RESEARCH REVIEW

PSYCHOLOGY 2017

QANU
Catharijnesingel 56
PO Box 8035
3503 RA Utrecht
The Netherlands

Phone: +31 (0) 30 230 3100
E-mail: support@qanu.nl
Internet: www.qanu.nl

Project: 0642

© 2017 QANU
Text and numerical material from this publication may be reproduced in print, by photocopying or by any other means with the permission of QANU if the source is mentioned.

REPORT ON THE RESEARCH REVIEW OF PSYCHOLOGY OF NINE UNIVERSITIES IN THE NETHERLANDS

REPORT ON THE RESEARCH REVIEW OF PSYCHOLOGY OF NINE UNIVERSITIES IN THE NETHERLANDS....3

1. FOREWORD BY COMMITTEE CHAIR 7
2. THE REVIEW COMMITTEE AND THE PROCEDURES....9
2.1. Scope of the review 9
2.2. Composition of the committee 9
2.3. Independence 9
2.4. Documentation provided to the committee 10
2.5. Procedures followed by the committee 10
2.6. Application of the SEP and scores 10
3. DUTCH PSYCHOLOGY ON A NATIONAL LEVEL 13
3.1. Introduction 13
3.2. Differentiation and multi-, inter- and cross-disciplinary research 13
3.3. Research output: quality over quantity 14
3.4. Teaching and funding for research....14
3.5. Human resource policy....15
3.6. Societal relevance 16
3.7. PhD candidates 16
3.8. Scientific integrity: transparency, replicability and reproducibility....17
4. RESEARCH REVIEW OF THE INSTITUTE OF PSYCHOLOGY OF THE ERASMUS UNIVERSITY ROTTERDAM 19
4.1. Introduction 19
4.2. The strategy and targets of the research unit 19
4.3. Research quality 20
4.4. Relevance to society....20
4.5. Viability 21
4.6. PhD training 21
4.7. Research integrity policy 22
4.8. Diversity 22
4.9. Conclusion and recommendations 22
4.10. Overview of the quantitative assessment of the research unit 22
5. RESEARCH REVIEW OF THE LEIDEN INSTITUTE OF PSYCHOLOGY OF LEIDEN UNIVERSITY23
5.1. Introduction 23
5.2. The strategy and targets of the research unit 23
5.3. Research quality 24
5.4. Relevance to society....24
5.5. Viability 25
5.6. PhD training 25
5.7. Research integrity policy 26
5.8. Diversity 26
5.9. Conclusion and recommendations 26
5.10. Overview of the quantitative assessment of the research unit 27

6. RESEARCH REVIEW OF THE DEPARTMENT OF PSYCHOLOGY OF THE OPEN UNIVERSITY OF THE NETHERLANDS 29
6.1. Introduction 29
6.2. The strategy and targets of the research unit 29
6.3. Research quality 30
6.4. Relevance to society 30
6.5. Viability 31
6.6. PhD training 31
6.7. Research integrity policy 32
6.8. Diversity 32
6.9. Conclusion and recommendations 32
6.10. Overview of the quantitative assessment of the research unit 32
7. RESEARCH REVIEW OF THE PSYCHOLOGY RESEARCH INSTITUTE OF THE UNIVERSITY OF AMSTERDAM 34
7.1. Introduction 34
7.2. The strategy and targets of the research unit 34
7.3. Research quality 35
7.4. Relevance to society 35
7.5. Viability 36
7.6. PhD training 36
7.7. Research integrity policy 37
7.8. Diversity 37
7.9. Conclusion and recommendations 37
7.10. Overview of the quantitative assessment of the research unit 37
8. RESEARCH REVIEW OF THE HEYMANS INSTITUTE FOR PSYCHOLOGICAL RESEARCH OF THE UNIVERSITY OF GRONINGEN 38
8.1. Introduction 38
8.2. The strategy and targets of the research unit 38
8.3. Research quality 39
8.4. Relevance to society 40
8.5. Viability 40
8.6. PhD training 41
8.7. Research integrity policy 41
8.8. Diversity 41
8.9. Conclusion and recommendations 42
8.10. Overview of the quantitative assessment of the research unit 42
9. RESEARCH REVIEW OF THE FACULTY OF PSYCHOLOGY AND NEUROSCIENCE OF MAASTRICHT UNIVERSITY 44
9.1. Introduction 44
9.2. The strategy and targets of the research unit 44
9.3. Research quality 45
9.4. Relevance to society 45
9.5. Viability 45
9.6. PhD training 46
9.7. Research integrity policy 46
9.8. Diversity 46

9.9. Conclusion and recommendations 47
9.10. Overview of the quantitative assessment of the research unit 47
10. RESEARCH REVIEW OF THE TILBURG SCHOOL OF SOCIAL AND BEHAVIORAL SCIENCES OF TILBURG UNIVERSITY 48
10.1. Introduction 48
10.2. The strategy and targets of the research unit 48
10.3. Research quality 49
10.4. Relevance to society 49
10.5. Viability 50
10.6. PhD training 50
10.7. Research integrity policy 51
10.8. Diversity 51
10.9. Conclusion and recommendations 51
10.10. Overview of the quantitative assessment of the research unit 52
11. RESEARCH REVIEW OF THE PSYCHOLOGY DEPARTMENTS OF UTRECHT UNIVERSITY .. 54
11.1. Introduction 54
11.2. The strategy and targets of the research unit 54
11.3. Research quality 55
11.4. Relevance to society 55
11.5. Viability 56
11.6. PhD training 56
11.7. Research integrity policy 57
11.8. Diversity 57
11.9. Conclusion and recommendations 57
11.10. Overview of the quantitative assessment of the research unit 57
12. RESEARCH REVIEW OF THE PSYCHOLOGY DEPARTMENTS OF THE VRIJE UNIVERSITEIT AMSTERDAM 58
12.1. Introduction 58
12.2. The strategy and targets of the research unit 58
12.3. Research quality 59
12.4. Relevance to society 59
12.5. Viability 59
12.6. PhD training 60
12.7. Research integrity policy 60
12.8. Diversity 61
12.9. Conclusion and recommendations 61
12.10. Overview of the quantitative assessment of the research unit 61
APPENDICES 62
APPENDIX 1: THE SEP CRITERIA AND CATEGORIES 64
APPENDIX 2: CURRICULA VITAE OF THE COMMITTEE MEMBERS 66
APPENDIX 3: PROGRAMME OF THE SITE VISIT 68
APPENDIX 4: QUANTITATIVE DATA 74

1. FOREWORD BY COMMITTEE CHAIR

The report before you presents the outcome of the review of the research in Psychology at nine Dutch universities, according to the Standard Evaluation Protocol 2015-2021 adopted by the KNAW, the VSNU and NWO. As prescribed by the protocol the evaluation committee, consisting of a chairman and six other foreign members (for its task assisted by two secretaries of QANU), performed an evaluation of the overall strategy and targets, the quality of the research and its societal relevance as well as the viability of the research Institutes. In addition, the committee also looked at the quality of the PhD training programs and at the Institutes' diversity and research integrity policies. Importantly, the evaluations concerned the research of the Institutes as a whole and not that of the constituent research groups within the Institutes.

Information about how the committee went about its task can be found in section two of this report, which is then followed by an overall evaluation of Dutch Psychology research in general (section three). The remaining sections express the committee's evaluation of each of the nine research Institutes separately.

On behalf of the entire committee and in my personal name I want to express our gratitude to the nine Institutes for having made our task quite manageable. The self-assessments were all very well written, transparent, to the point and informative. We experienced the interviews with the management, with delegations of the researchers and with groups of PhD candidates as very open and candid. Moreover, the cordial atmosphere in which the interviews took place more than compensated for the – admittedly - time and energy consuming task the committee was confronting.

A very special word of thanks should go towards the two secretaries who assisted the committee, Meg Van Bogaert and Anna Sparreboom. Their pre-evaluation briefings, their guidance throughout the entire week of the visit, not only in terms of our actual evaluation task, but also in terms of taking great care of us in other respects, allowed us to concentrate fully on the task before us. Moreover, their ever present good mood was much appreciated.

Within the context of the SEP the committee attempted to be as constructive and as fair as possible in writing down its evaluations. I can speak for the entire committee in stating that we were very impressed with the high quality of Psychology research in the Netherlands and its reaching out towards society. The committee is also convinced that all the Institutes reviewed have a viable future ahead of them. When we felt that a recommendation was in order, we did formulate it, in a spirit of modesty, knowing very well that not every dream can be fulfilled.

We wish you all a bright future!

Eddy Van Avermaet
Chair of the committee

2. THE REVIEW COMMITTEE AND THE PROCEDURES

2.1. Scope of the review

The review committee has been asked to perform a review of the research in Psychology at nine universities in the Netherlands. For each participating University the research in Psychology is reviewed as one research unit. The review in this report includes the following research units:

- Institute of Psychology (IOP), Department of Psychology, Education & Child studies (DPECS), Erasmus University Rotterdam (EUR);
- Leiden University Institute of Psychology, Leiden University (UL);
- Department of Psychology, Open University of the Netherlands (OU);
- Psychology Research Institute Amsterdam, University of Amsterdam (UvA);
- Heymans Institute for Psychological Research, University of Groningen (UG);
- Faculty of Psychology and Neuroscience, Maastricht University (MU);
- Tilburg School of Social and Behavioral Sciences (TSB), Tilburg University (TiU);
- Programme *Navigating a Complex World: Perception, Identity, and Self-Regulation*, Faculty of Social and Behavioral Sciences, Utrecht University (UU);
- Psychology departments of the Faculty of Behavioural and Movement Science, Vrije Universiteit Amsterdam (VU).

In accordance with the Standard Evaluation Protocol 2015-2021 (SEP) for research reviews in the Netherlands, the committee's tasks were to assess for each research unit the scientific quality, the relevance to society and the viability of the research as well as the strategic targets and the extent to which the research unit is equipped to achieve these targets. Furthermore, a qualitative review of the PhD training programmes, research integrity policies and diversity policies were part of the committee's assignment. In addition, the nine research Institutes of Psychology asked the committee to assess the performance of Dutch Psychology on a national level, compared to international trends.

2.2. Composition of the committee

The composition of the committee was as follows:

- professor emeritus Eddy Van Avermaet (chair), KU Leuven, Belgium;
- professor Marcel Brass, Ghent University, Belgium;
- professor emerita Elizabeth Kuipers, King's College London, United Kingdom;
- professor Patrick Onghena, KU Leuven, Belgium;
- professor emerita Lea Pulkkinen, University of Jyväskylä, Finland;
- professor Bas Verplanken, University of Bath, United Kingdom;
- professor Jan Wacker, University of Hamburg, Germany.

The curricula vitae of the committee members are included in Appendix 2.

The committee was supported by Dr. Meg van Bogaert and Dr. Anna Sparreboom, who acted as secretaries on behalf of QANU.

2.3. Independence

All members of the committee signed a statement of independence to safeguard that they would assess the quality of the Psychology Institutes in an unbiased and independent way. Any existing personal or professional relationships between committee members and the research unit(s) under review were reported and discussed in the first committee meeting. The committee concluded that there were no unacceptable relations or dependencies and that there was no specific risk in terms of bias or undue influence.

2.4. Documentation provided to the committee

The committee received the self-evaluation report from the research Institutes under review, including all the information required by the SEP. The committee also received the following documents:

- The Terms of Reference;
- The SEP 2015-2021;
- Previous reports of research reviews in Psychology;
- General introduction to the Evaluation of Dutch Psychology, by the nine participating research Institutes.

2.5. Procedures followed by the committee

The committee proceeded according to the SEP 2015-2021. Prior to the site visit, all committee members were requested to independently formulate a preliminary assessment concerning the research unit(s) under review, based on the written information that was provided. To limit the workload for the committee members and to ensure that all research Institutes receive equal attention, each committee member was dedicated to four research Institutes. Nevertheless, all committee members read all self-evaluation reports and were jointly responsible for the review, scoring and report of all nine Institutes.

The final report is based on the documentation provided by the research units, but it also includes the information gathered during the interviews with management and representatives of the research units. The interviews took place from 17 – 22 September 2017 in Utrecht.

Preceding the interviews, the committee was briefed by QANU about research reviews according to the SEP and was provided with information regarding specifics about Dutch research (e.g. funding and position of PhD candidates). It also discussed the preliminary findings, decided upon a number of comments and questions, and agreed upon procedural matters and aspects of the review.

After the interviews, the committee discussed its findings and comments, allowing the secretaries to draft a first version of the review report. The draft was based on the discussions during the site visit and a written one-page review by the committee members. The draft report was verified and added to by the committee before being presented to the research units concerned for factual corrections and comments. The comments were reviewed by the secretary and incorporated in the final report in close consultation with the chair and other committee members. The final report was presented to the Board of the Universities and to the management of the research units.

2.6. Application of the SEP and scores

The committee used the criteria and categories of the Standard Evaluation Protocol 2015-2021 (SEP), for more information see Appendix 1. The committee would like to make a number of remarks with respect to using the SEP scores that should be taken into careful consideration when comparing the outcomes of this review with any other research review according to the SEP. The committee is of the opinion that the scores in this report cannot be compared to the scores in the previous report.

The committee agreed that for a score 1 (excellent) the committee had to be unanimous that the major part of the work of the research unit deserved the judgement: "one of the few leading groups worldwide" (in line with the present and previous SEP definition). As to the other categories, it should be remarked that the remaining present SEP scores range between 2 (very good), 3 (good) and 4 (unsatisfactory), while those of the previous SEP ranged between 4 (very good), 3 (good), 2 (satisfactory) and 1 (unsatisfactory). Because, as prescribed by SEP, the committee could only use whole numbers and no intermediate categories, such as 1.5 o 2.5, it follows that the present category 'very good' covers a broader range than its predecessor in the previous SEP. In line with this remark the committee decided to use the score 2 (very good) for research quality and relevance to society rather broadly, meaning that the range of this score runs from 'superior to good' to 'close to excellent'. It should therefore also be interpreted in close connection with the qualitative comments

in the text. Finally, within each research unit a number of research groups are combined, each with its own quality, relevance and viability. The committee combined the work of all research groups into its findings and scores, also including the interaction between the research groups and the overarching findings at the level of the research unit. This obviously led to an "average" score, which – again - cannot be compared with those of previous reviews without reading the qualitative comments in the text.

3. DUTCH PSYCHOLOGY ON A NATIONAL LEVEL

3.1. Introduction

Prior to the site visit, the committee read the self-evaluation reports of all nine participating Institutes/Universities, as well as the General introduction to the review and some additional documentation. In the interviews, the information in the documentation was discussed, verified and complemented. Overall, the committee was impressed by the high quality of Psychology research in the Netherlands and can fully subscribe the conclusion in the General introduction that Dutch Psychology performs well above the international benchmark. It should be observed that the CWTS analysis supporting this conclusion is based on a highly competitive benchmark, including countries such as the USA and the UK (see Appendix 4 on the CWTS analysis). In addition, the committee concluded that the research infrastructures and facilities have been expanded and improved considerably since the previous assessment, which also contributed to the overall very high quality of psychological research in the Netherlands.

3.2. Differentiation and multi-, inter- and cross-disciplinary research

The committee considered the broad coverage of all domains in the field of Psychology at nine Institutes that were evaluated a great strength for Dutch Psychology. Of course all Institutes have a different focus, but together they carry out research of very high quality on the national level, both fundamental and applied, in clinical, developmental, social and organisational, cognitive (experimental) Psychology and psychological methods. The science map that was created for the review demonstrates this broad coverage; Dutch Psychology ranges from research into social behaviour, work and organization, child development and mental disorders to studies into cognitive processes and brain imaging research.

At the same time, psychological research in the Netherlands has been shaped by the desire of the Dutch government to create a more differentiated landscape of research and teaching. In the Strategic Agenda for Higher Education, Research and Science (2011), which was based on the report of the Veerman Committee on the Future Sustainability of the Dutch Higher Education System (2010), the government urged each University to establish a distinct profile with a focus on multidisciplinary research, societal impact and relevance of fundamental research. The present review committee supported the above recommendation, because the creation of stronger research profiles will increase focus and specialization, but noted that it can also lead to the marginalization or disappearance of certain research topics or subfields. The review committee encourages differentiation and specialization, but at the same time would like Dutch Psychology as a whole to maintain coverage of all subfields. The science map in the General introduction of the self-evaluation reports provides a good overview of the profiles and strengths of the respective institutes and can serve as a starting point for this. In accomplishing full coverage of all Psychology subfields in the Netherlands, which is particularly necessary where subfields are aligned to teaching priorities, collaboration between the participating universities is required.

Multi-, inter- and cross-disciplinary research is stimulated by an emphasis on public outreach, a requirement for research to be socially relevant and calls for large consortia by national and European grant agencies and funding bodies (Strategic Agenda through NWO and Horizon2020 at EU level). The committee noted that the differentiation-policy of the government in some Institutes had resulted in the development of so-called research focus areas, themes that bring researchers from across a University together in cross-disciplinary clusters. Others have organized their research along more traditional disciplinary lines, but at the same time encourage researchers to align their research with the university-wide research areas. The committee observed that *there is not a single optimal organisational structure*; it observed that both systems with traditional disciplinary groups as well as more theme-inspired clusters can successfully foster collaborations and cross- and interdisciplinary research. The committee believes, however, that collaborations with researchers in other groups, departments, schools or faculties are most viable when they grow, at least to a certain extent, organically (i.e. guided by academic questions) and are not managed exclusively in a top-down

direction. Furthermore, high quality of the staff and encouragement and support from the management are key factors in facilitating cross-fertilization.

3.3. Research output: quality over quantity

The committee observed a trend towards valuing quality over quantity in evaluating the scientific output of staff members. This was mentioned explicitly by some research units, while in others the trend was less pronounced, or more implicit. It entails that researchers are no longer encouraged to publish as many articles as possible, but are stimulated to submit primarily top quality papers in high impact journals. The committee noted that this trend is connected to the move away from monodisciplinary, or single author, research towards more and more team based research groups both within and across disciplines. As a side effect, this move has an effect on the citation scores of the research output; although papers in neuroscience, for example, are generally cited more frequently than Psychology papers, inter- or cross disciplinary research by psychologists published in medical or neuroscientific journals may have lower citation rates than purely neuroscience publications in the same outlets. The committee does not feel this means that the inter- or cross disciplinary research is more or less valuable and fully supports the developments of publishing in journals that are most appropriate.

The committee was pleased to see that this quality-over-quantity-policy was often shared and operationalized across Departments, by researchers from junior to senior level. For PhD candidates, for instance, the obligation to have published all parts of their research-project (papers) before finishing their PhD is abandoned at a number of Institutes; having publications is no longer a prerequisite for defending the dissertation, and instead the focus is on the quality of the work. The committee appreciated the fact that in many institutes young researchers are supported and guided in the choices they make in their publishing strategy, since choosing to aim for quality instead of quantity of publications is easier and less risky for established scientists than for researchers in the early phases of their career.

3.4. Teaching and funding for research

All of the institutes that took part in this review also contribute to educational programmes in Psychology, which means that all research staff above PhD and postdoc-level have teaching duties, except when they have been temporarily exempted, for example because of research sabbaticals (normally they teach 40% of their contract, but sometimes up to 60% or 70%). Since direct funding for research is largely based on the number of enrolling and graduated students (see below), Institutes benefit from having large numbers of students. At the same time, with increasing numbers of students, the teaching load increases and also the amount of research time decreases. Because direct funding is based on student numbers of the preceding academic years, a misbalance of funding and teaching load may occur when student numbers have suddenly risen and the corresponding increase in direct funding lags behind. The committee spoke with the Institutes about the effect that this has on the teaching load of staff and concluded that particularly those at assistant professor level are at risk of spending too much time on teaching. This prevents them from investing their time in research and writing grant proposals. Sometimes the teaching load is experienced as a burden even by researchers at more senior level, who in addition also have to cope with increasing administrative duties. The committee advises the management of Institutes, Schools, Faculties and Universities to consider this issue in their strategic plans and policy.

