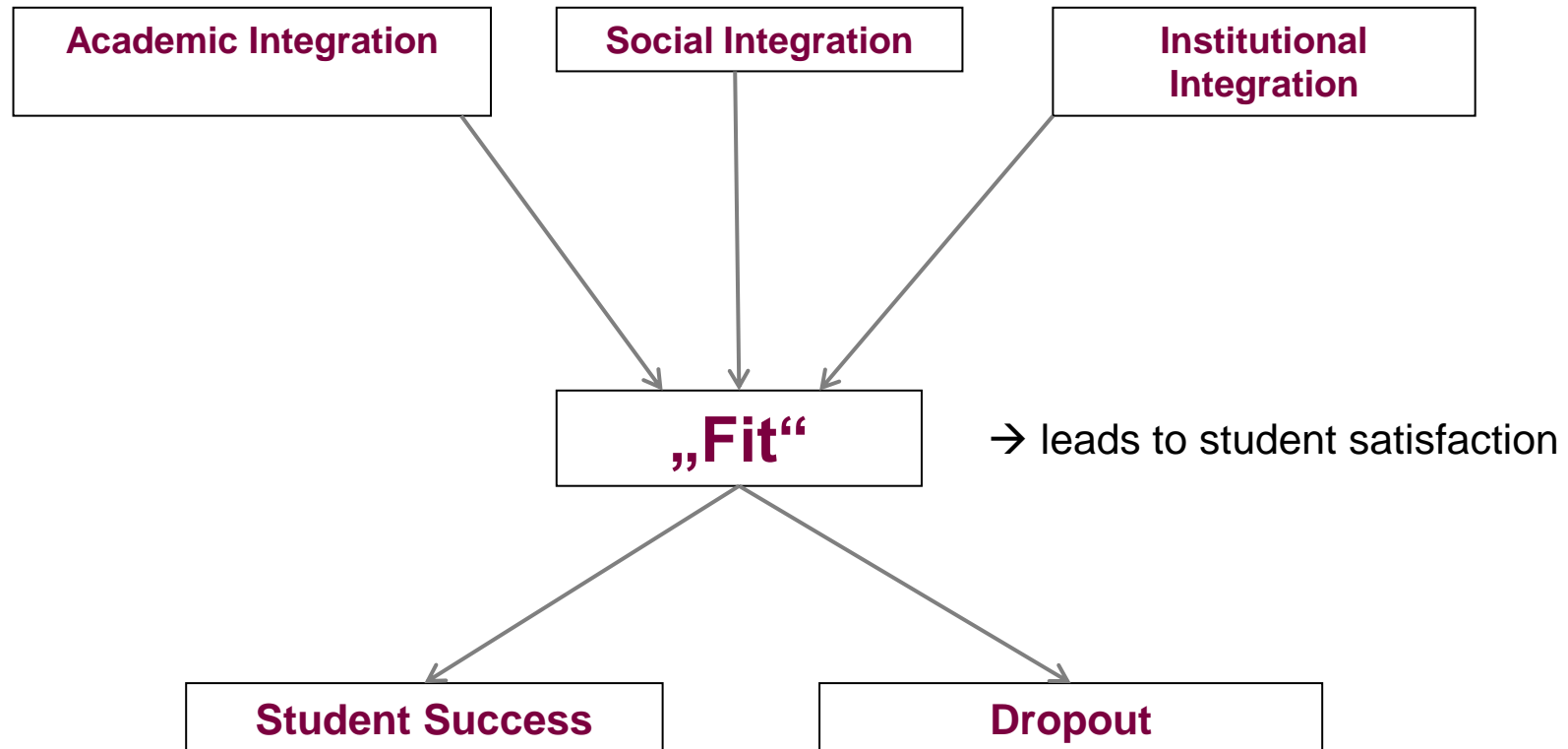
Opening Phase of Higher Education

- Opening Phase of Higher Education is specifically relevant with regard to student diversity
→ **Period of Transition**
- Studies (Heublein, 2011 / Bargel et al., 2014) show, the highest risk for dropout exists at the end of the first year (after the 2nd semester), due to lack of orientation and a feeling of excessive demand.
- The „Fit“ of personal factors with the demands of the Higher Education system marks the „Key“, that leads to satisfaction, which is an important indicator for student success or dropout.