The Institutes that were reviewed have different strategies with regard to acquiring funding for their research; they all rely on first-, second- and third stream funding, but the distribution of the funding into the three categories varies between institutes. In the review period (2011-2016), the proportion of direct government funding (first stream), which is based on the number of bachelor and master students that enrol and graduate in the educational programmes and the number of graduated PhD candidates at the institutes, ranged from 29% to 75% of the total funding. Second stream funding, which includes research grants at national and international level (e.g. VENI, VIDI, VICI and ERC), comprised 13-51% of the total research budget and is increasingly intended to be spent on multidisciplinary research projects. Third stream funding, which consists of funding for contract

research and Horizon2020, constituted 6-21% of the total funding. The direct funding of some institutes consisted of partial beta-funding. Although educational programmes in Psychology are not considered eligible for beta-funding by the government, the Executive Boards of a number of Universities have decided to allocate partial beta-funding to the Psychology programmes, which translates into a larger amount of funding per student. Because educational programmes in Psychology typically entail major and expensive equipment and facilities similar to natural sciences like biology and chemistry, the committee considers that the additional funding is justified. It requests the Executive Boards of all Universities to – if not already in place – consider if partial beta-funding would be appropriate considering the costs of the programmes.

The committee has seen that the Institutes all have different strategies with regard to acquiring second and third stream research funding and applauds the observed flexibility and vision in the process of adapting to new possibilities for funding. According to the committee, the increased focus on second- and third stream funding is understandable given the uncertainty about future developments in the funding system on policy level. The committee considers it important to have a sound balance between the three categories of funding and not become too dependent on one of them. The allocation of direct funding within the university is an important factor in the unpredictability of income. The committee observed that in some institutions the amount of direct funding is not always completely predictable. The committee wants to emphasise that clarity and predictability with regard to future (direct) funding are of crucial importance for the Institutes' strategic planning, human resources policy and financial management.

3.5. Human resource policy

The committee was pleased to meet many enthusiastic and inspiring researchers during the site visit and has the impression that overall all researchers feel that they work in a pleasant atmosphere and supportive environment. The committee noted high mobility of research staff between different Dutch universities. With regard to the career perspective of the researchers on different levels, the committee observed some potential challenges with respect to which different strategies are being implemented. These differences are predominantly the result of different university policies with respect to human resources.

The first observation by the committee concerns the promotion of staff from assistant to associate professorship level and subsequently the promotion to full professor. In some universities, a tenure track system is in place in order to provide assistant professors with a stable trajectory to an associate professorship in which expectations and possibilities are clearly defined for both parties. The committee clearly sees the advantages of a tenure track system, for both Institute and candidate, but also understands that financial uncertainties or university regulations prevent some Institutes from starting such a system. For assistant professors at Institutes without tenure track, career guidance and formal agreements about career prospects are particularly important, as the management of the respective Institutes is well aware. Nevertheless, it is important that the position and prospects of assistant professors is well integrated in the human resources policy, also given their - at times substantial - teaching load. The committee observed a similar challenge regarding the promotion from associate to full professor level; in Institutes without tenure track, full professors can often only be appointed when a chair is vacant. This means that some associate professors who are ready to be installed as full professor, have to wait or apply for a professorship at another university in the Netherlands or abroad.

The second challenge that the committee noted concerns the diversity of staff. It is striking that the self-assessments focus almost exclusively on gender and age regarding this matter. Ethnic diversity as well as issues regarding sexual minorities and people with disabilities are barely touched upon, if at all. The committee therefore stresses that the diversity policy at University, Faculty, School and Institute level should not only be concerned with promoting gender or age diversity, but also aim to enhance ethnic diversity as well as for example, the inclusion of sexual minorities and people with disabilities. Currently, diversity policies at the institutes that were reviewed is predominantly aimed at increasing the number of female full professors. The committee noted that, although all Institutes

are working on this and Psychology as a discipline has more female researchers than other areas, the targets set for the number of female full professors are generally not too ambitious, and female full professors are still outnumbered by their male colleagues (percentages in the range of 25% to 39% female full professors or exceptionally 50%). Moreover, there is an obvious 'leaky pipeline' effect: the majority of Dutch PhD candidates in Psychology are female (64%-87%), at associate level the number of male and female professors reaches a reasonable balance (40%-63% female), but the majority of full professors in Psychology are male (50% - 75%). The committee encourages the Institutes to continue to work on their diversity policy, to set more ambitious targets with regard to diversity, also independent of university or faculty policy, and to address the leaky-pipeline effect in their human resources policy.

3.6. Societal relevance

In accordance with the Standard Evaluation Protocol, the committee also reviewed the balance between fundamental and applied science and the quality, scale and relevance of the research Institutes' contributions to society. The specific findings with respect to the individual Institutes are provided in the chapters reviewing those Institutes. This paragraph provides overall findings and the approach of the committee to its evaluation of societal relevance.

Since Psychology, a discipline concerned with people and their behaviour, is in itself relevant to society, the committee chose to take this criterion a step further and look specifically at tangible products, a proactive policy with regard to relevance (such as the appointment of special chairs) and the translation and communication of scientific knowledge. In addition, the committee assessed the Institutes' responsiveness to research requests from society and the mutual interaction between social partners and researchers (two-way stream). Research that is fuelled by and carried out in cooperation with social partners and results in products that can be used by these partners, is considered a best practice.

Overall the committee was impressed by the products and other outcomes that were described by the Institutes with respect to societal relevance. There is an overall focus on knowledge transfer (in the Netherlands often referred to as 'valorisatie', or in English 'valorisation') and many Institutes have a clear policy in this respect. The strong focus on societal relevance was pushed by research councils, government and Executive Boards of the Universities. The committee was especially impressed by those Institutes that focus on combining fundamental, curiosity-driven research with more application-driven research. At a more general level, the committee also observed that the traditional distinction between 'fundamental' and 'applied' is becoming blurred as a result of the above developments. The research questions that drive so called 'fundamental researchers' are becoming more and more inspired by issues 'in the field'. The committee applauds this development.

3.7. PhD candidates

During the site visit, the committee also spoke with delegations of all Institutes' PhD candidates, both regular and so called external PhD candidates (in Dutch: buitenpromovendi). Candidates are normally admitted through applying for a PhD vacancy ('free' or in a research project), followed by a recruitment procedure, or they apply for a grant from a research council or private companies with their own research proposal. PhD vacancies are normally widely advertised, nationally and internationally. Most Institutes have research master programmes in which they educate young and talented students in their own field, who can apply for PhD positions after they graduate. The committee understood that a research master programme is a good way for the institute to identify and retain its young talents. At the same time it fosters cross-fertilization between disciplines because researchers from different areas collaborate in teaching.

Without exception, the committee met with enthusiastic and energetic representatives of the PhD communities. The committee noted some variation in the everyday work circumstances of the young researchers: some were part of an active PhD community within their research group, Department or Institute, and were sharing offices with other PhD candidates, whereas others were working on a more solitary basis. The extent to which PhD candidates were exchanging ideas, plans and results

with more senior researchers in their Institute also varied. The committee stimulates the Institutes to do their best to foster and facilitate an energetic PhD community and to enable PhD candidates to exchange their ideas, plans and results with other PhD candidates and more senior research staff, for instance in seminars. With regard to the supervision, the committee feels that the supervision and training of PhD candidates in Psychology is of a high quality and well organized, as is illustrated by the quality of the personalized training and supervision plans.

On average, PhD candidates spend 80% of their time on research and 20% on teaching and courses. In most cases the teaching activities of PhD candidates were indeed restricted to 10-15% of their activities. Some candidates who wished to teach more received a separate contract for this and could often extent their PhD project as a result. The committee further understood that the content of the teaching activities of the PhD candidates is normally in line with the candidates own research topic, which ensures that their PhD project can also benefit from it. Most PhD candidates receive their training at their local graduate school on the one hand and a national interuniversity research school on the other. The graduate schools oversee the formal requirements and administration of PhD projects and generally, though not exclusively, provide generic skills courses, such as methods and statistics, presentation skills, academic writing and project management. Courses offered by the national research schools complement the curriculum of the local graduate schools, often with more field specific content, focusing on Experimental Psychology (EPOS), Psychopathology (EPP), Cognition and Behaviour (Helmholtz), Psychometrics and Sociometrics (IOPS) and Social Psychology (KLI). The committee considers the national research schools an excellent asset for the training and development of the professional networks of PhD candidates and encourages all Institutes to ensure that their PhD candidates have access to the research schools relevant to them.

The committee was somewhat surprised to learn that the majority of PhD candidates in Psychology in the Netherlands take significantly more than 4 years to graduate; many of them defend their PhD only in the fifth or sixth year after starting. The reasons for these delays varied from problems with data collection, extra teaching duties, strategic postponing of the PhD defence and waiting times for the defence ceremony to changes of supervisor, part-time appointments, new jobs, pregnancy and parental leave or health problems. Naturally, these are all understandable and legitimate causes for delays and there were no signals that delays in their PhD trajectory caused financial or other troubles for candidates, but the committee nevertheless wants to stimulate the Institutes to shorten the duration of the PhD trajectories. In addition, the committee thinks that candidates should be able to defend their dissertation before all of their papers are submitted and accepted; delays caused by waiting for publication should be avoided. Interestingly, in those Institutes, where extensions of a contract are not the norm, the time to completion is much shorter. This implies that despite many good reasons for the delay, there also seems to be a cultural effect. This leads to the observation by the committee of a potential inequality between Dutch PhD candidates and international candidates. The latter group might have only a temporary permit to work in the Netherlands and is therefore more pressed to graduate in time. The committee advises the Institutes to prevent this inequality.

In the Netherlands, most internal PhD candidates – also when they are paid by grant money - have full employment status, which entitles them to social security and participation in pension funds. Recently, experiments started with a bursary system in which PhD candidates are appointed as fellows instead of employees, which would allow universities to attract more PhD candidates and thus increase the research output. The committee learned that candidates are sceptical about these developments, because they fear that they will lose their position in the university and social security benefits. It advises Institutes to take this into account when they consider a bursary system. After graduating, 60-80% of all former PhD candidates continue to work in academia, the other 40-20% finds a job in industry or the non-profit sector.

3.8. Scientific integrity: transparency, replicability and reproducibility

The beginning of the review period 2011-2016 was marked by the discovery of the extensive fraud by an internationally prominent Dutch social psychologist. It gave rise to criticism of common research practices in psychological science, which showed that a number of classic findings could not

be replicated in independent studies. In addition, new studies drew attention to common misreporting of statistical results, reluctance to share data and underreporting of non-significant results in psychological science. All of this combined led to a national and international crisis of confidence, in particular with respect to, but not restricted to, psychological research.

In the eyes of the committee, Dutch psychologists have done an excellent job in turning this challenge into an opportunity by starting to do research on scientific integrity and by taking initiatives to replicate important findings, by shaping a solid scientific integrity policy and by promoting responsible and transparent research practices such as pre-registration and professional data storage and –management. As a result, Dutch psychologists have become world-leading in the research on responsible research practices. Furthermore, the committee observed that these new research practices and an awareness of scientific integrity issues are well embedded in daily research practice and consciousness in the Dutch universities, particularly for PhD candidates, making for optimism about the future. In addition, it should be remarked that the Dutch initiatives have had a distinct impact on the way in which the issue of responsible research practices is now being dealt with in other fields of science.

4. RESEARCH REVIEW OF THE INSTITUTE OF PSYCHOLOGY OF THE ERASMUS UNIVERSITY ROTTERDAM

4.1. Introduction

The Institute of Psychology (IOP) at the Faculty of Social Sciences of the Erasmus University Rotterdam (EUR) was founded in 2001. In 2015 a Faculty wide reorganisation led to the merger of Psychology and Pedagogical Sciences into the Department of Psychology, Educational & Child studies (DPECS). One of the general missions of the Department is to generate psychological research that meets the highest international standards and to disseminate applicable psychological knowledge to targeted peers and societal groups. The research at DPECS is organised in five research programmes:

- Brain and Cognition;
- Cognitive Aspects of Psychopathology;
- Educational and Developmental Psychology;
- Organisational Psychology;
- Research Methods and Techniques.

4.2. The strategy and targets of the research unit

The title of the overarching research theme is *From Lab to Society and Back*. The strategy follows this vision by stimulating the need to develop and test theories in the real world in addition to the controlled conditions offered by the laboratory. The title of the research programme fits the focus on applied research but does not seem to exert much integrative force on the research conducted. It remains unclear to the committee to what degree the "Erasmus Initiative Vital Cities and Citizens" will guide further development in this respect.

One of the reasons for the reorganisation was a reduction of enrolling students at some of the other Departments. Although the number of enrolling students in Psychology was stable, the cautious (financial) approach at Faculty level has had its effects on DPECS. At the same time, the committee observed a general positive attitude towards the changes that were the result of the reorganisation. The section Research Methods and Techniques line is definitely positively influenced by the reorganisation, now forming one group.

The organisational structure of the Faculty is clearly described with the formal decisions being taken at the level of the Board. Due to the recent reorganisation, there was clearly a low risk tendency with respect to finances. The Faculty is aware of this cautious attitude over the past period, currently the tendency is shifting and investments are made (and staff hired). Although there is definitely a level of autonomy at the Departmental level, specifically with respect to the content of the research, the organisation seems rather top-down. The downside is that financial decisions with an impact on the Department are not based on a joint decision. This makes it difficult for DPECS to influence decision making bottom-up. An example is the ambition to start a research master programme, which is required to attract young talent. The committee considers that starting a research master would be important for growing generations of talented PhD candidates and researchers. The committee agrees with the programme leaders that it should have already started. On the other hand, the top-down structure has the advantage of decision making, accountability and spreading of risks. The Faculty managed to survive a difficult situation with a successful reorganisation and even convinced the University to heavily fund research in Psychology with internal grants.

The committee discussed in depth the interdisciplinary focus and collaboration between the research programmes. Collaboration is certainly observed and the relatively small size of the research groups is helpful in this regard. The output of joint publications, examples provided by the researchers during the interview with the committee and the convincing testimony of the PhD candidates made it clear that there is existing collaboration across research lines. The committee feels that many of these present collaborations are a result of personal initiatives. Although the committee agrees with the Department that the planned Research Master will contribute to foster more collaborations, it strongly

feels that the Department and its management itself should be the vehicle for more thematically driven collaborations by way of an explicit Departmental policy in this respect. A similar recommendation holds for the ambition to increase cross-faculty and international collaborations.

4.3. Research quality

The Psychology research at Erasmus University Rotterdam is considered to be of very good quality, with a large number of publications in top-tier international journals and a high volume of citations. The section Research Methods and Techniques is shared with Pedagogical Sciences and is very instrumental and supportive for psychological research in Rotterdam. Furthermore, psychologists from this University hold positions in editorial boards of key journals of Psychology, which is clearly a sign of academic recognition.

The publication performance is considered to be very good, even excellent in some research programmes. Publication success contrasts with relatively modest numbers of competitive, external grants. Some impressive grants were obtained over the period of the review, but with over 80% of direct funding (including internal competitive funding) the balance could be improved. The Department is aware of this and has introduced policy that is focussing on this aspect. The committee recommends that the Faculty strongly supports this increased focus on acquiring competitive grants. Although several collaborations between research programmes have led to successful publications in international journals, these collaborations are generally not organized around longer-term shared research programmes.

The Faculty has a highly formalized evaluation system for scientific staff with rewards for highly competitive grants (financial bonuses and/or more research time) and points for publications (especially ones with IF > 3). This system provides clear guidelines for the research staff. At the same time it puts focus – and perhaps pressure – on publishing. The committee noticed that the research staff wishes quality to prevail over quantity and it hopes that in using the evaluation system this consideration will be taken into account.

The necessary upgrade of the research infrastructure is currently underway and will bring Rotterdam up to the level of other Psychology Faculties in the Netherlands. The fact that some widely used methods like fMRI and not having a unique selling point concerning methods may lower funding chances with some highly competitive funding schemes. The absence of some widely used methods like fMRI and the lack of other unique research instruments as selling points may render funding by highly competitive funding schemes more difficult.

4.4. Relevance to society

Applied research is a focus at the Erasmus University Rotterdam as encapsulated in the name of the research programme, *From Lab to Society and back*. Research on Clinical Psychology and Educational Psychology is focused on curiosity driven, basic research questions. Of course, research in Clinical and Educational Psychology is by definition relevant to society, but it is the committee's impression that the concern with social relevance is only secondary with respect to the choice of research topics. When it comes to dissemination, the emphasis also lies on more basic, fundamental research, although there are some very good examples of societal impact, outreach activities and other deliverables. Some nice examples are the Toolbox learning to support teachers in 62 primary schools, plus issues regarding burnout, substance abuse and a range of other clinical issues.

The committee concludes that the relevance to society is very good, and on its way to excellence if the strategy of the research programme is continued and strengthened. There are already a number of good examples of including societally relevant partners in the phase of formulating and carrying out research projects, but if the Department is to see the volume of third stream funding increase, additional efforts are desirable.

4.5. Viability

During the period of this review a massive reorganisation took place, which now seems to have settled. At the time of the site visit, it was clear that the Faculty had been able to tackle financial problems, a lack of growth in staff and PhD candidates over the past years. The low risk financial management approach is being revised and according to the committee this provides a lot of potential for the future. In addition, the merger with Pedagogical Sciences even offers important opportunities with respect to collaboration and expansion.

The internal quality control system for career development holds the risk of overemphasizing quantitative performance and achievement, at the expense of an emphasis on development, growth, learning, integrity and quality.

The percentage of direct funding is high, which could be a risk when student numbers go down. At the same time, student numbers have been stable over the past period and part of the direct funding is the result of acquisition of internal competitive grants. The committee learned that the University has spent 5 million euros on Psychology in recent years, which is a clear indicator that this discipline is an important focus at University level. Nevertheless, the committee considers it to be too much of a risk to depend long term on this level of direct funding, even though it is competitive internal funding. Instead, investments should be made with respect to supporting researchers in writing grant proposals, by increasing the grant writing support staff and/or by a reduction of educational tasks.

It was clear to the committee that establishing a research master programme as soon as possible will be very important in order to recruit new talent. Even with continued support from Faculty and University, it will take some time for this programme to start and even longer for it to generate PhD candidates. In addition to establishing this research master programme, the committee was of the opinion that the IOP needs to articulate a clear vision with regard to the future, and should not become (too) comfortable with what was achieved in the past period. By having a dynamic forward looking vision IOP should be able to convince the Board of the Faculty of its bright future and subsequently secure the support of the Board that is needed to succeed.

4.6. PhD training

In Rotterdam, PhD candidates receive training at one of the national research schools as well as at the local graduate school, the Erasmus Graduate School of Social Sciences and the Humanities (EGSH). In their Training and Supervision Plan (TSP) candidates design a training programme that suits their needs and wishes. In addition to the mandatory courses at EGSH and the curriculum of a national research school, the training programme can include courses at other Institutes such as the interuniversity centre for educational sciences or the Max Planck Institute. The local Graduate School EGSH and the organisational Psychology group also provide courses, thus compensating for the absence of a national research school in this field. The committee was pleased to hear that the candidates felt that the quality of the courses at EGSH had improved greatly over the last years and that they were satisfied with the training they received. It also noted that there was a good sense of community among the PhD candidates, which was strengthened by the fact that they share offices with PhD's of other research groups. Candidates told the committee that their views and needs are generally taken seriously in discussions about Department matters, but felt that having a representative of all PhD candidates as a contact person for the board would be beneficial.

In his or her TSP each candidate describes agreements about supervision, such as the frequency of meetings and the composition of the supervision team (a candidate has to have at least 2 supervisors). After 9, 15 and 18 months evaluation meetings are scheduled, followed by a go/no-go decision. During the entire trajectory the candidates' progression is monitored by a review panel which consists of supervisors and the research director. The committee understood that PhD candidates are generally happy with their supervision. The committee feels that the sense of community among the PhD candidates in Rotterdam, the supervision and monitoring system as well as the rather strict but sensible no-extension-culture are important factors in reducing the duration of PhD trajectories.

4.7. Research integrity policy

Within DPECS, the Ethical Committee for Psychology (ECP) promotes scientific integrity through reviewing research protocols for potential submission to the Medical Ethical Committee. The Department also complies with the Faculty's research integrity code, which stipulates – among other requirements - that all scientific staff sign a declaration of scientific integrity. The Faculty is also involved in the development of a protocol for the collection and storage of research data and there is a research support programme, which provides assistance in data management. The committee understood that most groups within DPECS are already preregistering their research and noticed that awareness about scientific integrity issues is clearly present, especially among PhD candidates, in whose training integrity and ethics are mandatory elements. The committee encourages the Department to continue its efforts in developing and implementing the research integrity policy.

4.8. Diversity

The self-assessment report of DPECS considers diversity with regard to gender and age of the research staff. At DPECS the proportion of female full professors is 25% and the proportion of female associate professors 50%. Even though Faculty policy led to the creation of two extra full professor positions for female candidates at DPECS, the committee agrees that improvement of the gender balance of the research staff should receive the Institute's full attention. The University's targets for 2018, 20% female full professors and 35% female associate professors, may already have been met, but that should not prevent the Institute from aiming for a more equal gender balance and taking more measures to improve the flow-through of women to full professorships and management positions. The gender-balance at PhD level, where 87% of candidates are female, demonstrates that there is potential for change in the future. The underrepresentation of male PhD candidates also requires attention.

The committee thinks that the Institute's diversity with regard to cultural background could benefit from a more explicit policy, particularly given the multi-ethnic urban context of Rotterdam, and whether staff and students reflect this adequately. The recent appointment of a diversity officer at the Faculty level is a good step in the development of a more diverse research environment.

4.9. Conclusion and recommendations

DPECS at Erasmus University Rotterdam has well-reputed researchers whose scientific output and impact is very good. The committee advises to increase the focus on the research themes *From Lab to Society and Back* and *Erasmus Initiative Vital Cities and Citizens* and to encourage collaborations between research lines and internationally. DPECS has some very good results in terms of relevance to society, but – to more fully demonstrate the lab-society research theme - social partners could be more closely involved in the design of research projects. With regard to viability, the committee concludes that the DPECS has great potential for the future, especially when the balance direct and indirect funding is shifted a little.

4.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	very good
Relevance to society:	very good
Viability:	very good

5. RESEARCH REVIEW OF THE LEIDEN INSTITUTE OF PSYCHOLOGY OF LEIDEN UNIVERSITY

5.1. Introduction

The Institute of Psychology is one of five Institutes within the Faculty of Social and Behavioural Sciences at Leiden University. The Institute's mission is to *perform rigorous and innovative research into the neuro-cognitive and motivational underpinnings of human behaviour with practical implications for health, and economic and environmental decision-making*.

To facilitate the interchange between internationally competitive basic and translational science on the one hand, and targeted translation into actionable insights in various stakeholder domains on the other, the Institute has organized its research into six identifiable programmes:

- Action control;
- Social decision-making;
- Pathways through Adolescence;
- Stress and Psychopathology;
- Self-regulation and Health;
- Multivariate Analysis.

5.2. The strategy and targets of the research unit

To achieve its mission, the Institute aims to provide *excellent research infrastructures and experimental laboratories* for research from the molecular to the (inter)group level of analysis, to stimulate *cross-disciplinary work with high translational value*, and to organize research around *six viable units of basic and translational science* that, together, span the breadth of psychological science.

The organisational structure has a strong bottom-up orientation, with the Faculty management having a facilitating role in which good initiatives and research are well supported and fed with money. The research programmes are highly autonomous with individual budgets and a high degree of freedom. The strategy as observed by the committee is to appoint excellent researchers as programme leaders and subsequently provide them with freedom and independent decision making. This strategy has clearly worked. At the same time there is clear focus on quality, providing the right level of balance. The committee is very positive with respect to the explicit shift in focus from quantity to quality.

The Psychology Department is structured in the traditional way. The research groups are built on that structure, but the themes do invite interdisciplinary research. The impression given in the interview by the programme leaders and the scientific director convinced the committee that collaborative projects between the research lines are very successful. The research themes also allow for good balance in fundamental versus applied research.

As to collaborations within and outside the Faculty, the committee commends the Department for its collaboration with LUMC. In view of the research interests at the Psychology Department in clinical and neuroscience aspects of human functioning, reaching out to LUMC is in fact natural. Collaborations at University level are also present, for example through the Institute's embedding in two University wide Research Priority Areas. Evidence for collaboration with other departments within the Faculty is mixed. There are substantial cross-institute collaborations between Psychology and the Institute of Education and Child studies (e.g. joint grant acquisitions and joint publications), but collaboration with other intra-faculty departments (Political Science, Cultural Anthropology and Developmental Sociology) is limited. The committee understands that the latter is partly due to differences in the level of analysis and in the methodological approaches used, but it strongly recommends that the Institute should look proactively at potentially fruitful forms of collaboration with these other Departments.

While functioning well at the Department level, the bottom-up strategy makes it difficult to have an impact on the Board of the University with respect to funding decisions. It is the Faculty Board's decision to facilitate the workings of the Department of Psychology, without influencing directly the way research is developing. This makes it difficult for the Dean to be a strong representative towards the Board of the University. As an example, despite partial beta-funding (which is not seen at most Psychology Institutes) the amount of direct financial support does not depend on the number of students, nor is it corrected for inflation. This implies that a higher number of enrolling students does not generate more beta-funding. The fact that partial beta-funding is provided by the Board of the University is considered very positive by the committee, but the conditions and the amount could be further improved.

In addition to having excellent facilities for experimental and bio-neuro-psychological research, the Department is able to attract high quality and young talent, up to and including the professorial level. Like a number of other universities in the Netherlands, it is difficult to retain staff when it comes to offering tenure positions. The number of students is an important factor in the composition and amount of funding and there is no tenure track policy at Leiden University.

5.3. Research quality

The Department of Psychology has recognizable, well-structured, original and highly visible research programmes, all of which are methodologically versatile with a common thread being the use of neuroscience methods (e.g. fMRI). The programmes are highly autonomous and the organisational structure is closely intertwined with teaching. Within each research programme a number of staff members have been successful in attracting significant research funding from NWO and/or the ERC, creating an outstanding grant acquisition record.

Theme-based programmatic collaboration between the research programmes has been increasing in recent years, but there is room for further improvement in collaborations with some of the other departments within the Faculty. A sizeable portion of the research is conducted with partners outside the Faculty.

The research infrastructure is excellent, partly due to support through the partial beta-funding. The specific target to expand the programme for research and combine Psychology with translational science (with the medical centre) is impressive and will upgrade laboratory facilities even further.

Whereas both the success in attracting prestigious research grants and the reputation of leading researchers at Leiden are likewise excellent, the average scientific impact of research output does not surpass the very good level of Dutch Psychology. The fact that Leiden researchers publish in medical and neuroscience journals might have an impact on the citation scores. However, the committee expects that the shift away from a strong prior focus on quantity of publications is likely to further increase the impact of the research conducted at Leiden.

Although the committee could observe that many researchers have a great reputation, that strong dynamics exist between the research programme leaders and that overall the research quality at Leiden is very high, it could not identify a focussed research programme that further contributes to the Institute's visibility. The committee thinks that if the present heterogeneity in research as a result of the bottom-up approach could be guided towards a more coherent research programme, there is a lot of potential to become world leading over the full breadth of the Institute.

5.4. Relevance to society

The committee was very much impressed by the excellent relevance to society of the Institute. A deliberate strategy is in place, with a focus on the clinical facility. Convincing examples were given that corroborate the focus on contributing to society in the broadest sense. The awareness of the importance of societally relevant research is impressive, both among programme leaders and the

PhD candidates the committee interviewed. In the latter interview the topic came up 'naturally', which reflects the culture at the Institute in Leiden.

The goals of fundamental research are clearly combined with societal relevant research. To the committee it is clearly a *two-way* stream from academia to society and back. The translational work is supported by 'hard' indicators like several special chairs, Science-to-Practice Transfer and public-private partnerships. Relevant products include digital screening instruments, treatment manuals and tailored interventions. The committee was impressed by the reciprocal value-creation through public-private collaboration which results in innovative products and services for stakeholder organizations such as diagnostic tools and policy-reports to increase effectiveness and economic yield.

Public outreach is stimulated in various ways, e.g. by media and websites, lectures, interventions used by general public, open access science and best-selling books to inform general public on current research themes. Finally, the Institute provided an impressive list of grants for translational research, which shows the recognition of the work.

5.5. Viability

The Institute has grown substantially in recent years, attesting to an excellent viability. The financial insecurities resulting from volatility in the number of bachelor students is offset by the steady increase in number of master students and the consistently high level of success in acquiring external funding. The Institute is more reliant on grant-based funding than direct funding, but the excellent grant acquisition record is promising for stable future funding.

Staff qualifications are extremely high, researchers are successful in all career stages and the current hiring policy is impressive. There is a strategic investment in high quality researchers (young stars). The Institute is sometimes struggling to retain excellent researchers, because the system for promotion to associate professor and full professor is poorly developed. The committee strongly recommends to the Faculty and University not to let this hamper the bright future of the Institute. It would be advisable to develop a strategy to reward and retain young, talented researchers.

As the result of investments the research infrastructure is excellent and it will likely ensure at least a continuation of the very high level of research quality in the years to come. The excellent relationship with LUMC contributes to the quality and solidity of the Institute. According to the committee, the arrangements with respect to access to scanning time are very good. It strongly recommends to also secure this in the future.

As discussed during the visit the Institute itself seems to worry somewhat about financial restraints. In principal, the partial beta funding from the University is very positive and Leiden is one of the few universities that provides this more appropriate funding for a Psychology programme. However, it is a fixed amount and an increase in student numbers is not reflected in an increase of the beta funding. The committee agrees that attracting students to the educational programmes should be rewarded, specifically since it increases the costs for running the programmes.

Despite the fact that the committee agrees that minor issues should be taken care of, it is of the opinion that the Institute has extremely good researchers, both junior and senior, an impressive track record on external funding and excellent facilities. In the past review period, Leiden managed to build a very good and solid Institute, and have a convincing policy and strategy for the future. Therefore, the committee concludes that the Institute has an excellent future that should be strongly supported by the Faculty and University.

5.6. PhD training

Before starting their project, PhD candidates at Leiden University describe their project in a research plan, an outline of the methodological approach, a training and development plan and a data management/storage protocol. Leiden PhD candidates are relatively free to design their own research

project, as long as they discuss this with their supervisors and work within the boundaries set by the project or research group. They compose an individualised training curriculum for themselves by choosing generic courses at their local graduate school, the Leiden Graduate School of Social Sciences, and more specific and content–related courses at the national research schools. The committee had the overall impression that the PhD training programme is effective and well organised and appreciates the close involvement of the PhD candidates in the national research schools.

The committee noted that the generic courses at the local Graduate School foster a sense of community among the PhD candidates. With respect to career orientation, candidates said that they benefit from the University's career counselling, courses at the local Graduate School and the social sciences PhD platform that was started recently. The committee understood that PhD candidates feel well embedded in their Departments, meet regularly with their supervisor(s) to discuss their progress and feel comfortable to contact them at all times. Although PhD candidates are happy with their supervision, the committee feels that the duration and completion rates might benefit from a stricter progression monitoring system.

The committee was struck by the candidates' awareness of the importance of the societal relevance of their work and the enthusiasm they expressed about this. It concludes that the Institute's mission to carry out strong translational science that benefits society is part of the research culture in Leiden at all levels.

5.7. Research integrity policy

The Psychology Institute at Leiden University complies with the APA Ethics Code, the Netherlands Code of Conduct for Scientific Practice (VSNU) and the University's Research Data Management Regulations. Committees that safeguard academic integrity and ethics are in place at the University and Institute level. The committee noticed that discussions about reproducibility of research results had a clear effect on the daily research practice at the Psychology Institute at Leiden University. PhD candidates take a compulsory data management course and the committee noted that scientific integrity is clearly already a part of the research culture at PhD level. The committee appreciates the researchers' efforts with regard to the use of preregistration and data management plans and gladly noticed that the current generation of young researchers is really pushing innovations in this realm.

5.8. Diversity

The Psychology Institute at Leiden University applies the University's policy with regard to diversity, which encompasses ethnicity, gender, sexual orientation, health, religion, age and socio-economic background. The committee values the University's policy and measures with regard to inclusion, such as the creation of a diversity office in 2014, and encourages the Institute to actively pursue the same mission. The committee agrees that the age balance from PhD to full professor level at the Institute is healthy. With 30% female full professors, the Institute scores better than Leiden University as a whole (23%) and Dutch universities in general (17%) with regard to gender diversity, but there is still some room for improvement.

5.9. Conclusion and recommendations

The Institute of Psychology at Leiden University has well-structured and original research programmes, excellent researchers and an outstanding grant acquisition record. The collaborations between the different research programs and the medical Faculty are intensive and fruitful. At present, the scientific impact of the research output is very good. The committee recommends to invest in increasing coherence in the research programme in order to make it more visible. The balance between fundamental versus applied research is excellent and the committee was impressed by the two-way stream between researchers and societal partners and the products that were developed in these collaborations.

5.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	very good
Relevance to society:	excellent
Viability:	excellent

6. RESEARCH REVIEW OF THE DEPARTMENT OF PSYCHOLOGY OF THE OPEN UNIVERSITY OF THE NETHERLANDS

6.1. Introduction

The Department of Psychology in the Faculty of Psychology and Educational Sciences (P&OW) at the Open University (OU) consists of four sections linked to major Psychology domains and one section on psychological research methods and statistics:

- Clinical Psychology;
- Health Psychology;
- Work and Organisational Psychology;
- Lifespan Psychology;
- Methods & Statistics.

The history of research in Psychology at the OU is still very young. Until 2008 the central mission of the OU was focussed on distance education and innovation of (distance) education. Research in Psychology has only been developed in recent years and has expanded substantially over the past review period.

In 2010 the first research programme was developed, termed *The interaction between Implicit and Explicit Strategies for Behaviour.* The research mission was to develop a relevant and viable research group that produces high quality research, with significant (inter)national impact, both scientific as well as societal.

Although the research in Psychology at the OU should be evaluated using the same criteria as other research units, the committee considers OU to be a specific case. The primary focus of the OU lies on education and it relies heavily on distance and e-based teaching and learning. Whereas other universities have a long history of research, this is not the case for the OU. Moreover research time for the staff is limited to 30% (even only 20% in the first years of the review period). OU's special features should be taken into consideration in evaluating the current position and in making recommendations. The committee was pleased with the self-evaluation report, which was experienced as fresh, enthusiastic and ambitious. The OU has taken a brave step in joining the present nationwide review exercise.

6.2. The strategy and targets of the research unit

The research programme is designed to stimulate research in concordance with the domain specific focus of Psychology research in the world, the needs of society and its members, and the expertise of the Department's staff. The research programme is operationalised within the four research lines that are linked with the four specializations in the master programme.

Research-eligible staff went from 20% to 30% research time, and the intention is to grow to 40%. This is very ambitious given the large educational tasks of the staff. The committee is of the opinion that this cannot be accomplished by more efficiency, which is what was done to get to 30%. The University should (financially) support the Department of Psychology in order for this ambition being realistic.

The management of the research in Psychology is straightforward and seems to function well, as does the interaction with section heads. The publication strategy over the past period was focussed on quantity as well as on quality. This seems a wise strategy for a developing research Institute and the committee agrees with the current shift towards more focus on quality.

The committee was somewhat surprised by the research theme at OU, *the interaction between implicit and explicit strategies for behavior*, which seems not to be focussed on the strengths within the research, nor the unique position of the OU. The OU adopted this general theme for its research

and although it applies to the work that is done and is a useful and broad theme, the committee would suggest to adopt a second theme in order to open up a new domain which already exists under the umbrella Cyber Psychology, and can be applied in the various existing domains. The existing theme of implicit and explicit strategies on the one hand and Cyber Psychology on the other hand may also be crossed, resulting in a number of domains that have the potential to develop innovative research. Content wise OU wants to develop its research along the same lines as its four educational tracks, resulting in the four sections. At the same time it wants to organize its research under one theme. This very broad umbrella theme about implicit and explicit strategies for behaviour covers a major part of the field of Psychology and does not allow for a strong common focus. Given the more applied nature of the educational programmes and given the fact that the students mostly hold jobs in an applied context, it is highly recommended that the OU concentrates its future research efforts on applied issues. Methodologically, there is a strong expertise in distance and e-learning and e-communication. OU should not hesitate to capitalize even more than now on relying on this expertise in its research. In addition, the psychological processes involved in e-learning and e-interaction itself are worthwhile topics of research. In the domain of methodology research, the emerging field of 'Big Data' seems a natural OU niche.

The most important recommendation by the committee is that OU should focus on its unique position in research and define a unique profile rather than trying to become like other Dutch universities. The research in Psychology at OU was only recently developed, the Institute is small and research time is limited. Therefore the OU should specifically focus on its strengths.

6.3. Research quality

The committee is of the opinion that the OU is clearly still in the process of building a research programme and is conducting research of good quality, especially given the limited time available for research. The committee would like to emphasise once more that the brief existence of the research programme and the unique position of the OU with respect to research and education makes it difficult to review the work in a comparable way to the other research units. The Methods & Statistics section is a supporting unit of the disciplinary research domains and collaborations between this section and the four Psychology sections has resulted in high quality output.

The publication strategy in the period of this review seems to have been focussed on quantity, the research staff producing an exceptionally high number of papers per FTE. In the self-evaluation report a move from quantity to quality is suggested. This seems certainly warranted and is in line with the national trend. The key publications demonstrate to the committee that there is capacity to realize high impact publications. The citation scores are just above world average and support the potential of the OU.

There are some nice examples of invited lectures at international conferences, peer-reviewed comprehensive books with internationally recognized publishers and memberships of editorial boards, which indicate the impact and international recognition of OU's Psychology research.

Most external funding is obtained from applied organizations rather than from NWO. This is understandable given the status and focus of the research. Nevertheless, OU should attempt to also get access to more traditional lines of University research funding. It might manage to do so by highlighting the unique contribution of e-approaches to research questions in general, to developing behavioural intervention methods etc. The OU did not yet manage to obtain international research grants (ERC), but it is in the process of obtaining European funding in collaborative projects. In general, formulating OU's unique selling points in research themes more prominently may ameliorate fostering fruitful collaborations with other research institutions.

6.4. Relevance to society

During the interviews of the site visit and in the self-evaluation report a number of interesting examples were given of societal relevance of OU's Psychology research and of the effect of the work. A significant amount of the societal relevance is linked to socially relevant PhD projects. The e-health

interventions are of very good quality and fit nicely with the educational mission of the University. However, within the unique OU position on distance learning and e-health applications, there is room for improvement. Efforts in these directions should be intensified. There is certainly a lot of potential, but the volume of products that are relevant to society is still limited and as a result also impact is limited as well. In addition, the committee considers that more coherence is in order. At present not all examples of socially relevant research projects are in line with the OU goals and strategy. Taking into consideration the limited research time and small size of the staff, focus is required.

6.5. Viability

The OU has a unique position in the Dutch landscape. One element that contributes to this is their experience with and integration of digital technology, in particular the domain of eLearning. If capitalized on properly, this might put the OU at the forefront not only of eEducation, but also of eResearch. The researchers have access to lab facilities with up-to-date equipment, although the range of equipment is limited.

The research staff is limited, both in terms of FTE volume as well as time allocated to research activities (30%). What the research staff has accomplished is therefore all the more impressive. However, the small scale of the unit also implies vulnerabilities, such as disruptions due to staff turnover. Hence, increasing research volume would provide more stability.