Opening Phase of Higher Education



Theoretical Approach



4. Methodological Design: First-Semester-Survey and Panel Survey

First-Semester-Survey and Panel Survey

- **Opening Phase**

- Expectations, Backgrounds, Requirements

*First-Semester-Survey
WS 2014/15*

Pilot
Group

- **Course of Studies**

- Success Factors (Pursuit of Studies)
- Learning Styles, Learning Methods, Program Achievements

- **Study Degree**

- Success Factors (Exams)
- Transition (Labor Market, Master's Degree)

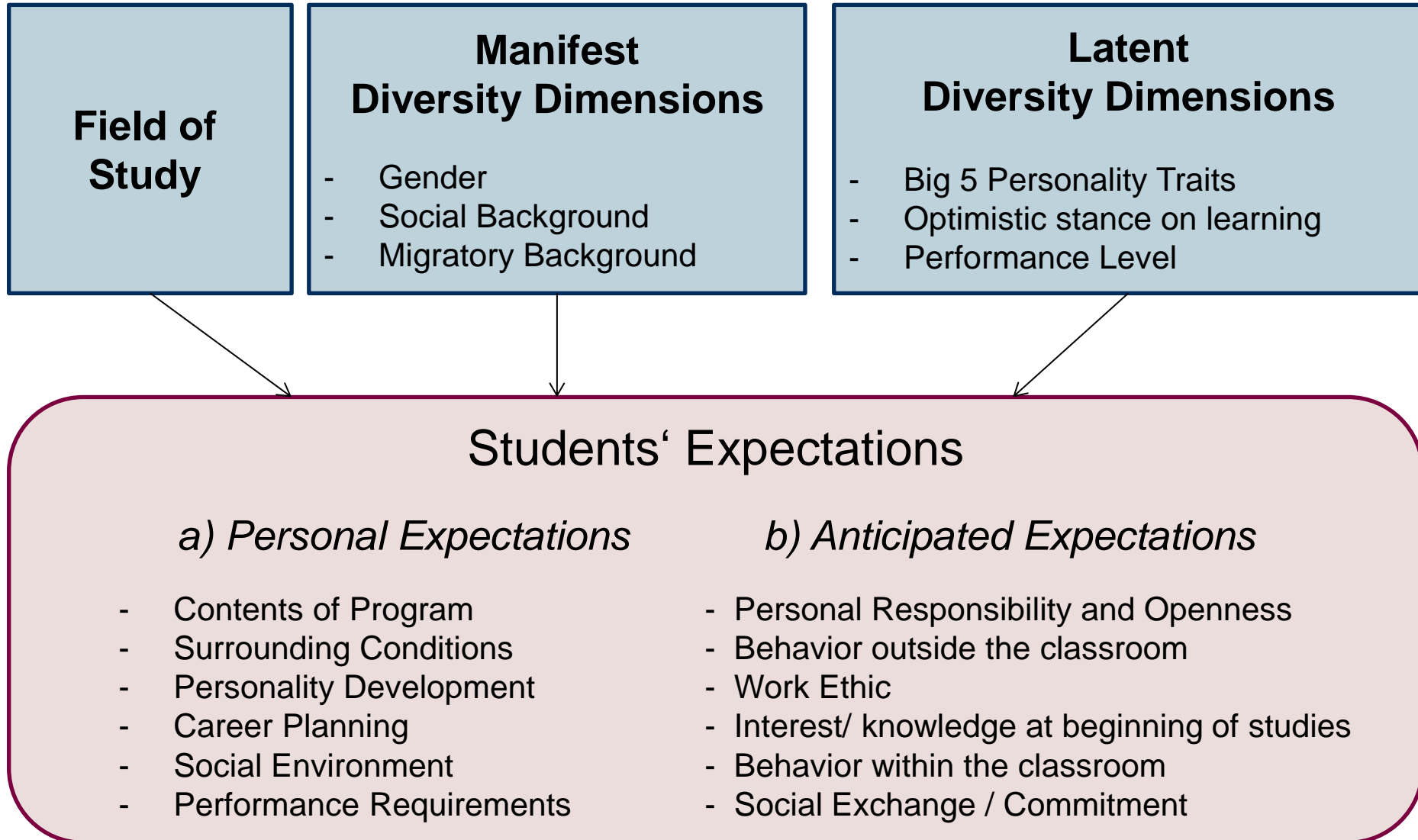
Mode: Semi-standardized Online-Survey
 Field Research: 10/2014 - 12/2014
 Return: N = 562 (approx. 24 percent)