Despite impressive accomplishments, much can still be done like formulating a more focussed mission statement and stressing the unique position of the OU. Also adopting a more comprehensive e-Identity and more extensive national and international collaborations and engaging with national research schools are topics that require attention. Specifically providing support for grant applications is required. At the moment this system is not in place, nor did the committee see a clear policy. With the 30% research time, support in the application trajectory is extremely important.

The recent merger with the Centre of Learning Sciences and Technologies and Research Centre for Teacher Professionalization offers new opportunities for collaboration and research within Psychology. Collaborations are starting to take place, but it is still early in the process and it is not yet clear how these will develop.

In concluding, the committee is of the opinion that the OU should think of a unique selling point that is in line with its unique educational mission. The psychological research could and should be geared towards the OU's mission "distance learning university using online media education". Some of the current research lines are similar to research lines at other Dutch universities, which have more resources and qualified staff members to conduct the research. The committee observes great opportunities for more research on Educational Psychology (adult education), the Psychology of distance communication and learning, the use of digital media, Big Data and apps.

6.6. PhD training

All PhD candidates at Open University, both internal and external, are a member of the local Graduate School that was established in 2010, which is not organized at Faculty but at OU level. The PhD training programme consists of courses in academic writing and presenting in English, qualitative and quantitative data analysis and writing and publishing in a scientific context. In addition, the Graduate School organises yearly PhD days with lectures and workshops on themes such as research integrity, career planning, project-management and knowledge transfer (valorisation). Candidates receive a budget of €5000, to be spent on additional specialised training and attending conferences.

The committee appreciates the OU's efforts and accomplishments in starting up the Graduate School from scratch since 2010. The committee noted a clear sense of community among the OU PhD candidates, in spite of the diversity in the types of PhD projects and arrangements. At present, because the PhD education provided by the Graduate School primarily encompasses generic skills courses, the committee thinks that the OU PhD candidates could benefit from the more field specific content courses that are organized by the national research schools in Psychology. The committee

therefore encourages the Institute to reach out to the national research schools, also because widening the horizon to other research environments and having the opportunity to present work in other contexts will be inspiring and instructive, and may stimulate communications with other institutions. This would particularly benefit the external PhD candidates at OU, who work in a slightly more isolated research environment than their 'internal' colleagues.

At the beginning of their trajectory, all PhD candidates at OU describe their project and a detailed schooling and supervision plan, which has to be approved by their (co)promotors. The committee has seen that the Graduate School has a well-developed supervision and monitoring system in which both internal and external candidates have regular evaluations and official assessments, on which go/no-go decisions are based. The committee is under the impression that the PhD candidates at the OU are satisfied with their supervision, the accessibility of their promotors and the overall atmosphere at OU, but noted that future career orientation could be offered more pro-actively.

6.7. Research integrity policy

OU has committees on research integrity and research ethics, in which the Psychology Department is represented, as well as an official confidential counsellor for research integrity a position held by a Psychology professor until 2015). Although these committees, procedures and instruments and the overall policy with regard to research integrity are in place, the committee noticed that on staff level, reflection on integrity issues and practices such as preregistration are not yet an integrated part of the everyday research culture. The committee therefore encourages the Institute to continue its efforts in communicating and educating the research staff with regard to scientific integrity policy and practices. Particularly external PhD candidates, who often work in a somewhat more isolated position, deserve special attention in this respect.

6.8. Diversity

The self-assessment of the Open University's Psychology Institute considers diversity in terms of gender, age and nationality. The gender division at OU's Psychology Department differs from that of other universities: women are well represented in higher management positions and at full professor-level, but the majority of associate professors is male. At PhD level, the majority of PhD candidates is female. The scientific staff is rather homogeneous in terms of ethnicity and cultural background, which is partly related to the fact that the educational programmes are in Dutch. The committee noticed that awareness about diversity is present at OU and is confident that policy and measures are in place to maintain a balance.

6.9. Conclusion and recommendations

The Department of Psychology at the Open University has had a successful start as a research unit; several high impact publications, citation scores and other marks of recognition indicate the performance, impact and international recognition of OU's Psychology research. In addition, a PhD training programme and scientific integrity protocols are developed. The committee recommends to define a more unique research profile, building on OU's strong expertise in distance and e-learning and e-communication, and to explore connected research themes such as the Psychology of distance communication and learning, Cyber Psychology, the use of digital media, Big Data and apps. By strengthening their research profile, the Institute can increase its chances of success in grant acquisition and inspire collaborations with societal partners.

6.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	good
Relevance to society:	good
Viability:	good

7. RESEARCH REVIEW OF THE PSYCHOLOGY RESEARCH INSTITUTE OF THE UNIVERSITY OF AMSTERDAM

7.1. Introduction

The Department of Psychology is one of four within the Faculty of Social and Behavioral Sciences (FMG) of the University of Amsterdam. The Department of Psychology consists of a College (offering a bachelor programme in Psychology), a Graduate School (offering two master programmes, a research master programme and PhD training) and the Research Institute Psychology Amsterdam (RIPA). The general mission of the Institute is to conduct high quality fundamental and applied research. The Institute is the home of six research groups that are largely defined by the classic fields in Psychology:

- Brain and cognition;
- Clinical Psychology;
- Developmental Psychology;
- Social Psychology;
- Psychological methods;
- Work and Organizational Psychology.

7.2. The strategy and targets of the research unit

The strategy of RIPA involves a strong orientation towards a quantitative empirical approach to major themes in Psychology. The Institute characterizes its goal as striving towards gaining insight in cognitive and affective, as well as behavioural and brain processes, underlying normal and abnormal human behaviour. It centres on fundamental questions in Psychology and in addition there is increased attention in all research programmes to address questions in applied contexts.

The management described itself as autonomous, which has its history in the fact that Psychology used to be a separate Faculty. To the committee it is clear that the Institute is indeed operating in a very autonomous way, amongst others evidenced by the fact that the Dean was not present during the site visit. Apparently the Faculty Board holds the view that the Department and its research groups can be granted full autonomy as long as they are successful. Within the context of the University of Amsterdam this approach seems to work well. It was clear to the committee that in this autonomous Institute the research director functions as the key unifying factor. The Institute's autonomy does however not lead to isolation from the management of the Faculty as a whole. One of the Board members of the Institute (director of the Graduate School) is vice-dean. In addition, all board members have regular meetings with the dean and with other directors within the Faculty in which they discuss Faculty policies. The committee views this interaction between the Institute and the Faculty as crucial, because the dean - more so than the Institute's Board itself – is best placed to have impact at the University level to foster a long term strategy securing a stable financial situation for the Institute. The University of Amsterdam allocation model without clear predictability and consistency, and with matching overhead for grants makes it exceptionally difficult to stabilize finances and offer tenured positions. If not dealt with in a careful manner by Institute, Faculty and University, researchers might become discouraged to try and obtain grants.

The strategy with respect to research can be described as fundamental with an eye for application. The division of labour was clearly communicated; some staff members focus more strongly on fundamental research, while others also look at applications. The research groups are sufficiently large to afford this and as long as the quality of the work is excellent, research groups have freedom and independence. In the organisational structure this seems to work very well. With respect to the interdisciplinary research the strong independence of the groups may, however, be less conducive. Bottom-up initiatives occur and some very nice examples of interdisciplinary research were mentioned in the interviews, but no supporting strategy was observed, leading to the conclusion that collaboration between research groups with focus on interdisciplinary research could be improved. Taking the quality and size of the research groups into consideration, the Institute might choose not

to consider this aspect a priority. However, if the Institute considers this interdisciplinary approach an explicit target, then a strategy is required.

Notwithstanding the points of attention, the committee observed an Institute with six integrated research groups and with a main goal to promote a good, inspiring atmosphere. The building and facilities promote integration and functioning. The committee is positive about the current strategy to produce less papers, but to focus on higher quality publications.

7.3. Research quality

The psychological research is organized within RIPA and has a wide coverage of psychological fields with excellent quality in almost all of them, instead of focussing on one field. The interview with research group leaders confirmed the collective and individual quality. Within the research priority areas of the University, psychological research is connected to other disciplines with a wide spectrum. The Institute has a particularly well-known Psychological Methods group with a network approach to psychometrics and using Bayesian methods to compare models. The development of research methodology and novel theorizing with formal models is innovative; for instance, viewing psychological constructs as complex networks rather than as latent variables is much needed among peers, as well as restructuring the fragmented field of cognitive modelling.

The committee was impressed by the focus on high quality of research. The bibliometric indicators show a good balance between quantity and quality of the research. The publications are of excellent quality with an impressive MNCS and very high percentage of papers in the top 10%. The high citation score on publications with authors from within the Institute furthermore shows that the quality is not dependent on the inclusion of international partners.

Success in grant applications at national and international level is also excellent, including several ERC Starting, Advanced and Consolidator Grants, several NWO research talent, VENI, VIDI and VICI grants. The absence of success on Horizon 2020 calls was self-identified as a weakness in the SWOT, and consideration is given to repairing this. In addition to the quantitative results, RIPA received many rewards and scientific recognitions over the period of the review.

Concluding, the quality of the research is impressive at all levels and can be considered world-class.

7.4. Relevance to society

Despite the focus on fundamental research, the Institute provides impressive evidence of societal relevance for each research group. Policy was developed and there is clear and convincing focus on outreach and impact in combination with fundamental research, rather than merely a focus on the publication of papers. There is a long list of impressive examples, for instance JASP and Math Garden, work on radicalization, autism and work on employment sustainability, funded by the City Council. The work of RIPA also has major impact in nationally significant organizations (e.g. CITO, SER, and UWV).

The Institute has six special chairs liaised with major organizations and is doing very well in developing a two-way stream in which society is included not only in dissemination of results, but actually has a role in the initiation of research projects.

Due to the size of the Institute and the six research groups RIPA is able to focus both on fundamental research and societal relevant research. Although the strategy to conduct fundamental research with an eye for application is not accompanied by an explicit policy, the excellent quality of the research naturally flows towards society and many convincing products are observed. Perhaps the policy can best be described as societal relevance being a group effort and not an individual task, which clearly takes pressure of the individual researcher to continuously perform at all levels.

In conclusion, the Institute has paid attention to a good balance between fundamental and applied research. Due to the large size of the Institute it manages to achieve excellent results at both levels.

7.5. Viability

The committee discussed in depth the viability of the Institute. It has some concerns with respect to the financial stability of the autonomous Institute in relation to the Faculty and University. In the previous assessment, obtaining many and large grants as a Department was being "punished" as the Department was responsible for financing overheads. This issue is partly solved by matched funding of overhead by the University with respect to competitive research grants. Third stream funding remains an issue and it seems that the model chosen does not work optimally anymore due to the success of the Institute, since matching in this category is weighing heavily on direct funding.

While the predictability of budget planning is a point of attention, this does not impact the overall viability. The Institute is able to recruit excellent staff and maintain its excellent outputs, in spite of a relatively high administrative load. The committee is convinced that the limited support from the Dean and possibly somewhat reduced access to the Board of the University does not impede RIPA to have an excellent viability. The Institute is clearly well equipped for the future with its excellent quality staff, strategy and organization in which both fundamental research and applied work are well represented.

It is difficult for RIPA to offer tenured positions (or tenure track positions) to young, talented researchers on a structural basis. However, there are some opportunities for giving tenure and the quality and strong earning potential in the Institute puts it in the luxurious position to be able to attract excellent researchers. Very positive in this respect is the breadth of research in RIPA and the fact that it is successful in most areas.

Finally, the committee is very positive with respect to promotion criteria. In addition to output and successful grant application, good citizenship, such as involvement in RIPA projects and contributions in meetings, is taken into account. Promotions are competitive, which in this case is unavoidable, but not detrimental to the organization Combined with the excellent facilities, the very good atmosphere and the highly qualified staff, the Institute seems excellently prepared for the future.

7.6. PhD training

PhD candidates at University of Amsterdam can choose to compose their own individualised training programme with their supervisors, or they can follow an educational trajectory at one of the national research schools. The majority opts for the latter. In addition, all PhD candidates take a mandatory teaching course at the local Graduate School, which enables them to efficiently co-supervise bachelor and master students. Other than this course, the role of the local Graduate School in PhD training is limited, but the Institute compensates for this by organizing non-mandatory workshops for PhD's on efficient planning, dealing with stress and time pressure, balance in work and private life and asking for and dealing with feedback. The committee advises the Institute to investigate whether the individual PhD candidates take sufficient general skills courses. The PhD candidates were happy with their training, but the committee feels that the sense of community among PhD candidates and the interaction between candidates of different groups can be improved, for instance by introducing a mandatory PhD course about scientific integrity in the curriculum of the Graduate School. The PhD's mentioned that the opportunities of the new building and the Crossing Borders Festival organised by the Department of Psychology contributed to the interaction between researchers and the sense of community.

The PhD candidates that the committee interviewed were happy with their supervision, which seems to be well-organized by the Institute. All candidates have to describe their education in a plan at the beginning of their project. In addition, the supervisors have to write a supervision plan together with their PhD, update it every year and report about their candidates' progress in a report. The progress of each candidate is monitored by the research Institute. Although the committee heard some valid reasons for delays, desired and undesired, and extension of contracts, it feels that the PhD duration and completion rates show room for improvement. It should be noted that some students combine their PhD with clinical training on site, which in the eyes of the committee is rightly encouraged by the Institute. The committee was pleased to notice that the rather long duration of the PhD projects

does not affect the candidates' career prospects: 73% of former University of Amsterdam PhD's become assistant professors, reflecting the quality of the research Institute.

7.7. Research integrity policy

The Psychology Methods group at University of Amsterdam is on the forefront researching scientific practice in Psychology as well as developing guidelines and practices with regard to data sharing and preregistration to avoid questionable research practices. The Institute has an integrity policy, an ethical committee and a data storage coordinator who can support staff in implementing the data storage protocol. In addition, a number of measures were taken to make staff aware of integrity issues, such as disseminating a behavioural code, organising discussions and a lecture series as well as training master and PhD candidates and promoting pre-registration. The committee appreciates the Institute's efforts with regard to improving scientific integrity and stimulates them to take a step further towards complete implementation, perhaps by moving from raising awareness, promoting and supporting to making best practices mandatory.

7.8. Diversity

The self-assessment of the Psychology Institute at University of Amsterdam considers diversity in terms of gender and ethnic background. At present, women are still somewhat underrepresented at full professor level and – although less so – at the associate professor level, but there were clear improvements in the last years. The committee was glad to see that the Institute was self-aware about this and that measures are taken to further promote the participation of women at professorial level. The ethnic diversity of the Institute's research staff demonstrates room for improvement, as the Institute is well aware. The committee agrees that the inclusion of researchers from minority groups in the Netherlands is a long-term ambition that requires a long-term University policy. The committee thinks that the creation of a new track in Cultural Psychology is an original and inspiring step towards that long-term aim and agrees that it may attract a new group of students with a more diverse ethnic background, who may become the next generation of professors in Psychology at University of Amsterdam.

7.9. Conclusion and recommendations

The Research Institute Psychology Amsterdam (RIPA) at the University of Amsterdam has a strong focus on high quality research, very good research output and citation scores and great success in grant applications on national and international level. The quality of the research is high across all research groups, but collaboration between research groups and focus on interdisciplinary research could benefit from a more explicit strategy. The societal relevance of the research at the Institute is excellent; there is clearly a two-way stream between researchers and society. The committee is positive about the Institute's viability, but emphasises that financial stability and predictability are needed to maintain it in the future.

7.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	excellent
Relevance to society:	excellent
Viability:	excellent

8. RESEARCH REVIEW OF THE HEYMANS INSTITUTE FOR PSYCHOLOGICAL RESEARCH OF THE UNIVERSITY OF GRONINGEN

8.1. Introduction

The Heymans Institute for Psychological Research (HI) was founded to integrate and strengthen psychological research within the Department of Psychology at the University of Groningen (UG). The mission is to conduct ground breaking and impactful research in the main fields of Psychology, with a special focus on collaborative projects. The Department of Psychology is part of the Faculty of Behavioral and Social Sciences (BSS) which also includes two other Departments. Researchers have expertise in a wide variety of subjects, and are member of one of the 9 *expertise groups*:

- Clinical Psychology and Experimental Psychopathology
- Clinical Neuropsychology
- Developmental Psychology
- Experimental Psychology
- Social Psychology
- Organizational Psychology
- Environmental Psychology
- Psychometric and Statistics
- Theory and History of Psychology

8.2. The strategy and targets of the research unit

The collaboration in projects as mentioned in the mission of HI includes the different areas of Psychology working together, interdisciplinary research and cooperation with non-academic partners. Collaborations between the 9 expertise groups are stimulated, e.g. by collaboration grants leading to faculty and PhD positions being created that connect different expertise groups on specific themes. HI furthermore actively participates in three priority areas of research at the University of Groningen, which are sustainable society, healthy aging and energy.

Specific targets for the past period were to secure the viability of all nine expertise groups of HI and to encourage collaborations within HI, with other faculties of UG and with other organizations. For the next decade the specific targets are: 1) high quality staff in all 9 expertise groups; 2) a substantial number of collaborations between the 9 expertise groups; and 3) a substantial number of research projects with academic and non-academic partners.

The committee has discussed the strategy and current situation of HI. With the 9 expertise groups the Institute is geared towards having a broad representation in the psychological field rather than a focus on specific areas or research fields. Taking the geographical location of UG into consideration, having a broad focus seems appropriate. Also, throughout the interviews during the site visit, the committee had the impression that HI is satisfied with the current structure of the Institute. At the same time it is of the opinion that by not focussing but rather spreading resources over a large number of psychological disciplines renders it difficult, if not impossible, to excel in all expertise groups.

There is strong focus on collaborations between the nine expertise groups, which is also facilitated and stimulated at Faculty level. Despite the existence of the many and relatively small groups, staff are free to move to other research areas and collaborate across expertise groups. The committee clearly observed synergy, documented by convincing examples of collaboration. This neutralized the initial doubts of the committee whether the structure of the Institute allowed for adequate collaborative projects.

From the site visit it became clear that the Institute and director of research have a high level of autonomy. At Faculty level a more facilitating approach is taken, while the initiatives on strategy and management are organised at the level of the Institute. The strategy and targets for the upcoming decade are clear, straightforward and supported by the management and staff of the Institute. The committee considers them appropriate and in line with the recently reformulated mission. At the same time the committee feels that moving away from the present bottom up collaborations towards more planned and structural collaborations between the different areas and disciplines will require a lot of energy and should be a constant point of attention for the management of the Institute.

In the period of the review staff numbers have been going down, because UG expected a reduction in enrolling bachelor and master students. Like many other universities in the Netherlands, direct funding for HI is strongly dependent on the number of students. The committee learned that the number of enrolling students is now stabilizing and currently new staff are being hired.

The level of direct funding is relatively high in relation to funding from grant applications. Although in recent past measures were taken to increase research grant capture and some positive effects are already observed, the committee noticed that the management had a slightly different view on this topic than the programme leaders. While the management clearly saw the need to attract more funding, programme leaders seemed to be satisfied with the past performance on attracting indirect funding. The committee understands of course that in general success rates are low and that even very good proposals are not always rewarded. Nevertheless, the committee maintains that the balance between first, second and third stream funding is very important for the stability of HI, especially since the Board of UG is considering conditional direct funding. The fact that HI is not focussing on a specific research topic might be a hurdle in the grant application strategy, since many research collaborations on different topics dilute manpower to write excellent proposals. The fact that the teaching load is very high across the Institute is adding to this problem. Nevertheless, the committee is convinced that with a clear and focussed strategy on grant applications, the high quality of research in the Institute and the fact that the Institute is now hiring new staff, an increase in grant application success is feasible.

8.3. Research quality

Compared to international standards the quality of psychological research in the Netherlands is very good, and the HI in Groningen is not an exception. All nine expertise groups conduct high-quality, original and innovative research, with the expertise groups on Environmental Psychology and on Theory and History of Psychology having unique positions in the landscape of Dutch Psychology. There is a separate expertise group on Psychometrics and Statistics within the Institute and researchers from other groups clearly benefit from the methods and techniques that are developed in this group. Although researchers within this group have not been at the forefront of taking initiatives to avoid questionable research practices and to promote responsible research practices, the group clearly contributes to a better use of statistics and psychometrics in the field, for example, by evaluating the use of existing methods in practice, by developing new methods and to show their use in practice, and through the extensive collaborations with other researchers in, for example, Psychology, Education, and Medicine.

The HI organizes its research in a comprehensive Department of Psychology, which facilitates cross-fertilization between teaching and research. There are some excellent publications, but the overall contribution to the field is relatively heterogeneous. The Institute participates in three priority areas of UG, indicating success in collaborating with other Departments and Faculties. Collaboration across the nine expertise groups is facilitated, some synergy is observed and a number of nice examples were given. However, if the Institute wants to carry out its research programme in which it aims to *study human behavior from the biological to the societal level*, it should put in additional effort.

The tenure track programme is an important tool for Groningen to attract young, talented researchers. Overall the academic reputation of the researchers is very good, with some of them outstanding. Many researchers have been editors of key journals in Psychology. Bibliometric

indicators show that impact of the publications is very good, again with some high performers. The committee observed that the quality across the Institute is very good, but with heterogeneity between groups and researchers. There is a relatively restricted number of personal grants obtained on the national and European level.

8.4. Relevance to society

The research conducted within HI has very high relevance to society. The dissemination and valorisation of results is clearly a part of the strategic efforts. The five narratives listed in the self-evaluation report were very convincing in this respect. The committee observed a clear focus within the Institute towards societal relevance and from the interviews it became clear that this also involves responding to questions from society in the development of research projects.

The Institute is involved in three priority areas of research at UG, which are sustainable society, healthy aging and energy, which have an obvious societal relevance. The active participation of HI in these areas underwrites the societal relevant aspects of the research. However, if the Institute wants to push its research programme of *studying human behavior from the biological to the societal level*, more resources should be redirected to this goal.

Researchers from the Institute increasingly collaborate with non-academic partners in many fields, for example the adaptive learning method based on computational cognition models in which learning is adapted to the student's own capacities. The committee considers that continuing to strengthen the interrelation between research and societal relevance will further strengthen the Institute.

8.5. Viability

The organisational structure is solid and the Institute is well-embedded within the Faculty and University. The nine expertise groups cover the broad range of research within Psychology, which makes it possible to flexibly adapt to new research challenges and societal demands. The nine groups can form new alliances and organize collaborations across the expertise groups, depending on the research questions and demands at stake.

At the start of the past evaluation period, student numbers were decreasing and a conservative strategy regarding recruitment of new staff members followed. The stabilization of student enrolment and opening of nine new tenure track positions shows the viability and resilience of the Institute. There is a risk that student numbers may decline again in the near future, but measures are taken to counter this (e.g. international programmes and not having numerus fixus). Furthermore, the committee noticed that the number of PhD candidates has reduced over the past review period. In addition the SWOT analysis states the threat that the introduction of bursary PhD candidates might lead to missing out on the most talented students. For a viable future, it is important to keep up the number and quality of PhD candidates.

The Institute depends to a large extent on direct funding, which - in addition to not having been able to attract large international grants in the past and the possibility that student numbers may decline - makes it vulnerable, partly also because the Board of UG is considering conditional funding. The committee was pleased to notice that measures have been taken and already in 2016 there is a change in the right direction (60% direct funding) that was facilitated by the management, for example the acquisition of a gravitation grant in 2017.

The committee concludes that the performance indicators show that HI overall has been doing very good research. However, if the HI is to achieve the ambitious goals it sets for the next decade, it should invest a lot of energy in truly moving away from merely maintaining the current status-quo. For the near future and under current circumstances HI has sufficient expertise, quality and resources to continue doing very good research. However, in a competitive research environment like the Netherlands, more than continuing at the current level is required to remain competitive. As an example, HI makes the deliberate choice not to focus, but continues to be inclusive. This is a fair and valid decision considering the unique location of Groningen in the Netherlands. However, the

committee would have expected HI to use this broadness as a niche or unique selling point, for instance by supporting highly visible interdisciplinary projects.

The committee considers that the Institute is well equipped for the future, but its strategic decisions remain somewhat uncertain. The committee does not consider itself in the position to provide explicit recommendations with respect to the direction, or unique selling point for HI in order to head for a bright future. However, it has observed a number of indicator points for HI to profile itself. These are the geographical location of the University in the Netherlands, the potential to conduct societally relevant, high quality research or the orientation on inclusiveness. In the interviews the committee observed a positive atmosphere in the Institute, which is an excellent basis to start planning the future achievements.

8.6. PhD training

The majority of PhD candidates at the Heymans Institute is member of the Graduate School of Behavioural and Social Sciences of the Faculty. The candidates take a course in scientific integrity at the local Graduate School (mandatory since 2016). They can enrol in the school's research master courses and the University's general skills courses, but they receive the core of their PhD training at one of the national research schools. However, according to the self-evaluation report, 9% of the candidates are not members of one of the national schools and compose their own individualised program, using their €1000 per year budget, because their research topics fall outside the scope of the national research schools. The committee thinks that 9% is a rather high percentage, and encourages the Graduate School to ensure that the PhD candidates who are not in a national school receive sufficient content-related and specialised skills training. If candidates report any shortcomings in their individualised training programmes, the Graduate School could consider developing and offering courses that cover these topics themselves, or in collaboration with other universities.

All PhD candidates specify their education and supervision agreements, made in consultation with their supervisors, in a Training and Supervision Plan (TSP), which has to be approved by the supervisors (at least 2) and the director of the Heymans Institute. Candidates have progress meetings with their supervisors 6 and 9 months after the start of their project and later every year. The reports of these meetings have to be signed by the research director of the Heymans Institute. The committee stimulates the Graduate School to take more initiatives with regard to its training programme for PhD candidates, and also thinks that the duration and completion rates could benefit from a more pro-active policy on the part of the Graduate School. The recent initiative of the PhD candidate counsellor to monitor progress more closely is a good start that should be followed up and continued by the Graduate School.

8.7. Research integrity policy

The Heymans Institute adheres to the national code of conduct for scientific practice and the University's Regulations for the Protection of Academic Integrity. At University level, an Academic Integrity Committee and a Medical Ethical Committee are in place and the Institute has its own Ethical Committee Psychology. The Heymans Institute has its own very detailed and specific data storage protocol, which states that all researchers, from bachelor students to professors, are required to store their research data according to the same rules. The committee was impressed when they noticed during the site visit that all researchers were well informed about the data storage protocol and did not consider it an administrative burden.

8.8. Diversity

The Heymans Institute aims for a diverse international research environment, in which staff of all ages, gender and nationalities feel included. The Institute hires both Dutch and foreign researchers who can teach in the English bachelor and master programmes in Psychology. As a result, currently 26% of all research staff is not Dutch and 38% of all PhD candidates has a foreign nationality. Information about cultural background and ethnicity of staff was not provided. The age diversity of the research staff is well balanced.

Gender diversity of senior research staff has improved over the last years: there are now more female associate professors than male (63%) and women are well represented on management level, but they are still underrepresented on full professor-level (33%). The committee values the Institute's progress and its measures to promote diversity, such as the tenure track system and the Rosalind Franklin Fellowships for high-potential female scholars. The committee stimulates the Institute to continue its efforts with regard to creating a diverse research environment.

8.9. Conclusion and recommendations

The Heymans Institute at the University of Groningen consists of nine expertise groups that cover a broad range of research within Psychology. The quality of the research output is very good, but there is some heterogeneity between groups/researchers and collaboration between groups could be increased. The Institute has a clear focus on societal relevance, which includes the ambition to respond to questions from society in the development of research projects. The products that were developed in collaboration with non-academic partners attest to the Institute's very good societal relevance. With respect to viability, the committee concluded that the HI's choice to spread resources over all nine expertise group, the dependence on direct funding and the high teaching load can pose a risk in a competitive research environment like that of the Netherlands. The committee therefore encourages the Institute to continue a forward-thinking and ambitious agenda and to formulate its unique selling points more explicitly.

8.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	very good
Relevance to society:	very good
Viability:	very good

9. RESEARCH REVIEW OF THE FACULTY OF PSYCHOLOGY AND NEUROSCIENCE OF MAASTRICHT UNIVERSITY

9.1. Introduction

The Faculty of Psychology and Neurosciences (FPN) at Maastricht University has since its foundation focussed on both fundamental and applied research lines in the areas of Cognitive and Biological Psychology. FPN's overall research mission is to conduct curiosity-driven research, while remaining at the frontiers of new developments. FPN aims to support both fundamental as well as applied research, within an open-minded atmosphere of international collaboration, data sharing and scientific transparency. Research at FPN is organised within five Departments:

- Clinical Psychological Sciences;
- Cognitive Neurosciences;
- Methodology & Statistics;
- Neuropsychology & Psychopharmacology;
- Work & Social Psychology.

9.2. The strategy and targets of the research unit

FPN research is structured in specific themes reflected in the names of the sections of the Departments. Additionally, the Executive Board of the UM promotes (and partly finances) research cooperation surpassing the borders of sections, Departments and Faculties. FPN has executed the programme "FPN goes Neuroscience" in which Departments were provided with a postdoc dedicated to promote and execute projects joining psychological and neuroscience methodologies.

The strategy is based on a combination of top down initiatives such as the "FPN goes Neuroscience", and a bottom up approach that gives relatively large freedom to the individual researcher. The organisational structure is well developed and FPN seems to have straightforward strategic aims with autonomy and without the University pushing them in a specific direction. This structure is described as low hierarchy by the management, and it seems to work rather well. The committee observed a collaborative atmosphere and bottom-up initiatives.

The Departments are strongly neuro-oriented, making for 'unity' in the Institute and cooperation between groups. The Work and Social Department would appear to be an exception in this respect, but – as clarified during the meeting with the representatives of the various Departments – that group too has a neuro-component in its activities.

It is remarkable that expensive equipment is used in the educational programme and that research is in close collaborations with the life sciences, while funding per student is tight compared to beta-funded programmes.

Direct funding is based on student numbers. Staff are allowed to reduce teaching time from the 45% if it is successful in acquiring grants. The strategy of FPN is to encourage large joint projects that also cover support staff. Funding seems to be well balanced, FPN is successful in acquiring grants. Furthermore, researchers who have less opportunities to acquire external funding are supported. The committee finds this 'Robin Hood'-fund interesting and wonders to what extent this works. The facilities include the M-BiC with 9T, 7T and 3T scanners, of which maintenance and updating are outsourced. This is considered very sensible, although there is still some pressure on the Departments to cover the rent each year. Other groups are encouraged to make use of the facilities. This adds to the "FPN goes Neuroscience" programme, which intends to apply the research methodology in different fields of Psychology when it is applicable.

9.3. Research quality

Overall the committee was impressed by the quality of the research and by the academic reputation of the staff whose specialised expertise deserves special mentioning. The M-Bic has been particularly productive and there is a wide range of high quality publications. However, although the scientific impact is clearly above world average, FPN is not surpassing the impact factor (MNCS) of other very good Dutch groups.

The Maastricht group is the largest of the nine units that are evaluated in this review and although productivity per fte is not extremely high, the total amount of publications is impressive. The committee got the impression that some groups within FPN consistently publish high quality research papers while other groups are less successful. In this respect, the contribution in the fields of Cognitive Neuroscience and Clinical Psychology is much clearer reflected in the CWTS report than in other (often multidisciplinary) domains. The committee recommends FPN to develop an inclusive publication strategy that aims to achieve an overall high quality level throughout the Faculty.

FPN is very successful in attracting international and national grants, like the VENI-VIDI-VICI grants and Horizon 2020 funding. Funding is well balanced between the first, second and third streams. This success in grant applications allows for the already mentioned Robin Hood funding, in which researchers with less success are financially supported to conduct high quality research.

9.4. Relevance to society

The Faculty has societal impact on different levels. First, it conducts contract research for different companies and institutions. Second, a number of collaborations exist with societal groups. Finally, the unit has a constant output (though not extremely high) output of professional publications, books and public outreach activities.

Historically Maastricht University primarily engaged in fundamental research. Interestingly, the section on societal relevance in the self-evaluation report testifies to the growing efforts to apply insights gained in fundamental research to address societal aspects. It is clear that currently translational aspects are taken into consideration much more strongly. Nice examples of cooperation with external partners were observed, on occasion in the framework of structural alliances. This holds across the subfields of FPN. One excellent example the committee wants to mention is the work of the Work and Social Psychology group on intervention mapping as a product that is widely used.

The Faculty has a valorisation officer supporting efforts to valorise the research. The seven endowed chairs that are substantially funded externally also allow for a good connection with the application aspects of the research. According to the committee, the next step for FPN in its relevance to society is to not only extend their research towards society, but to even more include the input of societal groups and partners into the development of the research agenda.

The initiatives mentioned above seem to be the result of predominantly personal initiatives and not yet from a clear strategy on how to connect fundamental research towards society. There is, however, a lot of potential to further develop the ambition with respect to societal relevance of the work. Similar to the research quality, the committee observes a number of excellent initiatives, but also heterogeneity in socially relevant work. In conclusion, FPN is well on its way to implement the research towards society. Setting up a more explicit strategy will support research staff in its work and help making it a two-way stream.

9.5. Viability

FPN has an excellent infrastructure and is well recognized in its field internationally. Prior to the site visit the committee had some concerns with respect to the high costs of maintaining and updating the expensive infrastructure, but the interviews during the site visit revealed that FPN has outsourced the infrastructure which significantly reduces the most obvious financial risk. Although a major financial investment of 1 M EURO is still required at a yearly basis, the committee is confident that FPN will manage this without major problems. Nevertheless, maintaining such an infrastructure and

necessary supporting staff will continue to be a challenge. By all accounts, FPN should be considered to be given a (partial) beta-status, since their research work and education are very closely connected to the life sciences.

Overall the committee considers the viability to be excellent. This conclusion is based on the high quality and well composed research staff, the excellent track record of grant acquisition and overall very good quality of the research. In addition, FPN has access to top of the bill research facilities and this positively influences success in grant applications. FPN is one of few centres world-wide that is able to do this work.

The combination of Psychology and imaging research is clearly seen as a combination that contributes to the viability of FPN in the future. The committee is convinced that FPN will manage to do high quality, interesting research that is relevant to Psychology. In cognitive neuroscience, experimental and psychological expertise is essential to perform high quality research. The research that is being done is expensive, but the ERC grants help cover the costs.

9.6. PhD training

At Maastricht University, PhD candidates take their training at the national and international research schools, such as EPOS (Experimental Psychology), EPP (Experimental Clinical Psychology), EURON (Translational Neuroscience), THoLP (Forensic Psychology) and the local graduate school's initiative M-BIC (Cognitive Neuroscience). The local Graduate School (FPN) has a restricted aim. It does not have a course programme of its own, but is coordinating EPP, EURON and THoLP. It also took the initiative for M-BIC, and it is actively encouraging and informing its PhD candidates about course and training options. It also stimulates them to attend international conferences, labs and courses (for which a €1000 per year budget is available for each candidate). In addition, the Graduate School organises events to foster cohesion and information exchange and monitors progress and supervision.

The committee had a positive impression of the PhD research climate at Maastricht: there was a strong sense of community among PhD's and the international composition of the PhD population was appreciated. All candidates present their work on a regular basis in their Department or at the annual Research Day for both junior and senior staff, which is organised by the Graduate School. The candidates that the committee interviewed were happy with their supervisory arrangements; they have at least two supervisors whom they meet regularly. Supervisors report about the progress of their PhD candidates after the annual evaluation meetings. The Graduate School actively monitors the progress evaluations in order to identify and prevent potential obstacles in the PhD trajectories.

9.7. Research integrity policy

The Faculty of Psychology and Neuroscience adheres to Maastricht University's policy regarding scientific integrity. A Committee on Scientific Integrity and a counsellor are present at University level and the Faculty has its own Ethics Review Committee. Since 2015, FPN is developing a faculty-wide policy on data management. Currently the Institute is in the phase of introducing rules and regulations and installing an adequate research infrastructure. The committee understood that awareness about integrity issues is growing and research practices are changing, although slowly. The committee concluded that FPN is not on the forefront in these developments. In addition, it had the impression that some researchers considered pre-registration and data storage a burden. The committee therefore encourages FPN to actively continue its efforts in raising awareness for these issues and promoting the new rules, regulations and practices with regard to research integrity.

9.8. Diversity

The Faculty of Psychology and Neuroscience at Maastricht University is an international faculty, particularly at PhD, post-doc and assistant professor level; nearly 50% of its researchers are not Dutch and 13% have a non-European background. In terms of age, the research staff also presents a good balance. The gender composition of staff presents an underrepresentation of women at associate and full professor level, which the Faculty expects will change over the course of time,

because the number of female post-docs, PhD's and master students in Psychology is large. The committee realizes that it will take time before these young female psychologists will become full professors. Still, it stimulates the Department to implement policy measures to improve the gender balance among professors.

9.9. Conclusion and recommendations

The Faculty of Psychology and Neurosciences (FPN) at Maastricht University conducts high quality research with a very good scientific impact. The research has societal impact in different ways, for instance by conducting contract research for different companies and institutions, by collaborating with societal groups and by producing professional publications. The committee concludes, however, that the strategy on connecting researchers with society and the involvement of societal groups and partners in the design of the research should be developed further. FPN has been very successful in applying for international and national grants, which resulted in a very good balance between first, second and third stream funding. This, together with the very good quality of the research and the sensible composition of the research staff, makes for an excellent viability.

9.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	very good
Relevance to society:	very good
Viability:	excellent

10. RESEARCH REVIEW OF THE TILBURG SCHOOL OF SOCIAL AND BEHAVIORAL SCIENCES OF TILBURG UNIVERSITY

10.1. Introduction

The research programmes in Psychology and methodology and statistics of the Tilburg School of Social and Behavioral Sciences (TSB) focus on a systematic understanding of human behaviour and social processes. The aim is to contribute to products and services that are of value to society. Within TSB there are five research programmes that are subject to this research review:

- Cognitive Neuroscience
- Development of Individual differences: Bio-Psycho-Social perspectives
- Somatic and Psychological Disorders
- Social Decision Making
- Latent Variable Analysis

10.2. The strategy and targets of the research unit

According to the self-evaluation report the present era calls for concerted research efforts in broad, societally relevant themes, increasing possibilities for problem solution and letting society profit from this. It was therefore decided to bundle the nine smaller research programmes into the thematic Herbert Simon Institute for Health, Well-being and Adaptiveness Studies. Much Psychology research makes use of intensive data types in addition to data obtained through traditional experiments. The increase in availability and use of intensive data necessitates use and further development of data analysis. Therefore the Tilburg Experience Sampling Centre (TESC) was recently founded for this purpose.

According to the committee the management of TSB has been very responsive to the issues raised in the previous assessment report and successfully bundled the nine research programmes in the newly established Herbert Simon Institute. This focus capitalizes on the School's unique strengths, is accompanied by sizeable and timely investment in innovative methodology (i.e. the TESC and Big Data) and strongly supported by both the management and the leaders of the research programmes in Psychology. These factors provide a strong integrative force that is expected to further strengthen collaboration within TSB as well as to increase the School’s visibility and its chances for obtaining competitive grants.

The establishment of TESC seems a wise investment and may constitute a unique selling point for Tilburg in the future. With fast progression of technology and digitization of society, there is a clear international trend towards acknowledging the value of investigating Big Data in order to reach a deeper understandings of human motives, behaviour, and relationships with each other and the environment.