Students' Expectations

Analysis Methodology:

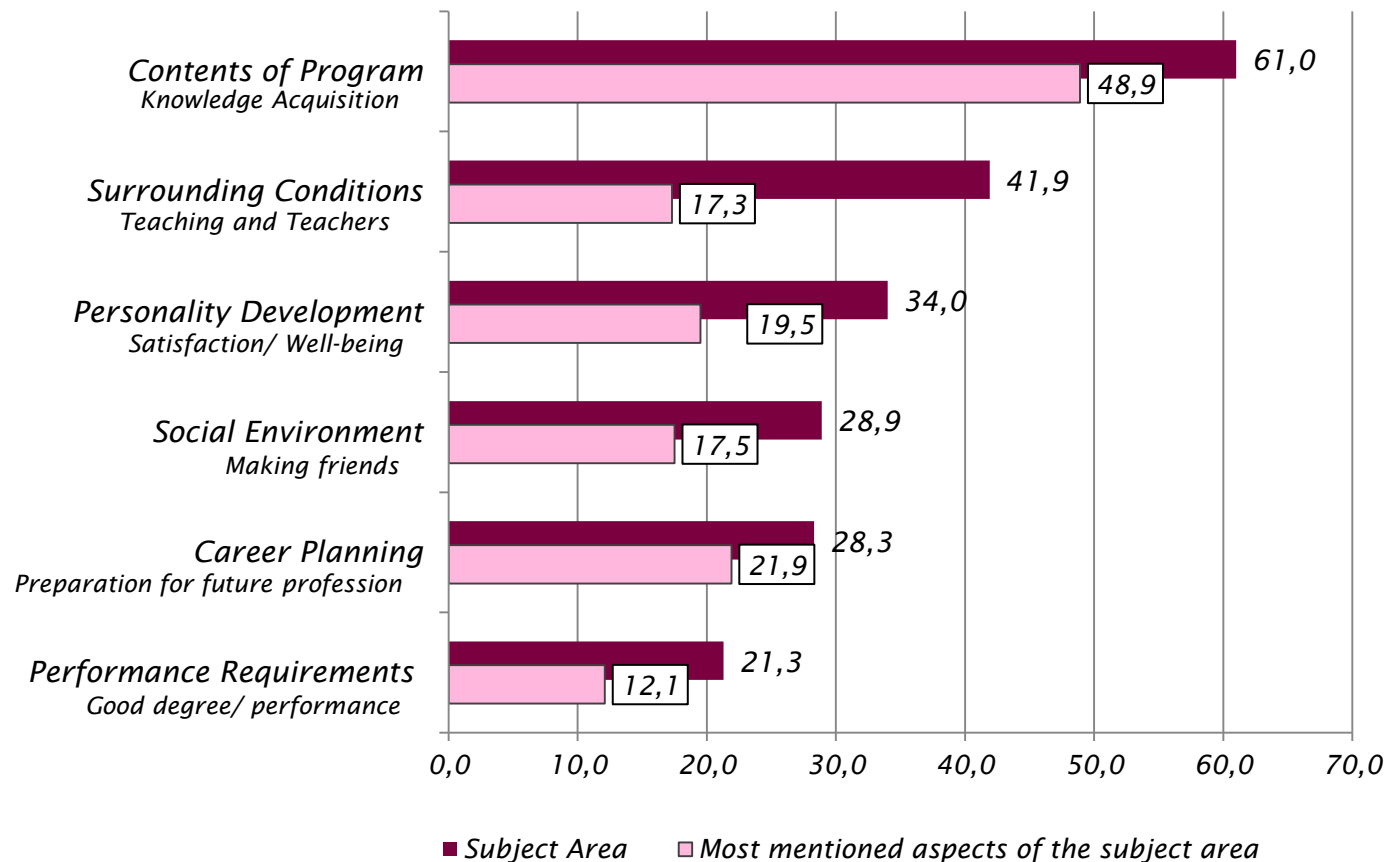
- Open questions in standardized surveys promote the acquisition of information and motivation of the respondent (see Porst, 2011, p. 64).
- Approx. 82 percent of the respondents gave information on both questions.
- Method: Quantitative Content Analysis (see Früh, 2012, p. 146ff.) helped to identify the frequency of occurrence of specific subjects and give an overview over particularly relevant aspects from the respondents' perspective.

Model of Variables for the Study



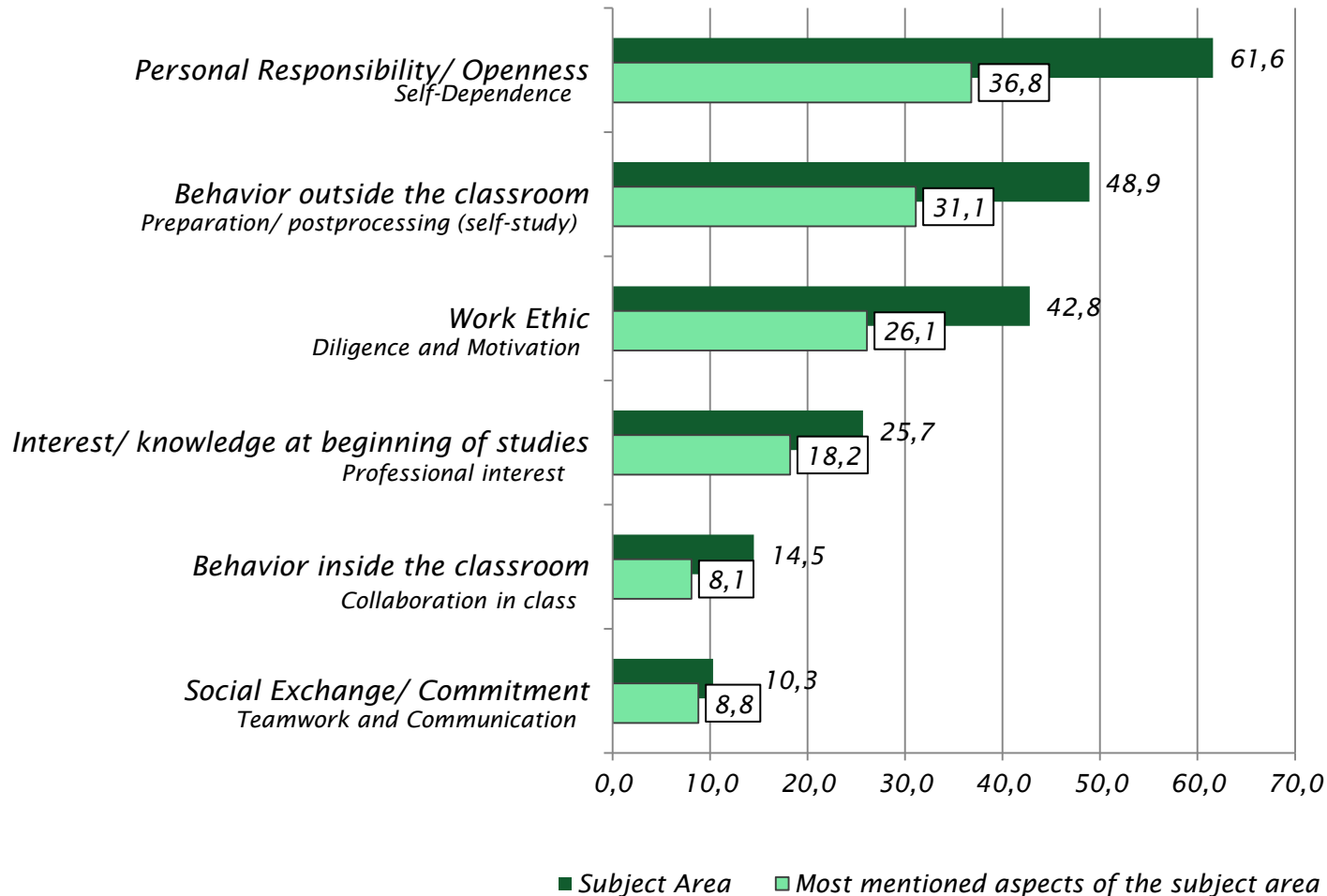
4. Empirical Results: Influence of Diversity Dimensions towards Students' Expectations