Although the developments have only recently been implemented, the committee posits that the strategy to bundle all research in one thematic Institute and focus on Big Data is convincing and well thought through. The programme leaders impressed the committee with their ideas on how to embark on this endeavour. The global theme is supported broadly and fits with the research that is being done in Tilburg. The newly established research master programme on individual differences and assessment fills an important gap in the Netherlands, readily lends itself to integration with the focus on Health and Well-being and will further contribute to the attractiveness of psychological research in Tilburg.

The topic and focus Tilburg has chosen, health and well-being, will – by itself – provide many opportunities for more collaborations. The same holds for sampling and data analysis. To achieve these goals TSB and TESC will have to increase collaborations within the University and outside.

The management of TSB is commended for their MERIT system, the annual assessment on management, education, research, impact and team spirit (citizenship). Along with other initiatives, this is a good example of the successful dealing with the difficult situation resulting from the prominent case of scientific fraud in 2009.

10.3. Research quality

Overall both the quantity and the average scientific impact of psychological research conducted at Tilburg is comparable to the very good general level of Dutch Psychology. The committee noted that a culture of quality is clearly being developed, which should become visible in better metrics over the upcoming review period. Quality in terms of citations is good to very good according to international standards, but with room for improvement.

Financially TSB has had difficulties in the early years of the review period, among others caused by a reduced number of students. The School managed to cope and now has stable and growing enrolment and direct funding. Grant applications are in general very good at national level and TSB also managed to acquire ERC grants. Several younger members of TSB are already highly recognized internationally and very successful in obtaining highly competitive research grants – a development that may be fostered by the policy to allot more research time for researchers who are successful in grant applications. Despite many international collaborations, TSB has not (yet) managed to be part of big consortia or gravitation networks and accompanying funding.

The committee was impressed by the central role of the Latent Variable Analysis research programme. Although TSB went through a major restructuring, it still lists fragmentation as a weakness in the SWOT analysis. The committee would rather view it as a threat. It can and should be dealt with. The committee considers that the Latent Variable Analysis research programme, which is doing excellent research, might play a central role in this respect. The committee appreciates the leading role of the Latent Variable Analysis research programme in response to the Stapel affair. By investigating latent variables and research methodology more generally, this programme has successfully turned a challenge into an opportunity.

Research facilities are state of the art with the notable exception of access to an fMRI facility, which is now common in most leading Psychology Institutes. The committee clearly does not want to suggest that Tilburg should embark on investing in fMRI equipment. TESC represents a timely and highly promising asset for research, but will require continuous investments both in terms of financing basic methods development and in research efforts in order to attain a leading position internationally. Big Data and experience sampling methods are currently increasingly popular themes in Psychology. The focus on individual differences in health and disease (as, for instance, apparent in the key publications) represents a particular strength that will also benefit from the opportunities provided by TESC.

Both in the self-evaluation report and in the interviews during the site visit the shifting balance from quantity to quality was explicitly mentioned. This is reflected in the MERIT yearly assessment of all research staff. The tenure track positions help TSB to attract talent and hold on to successful assistant professors by promoting them to associate professor. The research master programmes seem viable and will definitely help to attract talented (international) PhD candidates. Concluding, after a difficult start of this review period, TSB has restructured and reorganized, the first results of which were already visible in the later years of the review period.

10.4. Relevance to society

Several collaborations with hospitals and medical research Institutes focus on socially relevant research on health issues, along with work from the Department of Methodology and Statistics which is societally relevant in helping to improve scientific practise and to reduce research waste. A further focus lies in forensic mental health. Products include several well-known statistical tools, key diagnostic instruments in forensics and the establishment of a health outcome registry, which can

be instrumental in providing opportunities for more socially relevant research with strong ties to the new Focus of the Herbert Simon Institute.

From the interviews during the site visit it became clear that TSB is struggling with the policy on societal relevance at the University level. Although many connections and structures are in place, and nice examples of societal relevant output were provided, TSB primarily wants to aim for fundamental research. There are many contacts with hospitals and other organisations, with a strong focus on collecting data for research questions or applying knowledge to help solve the problems these organisations are dealing with. Furthermore, TSB has contacts and relationships with external bodies and also has endowed professorships. However, the impression is that many of these are aimed at producing data and research for the benefit of the University rather than the other way around. Combined with the ambition towards a stronger emphasis on fundamental research, this leaves TSB without a clear focus or strategy with regard to the societal relevance of their work. The committee considers that indeed fundamental research is important, but a balance with application driven research should be aimed for. At the level of the School the ambitions are still limited. However, in individual cases there were excellent exceptions to this, for example from the methodology group.

The committee observes a lot of potential. There are many contacts, connections and structures in place, quite a lot of contract research is being done for societal organisations and they collaborate with societal partners. This indicates that with respect to valorisation TSB is very successful. However, other aspects on societal relevance could be improved. The committee recommends TSB to come up with a strategy aiming at a clear balance between fundamental, curiosity driven research and application driven research.

10.5. Viability

After a difficult period in 2010 TSB showed a determined and unequivocal reaction to the replication crisis within Psychology. The committee observed excellent strategic planning involving a clear focus on Health and Well-Being as well as timely and substantial investments in emerging methods trends (TESC). In addition, a new and attractive research master programme, the rebound in student numbers in recent years in addition to a well-functioning tenure track programme combined with successful an promising junior faculty and a solid financial situation of the University contribute to the very good viability of TSB.

The future has to show how the strategic decisions will pay off. The proof of the pudding is always in the eating. Many plans and initiatives have only very recently started and TSB will have to work hard to realise its potential. A number of issues should be dealt with, for example the fragmentation that was mentioned in the SWOT analysis. Also, teaching pressure is high and the reorganisation in educational programmes adds up to the hours invested in small group teaching. Nevertheless, the committee is convinced that TSB has a very bright future.

10.6. PhD training

PhD candidates in Psychology at Tilburg University can take a part of their PhD training at the local graduate school, the Tilburg School of Social and Behavioral Sciences (TSB). It was clear to the committee that the context of the TSB fostered a good sense of community among the PhD candidates. The candidates that the committee interviewed were satisfied with the generic skills courses they took at TSB, which focused on academic writing, presentation skills, project management and methods and statistics. Some said that they would have liked to have a course in basic didactic skills. The committee was pleased to hear that recently the University Teaching Qualification modules have been opened for all new internal candidates. The committee noticed that there was a lack of clarity among the PhD candidates with regard to the requirements for their dissertation. Also, the students did not appear to be sufficiently challenged to think about the societal relevance of their work. The committee suggests that TSB addresses these topics in a new introductory course or in another manner.

The extent to which candidates participated in the PhD training programmes at the national research schools varied. Some follow an education programme at one of the national research schools, such as IOPS, KLI or the Dutch Society of Developmental Psychology VNOP, while others do not participate in a national school. The committee understood that sometimes a candidate could not become a member of a national research school because their supervisors were not associated. The committee thinks that all PhD's should have the same opportunities and it recommends that TSB and Tilburg University reconsider this issue.

At the beginning of their trajectory all candidates and their supervisors (2 or 3) describe their plans for their PhD training and supervision in their Training and Supervision plan, which has to be approved by the director of TSB. After 9 months the candidates undergo an official evaluation. When this is positive, they receive a contract for three more years. After the 9 month go/no-go decision, the candidates are invited for annual progress interviews with TSB's PhD coordinator, whom they can also meet confidentially. The coordinator uses these interviews to monitor the progress of all candidates.

10.7. Research integrity policy

TSB has a Science Committee, an Ethics Review Board and a confidential advisor for cases of suspected violations of scientific integrity. The Faculty adheres to a Guideline on Handling Data and Methods Reporting and the University's Scientific Integrity Regulations that follow national and European codes of conduct for research integrity. The committee concluded that the policy and protocols are very well embedded in the research culture of the Department. All students, from bachelor to PhD, receive compulsory training in ethics and scientific integrity and the Science Committee audits data handling and management every year by sampling two publications from each Department. TSB's researchers are forerunners internationally, investigating and promoting responsible research practices in tutorial papers and seminars. In the aftermath of the Stapel affair the committee highly appreciates these initiatives and it applauds the Department's efforts to improve scientific integrity.

10.8. Diversity

The ambition of Tilburg University is to see the diversity of society in terms of gender and cultural background reflected in its staff and student population. In order to achieve this, TSB and the Department of Psychology have taken several measures, such as organising a workshop to think about gender and diversity in selection and promotion decisions, inventorying why women leave academia more often than men and developing criteria for promotions and tenure decisions. In addition, the Faculty created two extra associate professor positions for excellent female scientists. The committee concludes that the issue of gender balance is on the agenda of the School and that sensible measures are taken to improve it. The committee feels, however, that the targets that are set, 25% female full professors and 40% female associate professors, should be more ambitious.

The Department took several measures to attract and accommodate international staff and students, such as using English in communication and ensuring that education programmes are developed for an international student population. The committee is positive about these measures, but agrees that further improvement of the ethnic and cultural diversity of students and staff requires a more explicit long-term policy.

10.9. Conclusion and recommendations

The Tilburg School of Social and Behavioral Sciences was successfully restructured and reorganized in this review period. The research quality and scientific impact is very good compared to international standards and the committee thinks that TESC is a highly promising asset for research. Continuous investments and strong policy are needed, however, to prevent fragmentation of the research groups and to obtain a leading position internationally. The societal relevance of TSB's research is very good; there are many collaborations with societal partners and contract research is conducted for social organizations, but examples of application driven research are still limited. On the basis of TSB's sensible strategic planning, solid financial situation, well-functioning tenure track

programme and successful and promising junior faculty, the committee concludes that the unit's viability is very good.

10.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	very good
Relevance to society:	very good
Viability:	very good

11. RESEARCH REVIEW OF THE PSYCHOLOGY DEPARTMENTS OF UTRECHT UNIVERSITY

11.1. Introduction

The research programme Navigating in a Complex World: Perception, Identity and Self-Regulation covers the research of four sections at the Department of Psychology of the Faculty of Social and Behavioural Sciences at Utrecht University (UU). The programme of Methods & Statistics (M&S) is also part of this research review. The mission of the research programme comprises the growth of knowledge and scientific expertise regarding important issues in Psychology. The four sections in the Department of Psychology are:

- Social, Health and Organizational Psychology
- Experimental Psychology;
- Developmental Psychology;
- Clinical Psychology.

11.2. The strategy and targets of the research unit

The main theme of the research programme *Navigating in a Complex World: Perception, Identity and Self-Regulation* is to contribute to the understanding of when, why and how individuals are able and willing to engage with an increasingly complex world. More specifically, Utrecht University aims to explain behaviour regulation processes that underlie participation in society as competent individuals by employing advanced methods and statistics. One aspect that is continuously stressed in the self-evaluation report is the guiding principle 'away from monodisciplinary and towards collaborative and multidisciplinary research'. The involvement of Psychology in the Faculty's research focus areas and in University's priority clusters is perfectly in line with this approach.

From the interviews during the site visit it became clear that the focus areas at University level are important in the research programme. This importance was mentioned specifically with respect to multidisciplinary ambitions. The committee commends the research programme for setting as one of the specific targets for the next period to strike a balance between disciplinary and multidisciplinary research.

One of the targets that were set for the past six years, was an adjusted balance between curiosity driven research and the scientific agenda's set by external circles that emphasise societally relevant research themes. From the interviews it became clear that the research programme *Navigation in a Complex World* is being used to make the high quality fundamental research relevant towards societal issues. This is a general trend at Utrecht University and the Psychology Department seems successful in its approach to bridging the gap between fundamental, curiosity driven research and application driven research. Psychology is heavily involved in three of the four University wide themes: Institutions for Open Societies, Dynamics of Youth and Pathways to Sustainability.

The organisational structure is based on educational needs, while in research the thematic approach is leading. With respect to the content of the research, the position and role of the four section leaders - together with the Department head – is crucial. The committee understands the choices that were made. It observed shared ambitions at many levels and considers that the structure is functioning well. Currently the section heads present themselves as a balanced group, with a very good and mutual understanding and a dean who takes responsibility. The committee notices that in the future, changes in this balance might require the appointment of a research director.

The consistency in the answers that were given in different interviews, the collaborative and interactive attitude of the section leaders and the clear and joint focus on multidisciplinary research convinced the committee that the direction that was chosen will be successful. As was mentioned in one of the interviews, the multidisciplinary approach has not yet materialized completely, but the Department is well on its way. Collaborative projects across and beyond sections are clearly

promoted and increasingly successful. The committee considers that continuation of the current strategy and policy will lead to more success.

11.3. Research quality

The scientific output of the four sections of the Psychology Department as well as the M&S Department is very good. The publications are of high quality across many disciplines of psychological research. This impression is corroborated by the bibliometric indicators from the CWTS analysis. There is evidence of peers making use of research products, for example software made available for perception research and statistical analyses.

There is an active and fruitful collaboration between the two Departments (M&S and Psychology). The contribution of the researchers in the programme of Methods & Statistics to research on psychological methods and behavioural statistics is outstanding.

The research is oriented to multidisciplinary work and away from the traditional disciplinary boundaries of Psychology. The committee supports this orientation, but it points out that it creates challenges for publications and demands new strategies with respect to the choice of journals.

During the site visit the committee learned that the Department of Psychology had explicitly changed its publication strategy from quantity towards quality of publications. This trend, with a focus on the quality of publications, is observed across all universities, but it is most explicitly present in Utrecht and shared at all levels (including PhD candidates). The committee strongly supports this strategy and would like to compliment the Department for it. The number of peer reviewed publications decreased by 20%, it is anticipated that by increased publishing in high impact journals, impact factors will increase as a result.

The academic reputation of the research staff is also considered to be very good, with some of them outstanding. Many researchers have been editors of key journals in Psychology. Departmental staff has received numerous awards, distinguished professorships at several universities, invitations to hold keynote lectures at prestigious international scientific conferences and international top universities.

The balance between the funding streams is healthy with overall 49% direct funding and 32% from research grants. Members of the Departments were successful in acquiring a large number of grants, including NWO research grants, Marie Curie, Horizon 2020 and other grants. However, no ERC grants (or similar) have been acquired, which is remarkable for departments of this quality and size, and with so many talented researchers on board. Based on the strategy, attitude and high quality work, acquiring such a grant will most likely be a matter of time.

11.4. Relevance to society

From the self-evaluation report as well as from the interviews the shift in strategy with respect to societal relevance over the past period became clear from the results. The overall strategy has shifted from communication to actual collaboration with stakeholders. The committee learned that although academic excellence is still considered to be essential, societal aspects and application are combined with fundamental research at Departmental, Faculty and University level. This shift is clearly visible in many collaborations, and in the increasing number of stakeholders and grants on collaborative projects. There is high activity of staff in the dissemination of research findings in publications, media and lectures. Furthermore, core societal partners and stakeholders have been identified, particularly in the fields of public administration, work, youth, and prevention and care.

The Department plays a central role in three of the four strategic themes of the University, Institutions for Open Societies, Dynamics of Youth, and Pathways to Sustainability. This strong participation shows that the strategic shift has been implemented and that within Utrecht University the role and position of Psychology is pivotal.

The Faculty considers itself to be still shifting in the process towards societal relevance. The policy and strategy are there, results should follow. The committee observes the shift from mere dissemination to actual collaboration with stakeholders in policy and practice. The next step is to also include societal partners and stakeholders in formulating research questions.

In concluding, the committee is positive with respect to the strategy that was introduced to not engage in fundamental science first and only then interact with society, but instead to involve external partners in the formulation of the research questions and design. It expects that this will further increase the societal relevance of the research in the near future.

11.5. Viability

During this period of review the research programme has formulated a clear and convincing strategy towards multidisciplinary and societally relevant research and has progressed well in it. The strategy, including required changes were implemented at different levels of the organisation, including the structure of the organisation, publication strategy and ambitions with respect to European (ERC) grants.

Achieving a respected position in multidisciplinary research via funding and via publication outlets requires major pioneering effort and investments. There is a strong drive towards this goal at the Department, but also at University level and with many professional partners. The collaboration between the Department of Psychology and the Department of Methods & Statistics is a strong asset in this respect.

The balance in direct and other funding sources is excellent, the committee considers that major international grants will be acquired in the upcoming period. The Department invested in excellent tenured, young staff. Concluding, the committee met with a dynamic group of programme leaders, a supportive and well informed management and ambitious, enthusiastic PhD candidates. All have trust and confidence in the future, clear goals are set and funding is secured. The committee observes excellent potential of this research programme.

11.6. PhD training

At Utrecht University, the training of PhD candidates in Psychology is organised by the Graduate School of Social and Behavioral Sciences. PhD candidates take a mandatory course programme in one of the 6 programmes offered. The programmes are composed of courses in the national research schools or interuniversity centres on the one hand, and high level content modules at the local Graduate School on the other. In addition, the candidates can follow courses in methods and statistics and general skills courses such as academic writing and presenting, research planning and time management and didactic skills at the Graduate School. The committee had the impression that the training programme is well organised and of high quality. This was confirmed by the candidates during the site visit. A minor disadvantage of the system in which the advanced courses are organised by subdisciplines of Psychology is that there are no formal settings in which PhD candidates of different sections can exchange ideas and experiences, which could foster cross-fertilization. This could be addressed by continuing the research meetings for all PhD candidates, as the Graduate School has initiated, but also by providing a mandatory introduction course for all candidates in their first year or by making one of the generic skills courses obligatory.

The supervisory structure, mentoring system, progress monitoring in staff meetings and PhD evaluations that the candidates organise themselves, assure a well organised and solid monitoring system. In the interview, candidates confirmed that this system worked well and expressed their satisfaction with their supervision arrangements. The committee noticed that the spirit of collaboration with the outside world is already present at PhD level, which indicates the Faculty's philosophy and mission to bridge the gap between fundamental, curiosity driven research and application driven research has been successful.

11.7. Research integrity policy

The research integrity policy at the Faculty of Social and Behavioral Sciences at Utrecht University is very well developed. There are an Ethics Review Board, a Committee on Academic Integrity, a Faculty Protocol on Research Data, a Data Storage Guide and all researchers have to adhere to the Data Management Plan from 2018 onwards. Faculty wide audits to assess the accessibility and transparency of research data are performed annually by the Committee on Academic Integrity. The committee noticed that the awareness about research integrity and the importance of the replicability of studies was present at all levels of the research staff at the Institute of Psychology, also at PhD level. Responses to pre-registration were positive, despite the added burden that comes with it. All in all, the committee concluded that the research integrity policy has been successfully internalised and integrated in the daily practice of Utrecht's psychologists.

11.8. Diversity

Utrecht University, the Faculty of Behavioural Sciences and the Department of Psychology adhere to a diversity policy that promotes diversity of staff in terms of age, gender, ethnicity, nationality and cultural background. With the implementation of English postgraduate programmes from 2018 onwards, and the successful attraction of international PhD candidates in recent years, the Institute is in a good position to internationalise its staff (at present 20% of PhD's and postdocs is not Dutch). With regard to the internationalisation of staff at tenured positions and the ethnic and cultural diversity of the research staff there is still room for improvement. The committee was glad to see that the Institute is aware of this and has put it on the agenda.

The spread of different age groups over the different career stages at the Department of Psychology is rather good. With respect to gender, some progress can be made, because women are still underrepresented at full professor level. A number of measures has been taken to improve this, such as securing gender balanced selection committees. The committee encourages the Institute to continue its efforts in diversity policy.

11.9. Conclusion and recommendations

The Department of Psychology at Utrecht University has a clear and joint focus on collaborative projects across and beyond sections. The Department's scientific output and impact is very good, and the committee expects that the new orientation in the publication strategy, valuing quality of publications over quantity, and the effects of the multidisciplinary work will soon result in higher impact factors. The researchers at the Department collaborate with an increasing number of societal stakeholders, have received a number of grants for collaborative projects and are actively communicating their research findings in publications, media and lectures. The committee is confident that the Department will live up to its ambition to involve more external partners in the formulation of research questions than it is already doing now. The committee is convinced that this approach will lead to excellent societal relevance in the near future. The committee concludes that the Department's clear focus and strategy, balanced funding and excellent research staff make for an excellent viability.