Personal Expectations of first-semester-students towards their studies (N 456). Expressed in percent.



Questions: „What matters to you personally concerning your studies?“ (v18)
Open question, personal categorization.

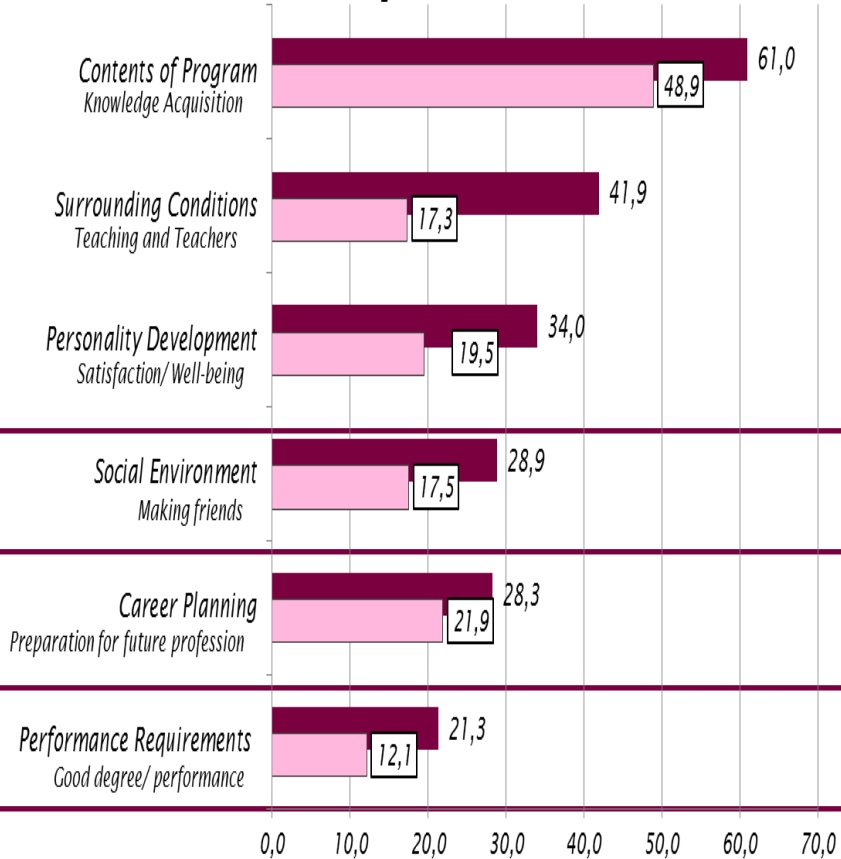
Anticipated Expectations of first-semester-students towards their studies(N 456). Expressed in percent.



Question: „ What do you think, is being expected from you " (v19)
Open question, personal categorization.

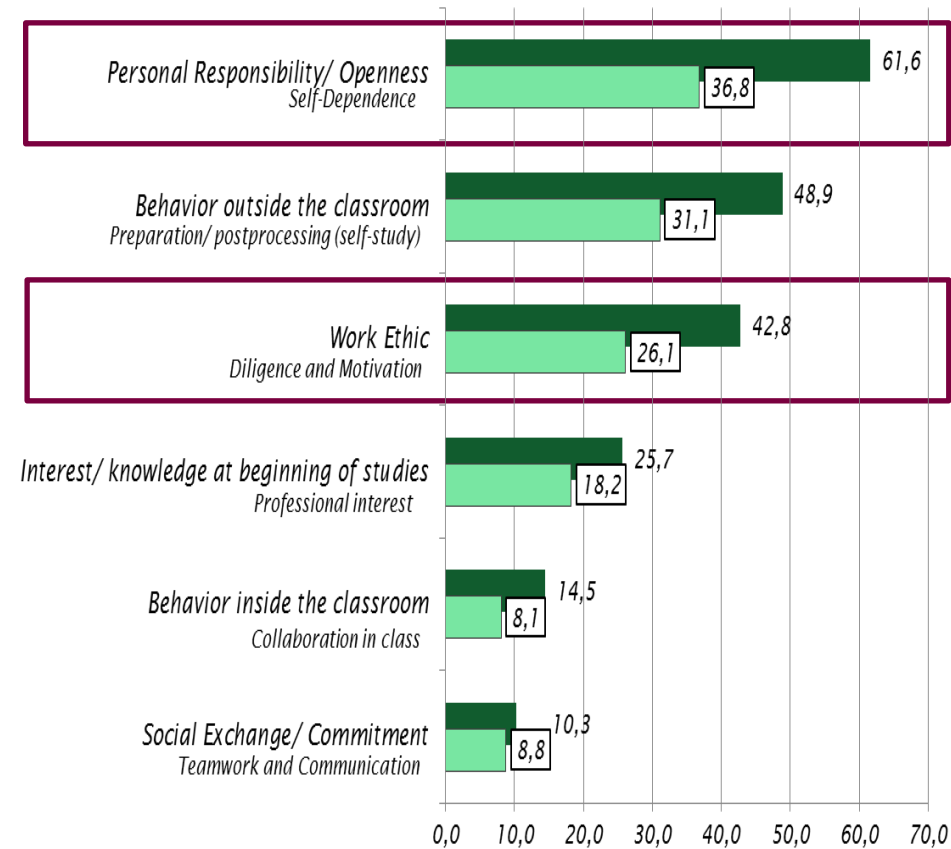
Expectations of First-Semester-Students (N 456). Expressed in percent.

Personal Expectations



■ Subject Area ■ Most mentioned aspects of the subject area

Anticipated Expectations



■ Subject Area ■ Most mentioned aspects of the subject area

Personal Expectations in dependence with different influencing factors – Subject Area: Social Environment

Tab. 1: Personal Expectations: "Social Aspects". Binary logistic regression, N 367. Exp(B).

| | Step 1 | Step 2 | Step 3 |
|---|--------------|--------------|--------------|
| Block 1: Field of Studies (Reference: Humanities/ Social Sciences) | | | |
| Economic Sciences | 0,46* | 0,42* | 0,39* |
| Medicine | 0,67 | 0,53 | 0,45 |
| Mathematics - Computer Sciences - Engineering - Natural Sciences (MINT) | 1,66 | 1,60 | 1,58 |
| Block 2: Manifest Diversity Dimensions | | | |
| Gender (Reference: female) | | 0,94 | 0,83 |
| Social Background (Reference: academic homes) | | 0,49** | 0,50** |
| Migratory Background (Reference: Place of birth outside of Germany) | | 3,71 | 4,47 |
| Block 3: Latent Diversity Dimensions | | | |
| Big 5 - Conscientiousness | | | 1,16 |
| Big 5 - Neuroticism | | | 0,72* |
| Big 5 - Extraversion | | | 1,25 |
| Big 5 - Openness to experience | | | 0,88 |
| Big 5 - Agreeableness | | | 1,51 |
| Optimistic stance on learning | | | 0,96 |
| Performance Level | | | 0,83 |
| Constant (Regression Coefficient B) | 0,42 | 0,17 | 0,06 |
| Pseudo-R² after Nagelkerke | 0,072 | 0,115 | 0,168 |