11.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	very good
Relevance to society:	very good
Viability:	excellent

12. RESEARCH REVIEW OF THE PSYCHOLOGY DEPARTMENTS OF THE VRIJE UNIVERSITEIT AMSTERDAM

12.1. Introduction

The three Psychology Departments at Vrije Universiteit Amsterdam (VU) are part of the Faculty of Behavioural and Movement Sciences. Other Departments within the Faculty are Educational and Family Sciences, Human Movement Sciences, and the University Centre for Behaviour and Learning. All faculties at the VU focus on four joint themes and are connected through interdisciplinary research Institutes. The three Psychology Departments are:

- Biological Psychology
- Clinical, Neuro-, and Developmental Psychology
- Experimental and Applied Psychology

Psychology at VU aims to *understand the human mind and its functions and how this drives behaviors relevant for mental and physical health. Knowledge on environmental factors and the etiology of individual differences in these behaviors is used to improve wellbeing, health and social cohesion.*

12.2. The strategy and targets of the research unit

After the previous review, the research was reorganised from six to three Departments. The management structure of the research unit is organized around the heads of these Departments, while the Departments are also part of three research Institutes. The three highly autonomous Departments within the Faculty are each headed by a leading researcher in the respective field and each Department has an independent, ambitious and highly successful research agenda. The Faculty Board sees itself as facilitator and protector of Psychology's interests within the University.

Succession planning was explicitly discussed, since the Department leaders have major influence on the strategy and quality of the work. The committee was pleased to learn about the vision and plans, which include leadership courses for outstanding junior scientists and other activities to prepare them for succession.

Although collaboration across the three Psychology Departments is significant, furthering collaboration with other Departments within the Faculty is not a major focus. Although the committee learned and understands the rationale for the combination of disciplines in the Faculty, it does not see this reflected in strong collaborations. The Psychology Departments do however affiliate with other research groups in interdisciplinary research Institutes within the broader VU theme of Human Health and Life Sciences.

The research strategy is characterized as high risk, high gain. This strategy, whereby potential risks associated with creative but uncertain research are compensated for by high gains in other areas, is rather unique and seems well embedded. It was clearly explained that the risks are spread and that in case of low success rates, support for the individual researcher is available. VU seems to focus on large scale collaborations. In order to finance this strategy, there is emphasis on acquiring external funding. The Psychology Departments do very well in this respect and the strategy readily lends itself to the ERC grant format. A minor concern is that success in grant applications may in the future not be as directly rewarded by the University as it is now, there even seems to be a threat of success being punished. This issue was not only raised at the VU Amsterdam, but it appears particularly relevant at this Institute.

The twin register is a wonderful asset to the Faculty and University, being a productive and important part of the successful research. The maintenance of such a big database and infrastructure is expensive and without immediate benefits. In view of the international reputation of the register and the quality of the research being done with it, the committee recommends that the present repetitive medium-term financing by the board of the University be replaced by structural long term financing.

12.3. Research quality

The research Departments all show an excellent publication performance in terms of impact and citation frequency, partly due to a focus on meta-analyses and on the participation in large international consortia. They have by far the highest MNCS score of all research units in this review and an impressive percentage of papers in top 10% the results are outstanding. It should also be noted that the focus of each Department has allowed for increments in the quality of the output over the period of review, while maintaining a high quantity of publications. As indicated by the excellent citation score and the profile of citing institutions, the scientific impact of research is very high.

Numerous prestigious national and international research grants were acquired by each of the research Departments across all levels of seniority. Furthermore, a considerable number of awards, including two lifetime achievement awards were obtained. The current heads of the three Departments all have an excellent reputation and are well embedded internationally. In addition, the Departments has excellent researchers in different stages of their careers.

Because the Netherlands Twin Register is world leading it can be assured of opportunities to participate in large expertise-networks. The research infrastructure is excellent and absolutely world leading with respect to Neurogenetics and various 'omics' levels. The ambulatory monitoring system developed by VU is one of the world's most advanced devices for ambulatory recordings of peripheral physiology. The research that is executed at the VU is technologically and methodologically innovative, leading to successful publications, grant applications and impressive impact.

The committee concludes that the high risk, high gain strategy is working very well in this Faculty.

12.4. Relevance to society

The impressive relevance to society is well demonstrated in the self-evaluation report and was confirmed in the interviews. The committee's appreciation holds both for valorisation efforts as well as the outreach to the general public, observed across the three Departments.

There are many collaborations with industrial partners, for example AVERA Health, that guarantee high valorisation potential of the research. Also in the domain of psychopathology the approach to re-evaluate existing findings through meta-analysis is highly promising. A third example is the development and implementation of e-Mental Health applications in close cooperation with mental health care providers, health insurance companies, and technology companies.

According to the committee there is ample evidence of responding to society in collaborations as well as in outreach for the results of the research. Extensive links with international and social organisations and a substantive amount of contract funding, including seven large H2020 grants, provide evidence for the interaction with societal organisations.

Most impressive is without a doubt the Twin Registry as a national repository for genetics research, with around 25% of all twins in the Netherlands having taken part in research projects. It provides unique opportunities for societally relevant applications.

12.5. Viability

The continuously high level of external funding across the entire review period, combined with the excellent quality of staff at all levels of seniority, the impressive infrastructure including access to imaging facilities and expertise and the unique asset of the Netherlands Twin Register provide an excellent and highly reliable basis for leading research and continuing success in the years to come. The focus on large scale collaboration and meta-analyses is extremely timely. The Departments have clear and concrete plans on a number of issues that were convincing to the committee.

The one concern for the future the committee had, was responded to clearly and convincingly. The Departments are well aware of the retirement of a number of senior professors over the next decade. A number of steps to prepare for these retirements have already been taken, like the encouragement

of younger, talented researchers to get management training, and the limitation to four years for the position of Department head. Given the considerable amount of local talent and the encouragement by the management, the committee is convinced that following the retirement of Department heads new and highly qualified leaders will be ready to take over.

In general, the strategic planning is based on the idea of promoting excellence. Given the success of the groups and the prominence of the group leaders this strategy is very successful.

The qualification of the staff for the Netherlands Twin Register and the embedding in the neuroimaging centre is high. Moreover, the reputation and the location makes VU a very attractive location for this research. The committee therefore strongly recommends to the Board of the University and the Faculty board to consider stable long-term funding for the Twin Register and for the neuroimaging infrastructure.

12.6. PhD training

PhD candidates in Psychology at VU participate in the Faculty's Graduate School as well as in the national research schools EPOS, EPP and KLI. The PhD training at the Graduate School (30 ec) consists of compulsory courses in ethics and integrity, personal development, writing and presenting in English, research methods and colloquia/conference participation. Content courses that are connected to the research topic can be followed at the national research schools or at the research Institutes as elective components of the training programme (5 ec). During the site visit the committee understood that the PhD candidates feel that their training is of sufficient quality, an observation that is confirmed by the results of the evaluation of the Netpanel that is mentioned in the self-assessment. The fact that candidates can make choices in their educational programme and compose an individualised programme, probably contributes to their satisfaction. What could be improved, in the eyes of the committee, is the sense of community among the PhD's in Psychology and within the Faculty as a whole.

At the beginning of their project, the PhD candidates and their advisors write a Training and Supervision Plan and submit it for approval to the Graduate School. The TSP describes the amount and nature of supervision (2-4 supervisors) and evaluation as well as the intended training programme. The candidates that the committee interviewed were happy with the supervision they received. Not only progress is monitored, but also the quality of dissertations, by having research plans and dissertation reviewed by an external and independent assessor. According to the candidates in the interview, delays in PhD trajectories were sometimes caused by problems with large data collection, for instance in clinical trials, for which candidates can sometimes receive an extension of their contract. The committee understands that problems with data collection can occur, but encourages supervisors and management to make sure that a PhD's plans for data-collection are feasible within 4 years.

12.7. Research integrity policy

Research integrity policy and protocols at VU and the Faculty of Behavioural and Movement Sciences consist of several elements: institutional policies and regulations, training and supervision, independent review of scientific quality and auditing, reporting and investigating violations. In practice, this means that researchers have to adhere to the research data policy, ethical codes and codes for scientific integrity and that projects can be randomly selected for an audit concerning safe data storage of data, protection of privacy and reproducibility of reported results. The policy and protocols are operationalised and supported by The Scientific and Ethical Review Board and the Quality Committee, the Research Data Advisory desk and the IT Department. PhD candidates receive a compulsory integrity training and are instructed to use the online research manual. The interviews during the site visit confirmed that research integrity policy and practices are well internalised in the research culture of VU's psychologists.

12.8. Diversity

VU aims for an inclusive academic environment, in which gender, nationality and cultural background of staff are well balanced. The committee concluded that the Psychology Institute is well on its way towards achieving a gender balance in their research staff; 39% of all full professors is female, 55% of all research staff positions are occupied by women. In the eyes of the committee, the appointment of the female dean of the Faculty of Social Sciences as diversity officer, the special stipends to appoint female professors and training to address implicit association bias in tenure and selection decisions, are important measures in improving the gender balance.

At present, 15% of the research staff at the Psychology Department has a foreign nationality. With the successful attraction of bursary PhD candidates from Asia and Latin America, the cultural background of PhD staff is also quite diverse. The expectation is that the number of non-Dutch PhD candidates will rise as a result of policy to increase the number of international students in the research masters programmes. The Faculty aims to promote the inclusion of non-Dutch speaking staff by using English in Faculty meetings, documents and communication. The committee encourages the Institute to continue its efforts and pro-active attitude with regard to promoting inclusion and the diversity of research staff.

12.9. Conclusion and recommendations

The three Psychology Departments at Vrije Universiteit Amsterdam are managed according to the principle of high risk, high gain. This strategy works very well: the research Departments' research output and scientific impact and the academic reputation of the researchers are excellent, numerous prestigious national and international research grants were acquired and the unit's research is highly technologically and methodologically innovative. The twin register, active outreach to the general public, extensive connections with international and social organisations and a substantive amount of contract funding attest to the Departments' excellent relevance to society. On the basis of the pro-active and successful management, the high amount of external funding, the high quality of the staff, the impressive research facilities the committee concludes that the Departments' viability is excellent. In order to ensure the long term viability, the committee recommends considering long term funding for the twin register and for the neuroimaging infrastructure.

12.10. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standards in the field of Psychology, the committee comes to the following quantitative assessments:

Research quality:	excellent
Relevance to society:	excellent
Viability:	excellent

APPENDICES

APPENDIX 1: THE SEP CRITERIA AND CATEGORIES

There are three criteria that have to be assessed.

- Research quality:
  - Level of excellence in the international field;
  - Quality and Scientific relevance of research;
  - Contribution to body of scientific knowledge;
  - Academic reputation;
  - Scale of the unit's research results (scientific publications, instruments and infrastructure developed and other contributions).

- Relevance to society:
  - quality, scale and relevance of contributions targeting specific economic, social or cultural target groups;
  - advisory reports for policy;
  - contributions to public debates.

The point is to assess contributions in areas that the research unit has itself designated as target areas.

- Viability:
  - the strategy that the research unit intends to pursue in the years ahead and the extent to which it is capable of meeting its targets in research and society during this period;
  - the governance and leadership skills of the research unit's management.

Category	Meaning	Research quality	Relevance to society	Viability
1	World leading/excellent	The unit has been shown to be one of the most influential research groups in the world in its particular field.	The unit makes an outstanding contribution to society	The unit is excellently equipped for the future
2	Very good	The unit conducts very good, internationally recognised research	The unit makes a very good contribution to society	The unit is very well equipped for the future
3	Good	The unit conducts good research	The unit makes a good contribution to society	The unit makes responsible strategic decisions and is therefore well equipped for the future
4	Unsatisfactory	The unit does not achieve satisfactory results in its field	The unit does not make a satisfactory contribution to society	The unit is not adequately equipped for the future

APPENDIX 2: CURRICULA VITAE OF THE COMMITTEE MEMBERS

Eddy van Avermaet (chair)
Professor Eddy Van Avermaet took his master's degree in Psychology at the University of Leuven in 1970, and his PhD degree in Social Psychology at the University of California at Santa Barbara in 1975. He is emeritus professor of Psychology of the University of Leuven, where for close to 40 years he taught introductory and advanced courses in (Social) Psychology for students in Psychology and other disciplines. He was chairman of the Psychology Department (1988-1994 and 2005-2007) and vice dean of education at the Leuven Faculty of Psychology and Educational Sciences (2005-2007). He also served as chairman of the Leuven University Board of Education (1995-2005). He was academic coordinator of Quality Assurance for the Flemish universities (1996-2012) and he was advisor to the Flemish minister of education on issues of higher education (2001-2004). His research concerned social cognition and cooperation and competition in interpersonal and intergroup contexts. For 30 years he was director of the Leuven Center for Social and Cultural Psychology. He was chief editor of the European Journal of Social Psychology (1994-1998) and he served as secretary and member of the Executive Committee of the European Association for Social Psychology (2002-2008). He was a member of the Recognition Committee for Dutch Research Schools in the Social Sciences (ECOS) of the Royal Dutch Academy of Science (2001-2007). He was twice a member of the Quality Assurance Committee for Psychology Curricula in the Netherlands (2001 and 2011) and he was a member of the NVAO Levelt Committee on the duration of Psychology studies in the Netherlands (2008).

Marcel Brass
Professor Marcel Brass studied at the Free University Berlin where he received his diploma in Psychology in 1997. Then he worked as a PhD candidate at the Max Planck Institute for Psychological Research in Munich. In 2000 he was awarded a PhD from the Ludwig Maximilians University, Munich. He then worked as a research scientist and Heisenberg fellow at the Max Planck Institute for Human Cognitive and Brain Science in Leipzig. Since 2006 he is research professor at the Department of Experimental Psychology at Ghent University. Between 2010-13 he held a guest professorship at the Behavioral Science Institute of Radboud University Nijmegen and was awarded a Kosmos fellowship from the Humboldt University Berlin in 2014. His editorial work includes guest editorships for the Proceedings of the Royal Society B and for Neuroscience and Biobehavioral Reviews. His research covers a broad range of topics including the relationship of perception and action, cognitive control and the influence of high-level beliefs on basic cognitive processes. Methodologically, he uses cognitive neuroscience methods such as fMRI and TMS as well as classical mental chronometry.

Elizabeth Kuipers
Professor Elizabeth Kuipers is a Professor Emerita at the Institute of Psychiatry Psychology and Neuroscience, King's College London, and an Emerita National Institute of Health Research (NIHR) Senior Investigator. She obtained her first degree in Psychology at Bristol University, completed her MSc in Clinical Psychology at Birmingham University, and a PhD in Clinical Psychology from London University. Her research interests have always been in psychosis, both for the individuals and for their careers. She helped develop and evaluate family interventions and then individual cognitive interventions for psychosis. She was head of the Psychology Department at the IoPPN and an honorary Consultant Clinical Psychologist at the South London and Maudsley NHS Foundation Trust until 2012. She chaired the NICE guideline group for Schizophrenia and Psychosis and Schizophrenia in 2009 and 2014. She is a Fellow of the British Psychological Society (BPsS) and of the Academy of Science. In 2010 she received the Shapiro award from the Division of Clinical Psychology at the BPsS for 'eminence in the profession'. In 2013 she received two lifetime achievement awards, one from the Professional Practice Board at the BPsS and one from Women in Science and Engineering (WISE). In the UK New Year's honours 2018 she received an OBE for services to clinical research, treatment and support of people with psychosis.

Patrick Onghena
Professor Patrick Onghena studied Psychology at KU Leuven, University of Leuven, Belgium (master's degree: 1988, postgraduate psychotherapy: 1992, PhD: 1994). He is professor of Methodology and Statistics at the Faculty of Psychology and Educational Sciences, KU Leuven, where he was the dean from 2007 until 2015. He is a member of the Royal Flemish Academy of Belgium for Science and the Arts, member of the Belgian Federation of Psychologists, member of the Belgian Statistical Society, member of the Association for Psychological Science, international affiliate of the American Psychological Association, and international affiliate of the American Educational Research Association. His main research topics are: single-case experiments, randomization tests, meta-analysis and systematic reviews, mixed methods research, and research on statistics education.

Lea Pulkkinen
Professor Lea Pulkkinen studied Psychology, education and humanities at the University of Jyväskylä, Finland where she received her PhD in Psychology in1970. She worked in this University first as an associate professor at the department of education, and since 1973 at the department of Psychology, first as an associate professor and since 1982 as a full professor of Psychology until her retirement. She was the head of the Psychology Department for several terms and the dean of the Faculty of Social Sciences. In 1996, she was appointed as Academy Professor (an honour by the Academy of Finland) and in 1997 to 2005 she was the director of the centre of excellence in research on Human Development and its Risk Factors. She has advanced multidisciplinary work in family studies (the establishment of Family Research Unit in 1990) and in human-centred technology (the establishment of Agora Center in 2001), and directed or co-directed them. She has received international prizes such as the Aristotle Prize in Psychology in 2003, and national prizes such as the Finnish Science Award in 2001 and the Finnish State Award for her lifetime work in 2011.

Bas Verplanken
Professor Bas Verplanken graduated and obtained his PhD at the University of Leiden, The Netherlands, where he worked as a Research Fellow and Lecturer from 1980-1990. From 1990-1998 he was a Lecturer and Senior Lecturer at the University of Nijmegen. From 1998 to 2006 he was a professor at the University of Tromsø, Norway. In 2006 he joined the University of Bath, where he was the Head of Department of Psychology from 2010-2016. His research interests are in attitudes and decision making applied in the domains of Environmental, Health, and Consumer Psychology. He published on a variety of topics, topics including risk perception, environmental concern, unhealthy eating, travel mode choice, values, self-esteem, body image, worrying, mindfulness, impulsive buying, behaviour change, and sustainable lifestyles, and is an internationally recognised expert on habits. He served as an Associate Editor of the British Journal of Social Psychology and Psychology and Health.

Jan Wacker
Professor Jan Wacker studied Psychology at the University of Marburg (Diploma: 2001; PhD: 2005). He visited Harvard University as a research fellow in 2008 and is now professor of Differential Psychology and Psychological Assessment at the University of Hamburg, where he is currently research dean of the Faculty of Psychology and Human Movement Science. He serves on the editorial boards of the European Journal of Personality, the Journal of Research in Personality and the newly founded journal Personality Neuroscience. His research is concerned with the biological foundations of major personality traits and the improvement of Psychological Science.