→ Expectations relating to „Social Environment“ in or outside the study program show dependencies with the **Field of Study, Social Background** and the Big-5-Personality trait „**Neuroticism**“

^a includes respondents, for whom information to all variables in the model are available.

***p < 0,001; **p < 0,01; *p < 0,05 (Wald-Test).

Personal Expectations in dependence with different influencing factors – Subject Area: Performance Requirements

Tab. 2: Personal Expectations "Performance Requirements". Binary logistic regression N 367. Exp(B).

| | Step 1 | Step 2 | Step 3 |
|---|--------------|--------------|--------------|
| Block 1: Field of Studies (Reference: Humanities/ Social Sciences) | | | |
| Economic Sciences | 4,12** | 4,13** | 4,80** |
| Medicine | 4,24** | 3,73* | 3,86* |
| Mathematics - Computer Sciences - Engineering - Natural Sciences (MINT) | 3,60** | 3,01* | 3,11* |
| Block 2: Manifest Diversity Dimensions | | | |
| Gender (Reference: female) | | 1,56 | 2,20* |
| Social Background (Reference: academic homes) | | 0,75 | 0,79 |
| Migratory Background (Reference: Place of birth outside of Germany) | | 2,51 | 2,94 |
| Block 3: Latent Diversity Dimensions | | | |
| Big 5 - Conscientiousness | | | 0,82 |
| Big 5 - Neuroticism | | | 1,40 |
| Big 5 - Extraversion | | | 1,08 |
| Big 5 - Openness to experience | | | 1,53* |
| Big 5 - Agreeableness | | | 1,04 |
| Optimistic stance on learning | | | 1,51 |
| Performance Level | | | 0,85 |
| Constant (Regression Coefficient B) | 0,09 | 0,04 | 0,01 |
| Pseudo-R² after Nagelkerke | 0,059 | 0,079 | 0,128 |

→ Expectations that refer to „Performance Requirements“, are being influenced by the **Field of Study**, **Gender** and the Big-5- Personality trait **Openness**

^a includes respondents, for whom information to all variables in the model are available.

***p < 0,001; **p < 0,01; *p < 0,05 (Wald-Test).

Anticipated Expectations in dependence with different influencing factors – Subject Area : Work Ethic

Tab. 3: Anticipated Expectations "Work Ethic". Binary logistic regression, N 367. ^a Exp(B).

| | Step 1 | Step 2 | Step 3 |
|---|--------------|--------------|--------------|
| Block 1: Field of Studies (Reference: Humanities/ Social Sciences) | | | |
| Economic Sciences | 1,52 | 1,67 | 1,58 |
| Medicine | 3,03** | 3,83** | 2,97* |
| Mathematics - Computer Sciences - Engineering - Natural Sciences (MINT) | 1,25 | 1,7 | 1,48 |
| Block 2: Manifest Diversity Dimensions | | | |
| Gender (Reference: female) | | 0,50** | 0,56* |
| Social Background (Reference: academic homes) | | 1,59* | 1,56* |
| Migratory Background (Reference: Place of birth outside of Germany) | | 1,75 | 1,58 |
| Block 3: Latent Diversity Dimensions | | | |
| Big 5 - Conscientiousness | | | 1,07 |
| Big 5 - Neuroticism | | | 1,04 |
| Big 5 - Extraversion | | | 0,9 |
| Big 5 - Openness to experience | | | 0,69* |
| Big 5 - Agreeableness | | | 1,02 |
| Optimistic stance on learning | | | 1,23 |
| Performance Level | | | 0,92 |
| Constant (Regression Coefficient B) | 0,57 | 0,32 | 0,63 |
| Pseudo-R² after Nagelkerke | 0,032 | 0,078 | 0,109 |

→ Expectations relating to „Work Ethic“ depend on the **Field of Study, Gender, Social Background** and the Big-5-Personality trait **Openness to Experience**.

^a includes respondents, for whom information to all variables in the model are available.

***p < 0,001; **p < 0,01; *p < 0,05 (Wald-Test).

Anticipated Expectations in dependence with different influencing factors – Subject Area : Personal Responsibility/ Openness

Tab. 4: Anticipated Expectations: "Personal Responsibility and Openness". Binary logistic regression, N 367. ^a Exp(B).

| | Step 1 | Step 2 | Step 3 |
|---|-------------|--------------|--------------|
| Block 1: Field of Studies (Reference: Humanities/ Social Sciences) | | | |
| Economic Sciences | 0,87 | 0,86 | 0,97 |
| Medicine | 0,6 | 0,56 | 0,42* |
| Mathematics - Computer Sciences - Engineering - Natural Sciences (MINT) | 1,05 | 1,28 | 1,22 |
| Block 2: Manifest Diversity Dimensions | | | |
| Gender (Reference: female) | | 0,53** | 0,62 |
| Social Background (Reference: academic homes) | | 0,75 | 0,71 |
| Migratory Background (Reference: Place of birth outside of Germany) | | 2,71* | 2,94* |
| Block 3: Latent Diversity Dimensions | | | |
| Big 5 - Conscientiousness | | | 1,82** |
| Big 5 - Neuroticism | | | 1,08 |
| Big 5 - Extraversion | | | 1,01 |
| Big 5 - Openness to experience | | | 1,09 |
| Big 5 - Agreeableness | | | 1,01 |
| Optimistic stance on learning | | | 0,57* |
| Performance Level | | | 0,77 |
| Constant (Regression Coefficient B) | 1,93 | 1,065 | 0,98 |
| Pseudo-R² after Nagelkerke | 0,01 | 0,058 | 0,095 |

→ Expectations relating to „Personal Responsibility/ Openness show dependencies with the **Field of Study**, **Migratory Background** and the **optimistic stance on learning**.

^a includes respondents, for whom information to all variables in the model are available.

***p < 0,001; **p < 0,01; *p < 0,05 (Wald-Test).

5. Conclusion and Discussion

Students' Expectations and the Influence of Diversity Dimensions

- Our results show that first-semester-students expect certain contents in their respective degree programs and student-friendly surrounding conditions as well as time and space for their personal development.
- Furthermore, they assume that the Higher Education institution they study at most distinctly demands self-dependence and personal responsibility as well as a high level of work ethic.
- In addition to the field of studies and manifest diversity dimensions also latent diversity dimensions prove to be relevant with regard to expectations first-semester-students hold, when they begin their degree programs.
- Especially, the Big-5-Personality traits as well as the optimistic stance on learning show notable significance.

Students' Expectations and the Influence of Diversity Dimensions

- Concepts for the opening phase into Higher Education should support the development of personal competences (with regard to an optimistic stance to learning, motivational aspects).
- In the course of designing new concepts and revising the opening phase of Higher Education, latent as well as manifest diversity dimensions need to be considered.
- We suggest to replace mono-educative support strategies, especially when they only refer to manifest diversity dimensions (e.g. women in the technical field etc.); and instead, to implement co-educative concepts that include all students.

We thank you for the attention!

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Wohnort
Lebensform
Familienstand
Einkommen
Ausbildung
Alter
soziale Herkunft
Betreuungsverpflichtungen
körperliche Konstitution
sexuelle Orientierung
geistige Konstitution
soziale Orientierung
regionale Herkunft
nationale Herkunft
Berufserfahrung
Weltanschauung
Freizeitverhalten
Generation
Geschlecht
Motivation
Interessen
Religion
Sprache
Auftreten
Gewohnheiten

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