APPENDIX 3: PROGRAMME OF THE SITE VISIT

Sunday 17 September			
Time		**Activity**	**Participants**
15.30		Assemble in lobby	Review committee and secretaries
16:00	19:00	Welcome & Initial panel meeting	Assessment panel, secretaries
19:00	21:00	Dinner	Assessment panel, secretaries

Monday 18 September: Vrije Universiteit Amsterdam & University of Groningen			
Time		**Activity**	**Participants**
9:00	9:30	Preparatory meeting VU-institute	Review committee, secretaries
9:30	10:15	Meeting management VU-institute	Prof. dr. P.J. Beek, *Dean* Prof. dr. C. Schuengel, *associate Dean Research.* M.M. van Aken, MSc, *director of management.*
10:15	10:30	Break / Evaluation	
10:30	11:15	Meeting programme leaders VU-institute	Prof. dr. J.C.N. de Geus, *chair /Biological Psychology.* Prof. dr. W.J.M.J. Cuijpers, *chair/Clinical-Neuro- and Developmental Psychology.* Prof. dr. J.L. Theeuwes, *chair /Experimental and Applied Psychology.* Prof. dr. D.I. Boomsma, *Biological Psychology.* Prof. dr. A.C. Krabbendam, *Developmental Psychology.* Prof. dr. P.A.M. van Lange, *Social and Organizational Psychology.*
11:15	11:30	Break / Evaluation	
11:30	12:00	Meeting PhD candidates VU-institute	Bart Baselmans, MSc. Catherina Molho, MSc. Chani Nuij, MSc. Fiona Hagenbeek, MSc. Joanne van Slooten, MSc. Sanne Bruijniks, MSc.
12:00	13:00	Evaluation VU-institute	Review committee, secretaries
13:00	13:30	Lunch break	
13:30	14:00	Preparatory meeting RUG-institute	Review committee, secretaries
14:00	14:45	Meeting management RUG-institute	Prof. dr. C.W.A.M. Aarts, *Dean.* Prof. dr. E.G. Gordijn, *director Heymans Institute for Psychological Research.* Prof. dr. ME. Timmerman, *director Graduate School.*
14:45	15:00	Break / Evaluation	

15:00	15:45	Meeting programme leaders RUG-institute	Prof. dr. P.J. de Jong, *Clinical Psychology and Experimental Psychopathology.* Prof. dr. P. de Jonge, *Developmental Psychology.* Prof. dr. T. Postmes*, Social Psychology.* Prof. dr. E.M. Steg, *Environmental Psychology*.
15:45	16:00	Break / Evaluation	
16:00	16:30	Meeting PhD candidates RUG-institute	Ole Gmelin, BSc*.* Leonie Kreuze, MSc. Aafke van Mourik Broekman, MSc. Burkhard Wortler, MSc.
16:30	17:30	Evaluation RUG-institute	Review committee, secretaries
18:30	20:30	Dinner	Review committee, secretaries

Tuesday 19 September: Utrecht University & Maastricht University			
Time		**Activity**	**Participants**
9:00	9:30	Preparatory meeting UU-institute	Review committee, secretaries
9:30	10:15	Meeting management UU-institute	prof. dr. M. van Aken, *Dean as of September 2017).* prof. dr. D. de Ridder, *Coordinator of the research assessment; Professor of Health Psychology.* prof. dr. T. Taris, *Head of Department Psychology.*
10:15	10:30	Break / Evaluation	
10:30	11:15	Meeting programme leaders UU-institute	Prof. dr. P. Boelen, *Clinical Psychology.* Prof. dr. K. van den Bos, *Social Psychology.* Prof. dr. H. Hoijtink, *Methodology and Statistics.* Prof. dr. L. Kenemans, *Experimental Psychology.* Dr. S. Thomaes, *Associate Professor Developmental Psychology.*
11:15	11:30	Break / Evaluation	
11:30	12:00	Meeting PhD candidates UU-institute	Lysanne te Brinke, MSc. Nicole Montijn, MSc. Laurens van Gestel, MSc*.* Fayette Klaassen, MSc. Paul Zerr, MSc.
12:00	13:00	Evaluation UU-institute	Review committee, secretaries
13:00	13:30	Lunch break	
13:30	14:00	Preparatory meeting MU-institute	Review committee, secretaries

14:00	14:45	Meeting management MU-institute	Prof. dr. A.T.M. Jansen, *Dean.* Prof. dr. A. Sack, *vice-dean Research.* Prof. dr. C. van Heugten, *Director Graduate School FPN & member Research Council.* Prof. dr. S.A. Kotz, *member Research Council.* Prof. dr. H.L.G.J. Merckelbach, *chair Research Council.* Prof. dr. P.E.H.M. Muris, *Scientific Director Postgraduate School EPP.* Drs. R. Hoekstra, *policy advisor & PhD coordinator.*
14:45	15:00	Break / Evaluation	
15:00	15:45	Meeting programme leaders MU-institute	Prof. dr. R.W. Goebel, *Cognitive Neuroscience (CN).* Prof. dr. E. Formisano, *Scientific Director research centre M-BIC of CN.* Prof. dr. P.E.H.M. Muris, *Clinical Psychological Sciences.* Prof. dr. H.L.G.J. Merckelbach, *Scientific Director research centre EPP of CPS.* Dr. A. Blokland, *Neuro- & Psychofarmacologie.* Prof. dr. R. A.C. Ruiter, *Work & Social Psychology.*
15:45	16:00	Break / Evaluation	
16:00	16:30	Meeting PhD candidates MU-institute	Ghislaine Schyns, MSc *(CPS).* Helen Mayrhofer–Luckmann, MSc *(CN).* Irena Bosovic, MSc *(CPS).* Natasha Mason, MSc *(NPPP).* Roy Haast, MSc *(CN).* Stefan Gruijters *(WSP).*
16:30	17:30	Evaluation MU-institute	Review committee, secretaries
18:30	20:30	Dinner	Review committee, secretaries,

Wednesday 20 September: Erasmus University Rotterdam & Open University			
Time		**Activity**	**Participants**
9:00	9:30	Preparatory meeting EUR-institute	Review committee, secretaries
9:30	10:15	Meeting management EUR-institute	Prof. dr. H. van der Molen, *Dean.* Prof. dr. P. Prinzie, *director of research.* Prof. dr. G. Smeets, *director of education*. Drs. J. Nagtzaam, *manager Erasmus Graduate School of Social Sciences and Humanities*. G. van den Hoek, MA, policy officer.
10:15	10:30	Break / Evaluation	

10:30	11:15	Meeting programme leaders EUR-institute	Prof. dr. R. Zwaan, *Brain and Cognition.* Prof. dr. I. Franken, *Cognitive Aspects of Psychopathology.* Prof. dr. F. Paas, *Educational and Developmental Psychology.* Prof. dr. A. Bakker, *Organizational Psychology.* Prof. dr. L. Arends, *Research Methods and Techniques.* only listening: Geert van den Hoek, MA, policy officer.
11:15	11:30	Break / Evaluation	
11:30	12:00	Meeting PhD candidates EUR-institute	Yiyun Liao, MSc, *Brain and Cognition.* Marieke van Meggelen, MSc, *Cognitive Aspects of Psychopathology.* Jacqueline Wong, MSc, *Educational and Developmental Psychology.* Keri Pekaar, MSc, *Organizational Psychology.* Iris Yocarini, MSc, *Research Methods and Techniques.*
12:00	13:00	Evaluation EUR-institute	Review committee, secretaries
13:00	13:30	Lunch break	
13:30	14:00	Preparatory meeting OU-institute	Review committee, secretaries
14:00	14:45	Meeting management OU-institute	Prof. dr. S. Brand-Gruwel, *Dean.* Dr. J. Winkels, *Chair Academic Affairs.* Prof. dr. L. Lechner*, Director Research Psychology.* Dr. C. Bolman*, Chair Ethical Research Committee.* Dr. E. Bakker, *Vice-chair Research Committee.* Prof. dr. A. Ernes, *Dean OU Graduate School.*
14:45	15:00	Break / Evaluation	
15:00	15:45	Meeting programme leaders OU-institute	Prof. dr. J. van Lankveld, *Clinical Psychology.* Prof. dr. L. Lechner, *Health Psychology.* Prof. dr. K. van Dam, *Work and Organizational Psychology.* Prof. dr. N. Jacobs, *Lifespan Psychology.* Dr. P. Verboon, *Methods & Statistics.*
15:45	16:00	Break / Evaluation	
16:00	16:30	Meeting PhD candidates OU-institute	Rianne Golsteijn, MSc. Juul Coumans, MSc. Kenny Wolfs, MSc. Mira Duif, MSc. Rob van Bree, MSc. Janet Boekhout, MSc.
16:30	17:30	Evaluation OU-institute	Review committee, secretaries
18.30	20:30	Dinner	Review committee, secretaries

Thursday 21 September: University of Amsterdam & Tilburg University			
Time		**Activity**	**Participants**
9:00	9:30	Preparatory meeting UvA-institute	Review committee, secretaries
9:30	10:15	Meeting management UvA-institute	Prof. dr. J.H. Kamphuis, *Department Chair*. Prof. dr. H. van der Maas, *director Graduate School*. dr. I. Visser, *director of Education College*. Prof. dr. A. Fischer, *director Psychology Research Institute.*
10:15	10:30	Break / Evaluation	
10:30	11:15	Meeting programme leaders UvA-institute	Prof. dr. J. Murre, *Brain & Cognition*. Prof. dr. H. van der Maas, *Psychological Methods*. Prof. dr. G. van Kleef, *Social Psychology*. Prof. dr. A. van Vianen, *Work & Organisational Psychology*. Prof. dr. M. Kindt, *Clinical Psychology*. Prof. dr. R. Wiers, *Developmental Psychology*. dr. H. Slagter, *chair Advisory Scientific Council (WAR).*
11:15	11:30	Break / Evaluation	
11:30	12:00	Meeting PhD candidates UvA-institute	David Maij, MSc, *social Psychology.* Florian Wanders, MSc, *Work and Organisational Psychology.* Jamie Elsey, MSc, *Clinical Psychology.* Daan van Renswoude, MSc, *Developmental Psychology.* Noor Seijdel, MSc, *Brain and cognition.* Lisa Wijsen, MSc, *psychological Methods.*
12:00	13:00	Evaluation UvA-institute	Review committee, secretaries
13:00	13:30	Lunch break	
13:30	14:00	Preparatory meeting TiU-institute	Review committee, secretaries
14:00	14:45	Meeting management TiU-institute	Prof. dr. ir. A.J. Schuit, *Dean.* Prof. dr. J. Paauwe, *vice dean of Research.* Prof. dr. J.J.A. Denissen, *Department Chair Developmental Psychology.*
14:45	15:00	Break / Evaluation	
15:00	15:45	Meeting programme leaders TiU-institute	Prof. dr. J.H.M. Vroomen, *Cognitive Neuropsychology.* Dr. T.A. Klimstra, *Developmental Psychology.* Prof. dr. I. van Beest, *Social Psychology.* Prof. dr. J.M. Wicherts, *Methodology and Statistics.* Prof. dr. J. de Vries, *Medical and Clinical Psychology.*
15:45	16:00	Break / Evaluation	
16:00	16:30	Meeting PhD candidates TiU-institute	Thijs van Laarhoven MSc, *Cognitive Neuropsychology.* Manon van Scheppingen MSc, *Developmental Psychology.* Nina Spälti MSc, *Social Psychology.*

			Michèle Nuijten MSc, *Methodology and Statistics.* Stefanie Duijndam MSc, *Medical and Clinical Psychology.* Laura Kunst MSc, *Medical and Clinical Psychology.*
16:30	17:30	Evaluation TiU-institute	Review committee, secretaries
18:30	21:00	Dinner	Review committee, secretaries

Friday 22 September: Leiden University & Final meeting			
Time		**Activity**	**Participants**
9:00	9:30	Preparatory meeting UL-institute	Review committee, secretaries
9:30	10:15	Meeting management UL-institute	Prof. dr. H. Swaab, *Dean.* Prof. dr. C. de Dreu, *Scientific Director as of mid-2017.* Prof. dr. M. Westenberg, *Scientific Director until mid-2017.* Drs. A. Zandvliet, *Institute Manager.* Drs. C. Donner, *policy officer Institute of Psychology.*
10:15	10:30	Break / Evaluation	
10:30	11:15	Meeting programme leaders UL-institute	Prof. dr. E. Crone, *Neurocognitive Developmental Psychology.* Prof. dr. W. van der Does, *Clinical Psychology.* Prof. dr. E. van Dijk, *Psychology and Social Decision Making.* Prof. dr. A. Evers, *Health Psychology.* Prof. dr. S. Nieuwenhuis, *Cognitive Neuroscience of Decision Making.* Prof. dr. M. de Rooij, *Methodology and Statistics of Psychological Research.* Prof. dr. C. de Dreu, *Social and Organisational Psychology.*
11:15	11:30	Break / Evaluation	
11:30	12:00	Meeting PhD candidates UL-institute	Bryant Jongkees MSc, *Cognitive Psychology.* Charlotte van Schie MSc, *Clinical Psychology.* Frank de Vos MSc, *Methodology and Statistics.* Janna Marie Bas-Hoogendam MSc, *Developmental and Educational Psychology.* Hilmar Zech MSc, *Social and Organisational Psychology.* Lemmy Schakel MSc, *Health, Medical, and Neuropsychology.*
12:00	13:00	Evaluation UL-institute	Review committee, secretaries
13:00	13:30	Lunch break	
13:30	16:30	General evaluation	Review committee, secretaries

APPENDIX 4: QUANTITATIVE DATA

The quantitative data provided in this appendix are those presented in the self-evaluation reports by the participating institutes.

STAFF	LEI		EUR		OU		UvA		MU	
Scientific staff	**average**	**2016**	**average**	**2016**	**average**	**2016**	**average**	**2016**	**average**	**2016**
HL	4,5	5,1	3,5	3,6	1,0	1,2	10,2	9,4	10,3	10,6
UHD	5,4	6,3	5,7	5,5	1,6	1,6	8,1	7,1	6,4	8,4
UD	15,3	19,7	7,2	7,4	6,3	8,2	20,1	26,1	27,4	32,0
postdocs	16,5	19,8	2,9	1,7	0,4	0,0	24,9	19,3	23,9	31,3
PhD students	33,3	35,4	16,8	18,4	5,3	3,1	55,8	57,6	57,0	49,2
total Research staff	**75,1**	**86,3**	**36,0**	**36,6**	**14,6**	**14,1**	**119,2**	**119,5**	**125,0**	**131,4**
support staff	2,7	4,8	3,6	3,0	0,2	0,8	7,1	7,6	16,5	18,3
visiting fellows (#)	0,0	0,0	0,8	1,0	2,5	2,0	5,8	8,0	30,8	49,0
total staff	**77,8**	**91,1**	**39,6**	**39,6**	**14,8**	**14,9**	**126,3**	**127,1**	**141,4**	**149,7**

STAFF	TiU		UG		UU		VU	
Scientific staff	**average**	**2016**	**average**	**2016**	**average**	**2016**	**average**	**2016**
HL	8,1	7,0	7,5	8,6	9,8	10,2	7,2	9,7
UHD	3,4	3,8	9,6	12,3	8,1	10,4	5,8	5,0
UD	16,5	15,0	12,6	10,1	16,0	23,8	9,3	11,0
postdocs	14,3	12,4	10,6	10,8	22,4	20,0	26,7	27,3
PhD students	44,8	38,2	42,9	37,1	41,7	37,8	52,0	51,5
total Research staff	**87,0**	**76,5**	**83,1**	**78,9**	**97,9**	**102,2**	**100,9**	**104,5**
support staff	N/A	N/A	5,1	5,0	4,5	6,3	8,3	6,3
visiting fellows (#)	2,5	3,0	4,2	6,0	5,0	9,0	6,2	6,0
total staff	**87,0**	**76,5**	**88,2**	**83,9**	**102,4**	**108,6**	**109,2**	**110,8**

FUNDING	LEI				EUR				OU				UvA				MU			
	average		**2016**		**average**		**2016**		**average**		**2016**		**average**		**2016**		**average**		**2016**	
Funding	**k€**	**%**	**k€**	**%**	**k€**	**%**	**k€**	**%**	**k€**	**%**	**k€**	**%**	**k€**	**%**	**k€**	**%**	**k€**	**%**	**k€**	**%**
Direct funding	2.808	40 %	3.264	45 %	2.341	75 %	2.636	84 %	62	54 %	90	73 %	11.167	67 %	11.493	67 %	7.036	55 %	7.687	54 %
Research grants	3.234	47 %	3.433	47 %	502	16 %	334	11 %	49	46 %	33	27 %	4.356	26 %	4.291	25 %	5.039	39 %	5.337	37 %
Other	89	13 %	58	8%	27	9%	15	5%	6	%	6	%	1.156	7%	1.428	8%	43	6%	1.811	8%
Total funding	6.934	10 0%	7.285	10 0%	3.118	10 0%	3.126	10 0%	1.118	10 0%	1.241	10 0%	16.723	10 0%	17.212	10 0%	12.904	10 0%	14.186	10 0%
Expenditure																				
Personnel costs	5.904	92 %	6.759	91 %	2.081	76 %	2.036	83 %	97	87 %	1.161	94 %	9.760	60 %	9.584	57 %	9.256	72 %	10.157	72 %
Other costs	532	8%	641	9%	685	24 %	410	17 %	14	13 %	80	6%	6.307	40 %	7.099	43 %	3.543	28 %	3.921	28 %
Total expenditure	6.436	10 0%	7.400	10 0%	2.767	10 0%	2.446	10 0%	1.118	10 0%	1.241	10 0%	16.155	10 0%	16.683	10 0%	12.799	10 0%	14.078	10 0%

FUNDING	TiU				UG				UU				VU			
	average		2016		average		2016		average		2016		average		2016	
Funding	k€	%	k€	%	k€	%	k€	%	k€	%	k€	%	k€	%	k€	%
Direct funding	3.16 5	50 %	3.3 07	51 %	5.9 56	71 %	6.15 5	60 %	4.5 24	48 %	5.06 5	49 %	2.93 8	29 %	3.01 2	28 %
Research grants	1.92 5	30 %	2.2 01	34 %	1.1 44	13 %	1.91 0	19 %	3.0 86	32 %	2.96 3	29 %	5.27 3	51 %	5.82 3	54 %
Other	1.31 6	21 %	1.0 29	16 %	1.3 35	16 %	2.16 5	21 %	1.8 82	20 %	2.35 4	23 %	2.04 4	20 %	1.94 5	18 %
Total funding	6.40 6	100 %	6.5 37	100 %	8.4 34	100 %	10.2 30	100 %	9.4 92	100 %	10.3 82	100 %	10.2 55	100 %	10.7 80	100 %
Expenditure																
Personnel costs	5.50 2	86 %	5.2 35	80 %	5.3 43	80 %	5.54 1	81 %	7.6 33	84 %	8.63 7	79 %	7.63 1	74 %	8.47 3	79 %
Other costs	904	14 %	1.3 02	20 %	1.3 04	20 %	1.30 3	19 %	1.4 45	16 %	2.28 3	21 %	2.62 3	26 %	2.30 7	21 %
Total expenditure	6.40 6	100 %	6.5 37	100 %	6.6 48	100 %	6.84 4	100 %	9.0 78	100 %	10.9 20	100 %	10.2 54	100 %	10.7 80	100 %

OUTPUT	LEI		EUR		OU		UvA		MU	
Scientific publications	**total**	**2016**	**total**	**2016**	**total**	**2016**	**total**	**2016**	**total**	**2016**
Refereed articles	1413	293	869	140	528	72	2149	355	1968	393
Scientific books	5	2	16	1	9	1	17	3	5	2
Scientific book chapters	170	17	83	5	62	12	196	20	37	3
PhD theses internal	76	14	0	0	15	1	0	0	124	25
PhD theses external	23	8	0	0	15	1	0	0	27	3
PhD theses internal and external	99	22	43	8	30	2	106	14	151	28
Other research output	6	1	0	0	5	1	331	42	145	30
total scientific publications	**1792**	**357**	**971**	**146**	**664**	**90**	**2799**	**434**	**2457**	**484**
Professional/popular										
Reports	13	2	11	1	11	0	34	5	8	4
Professional publications	135	25	54	4	46	9	237	31	409	51
Publications aimed at general public	3	1	4	2	8	1	310	15	22	5
Total professional/popular	**151**	**28**	**69**	**7**	**65**	**10**	**581**	**51**	**439**	**60**
publications/staff	**LEI**		**EUR**		**OU**		**UvA**		**MU**	
	average	**2016**	**average**	**2016**	**average**	**2016**	**average**	**2016**	**average**	**2016**
Refereed articles/ fte scientific staff	3,1	3,4	4,0	3,8	6,0	5,1	3,0	3,0	2,6	3,0
Refereed articles / fte total staff	3,0	3,2	3,7	3,5	6,0	4,8	2,8	2,8	2,3	2,6
Total output/ fte scientific staff	4,0	4,1	4,5	4,0	7,6	6,4	3,9	3,6	3,3	3,7
Total output/ fte total staff	3,8	3,7	4,1	3,7	7,5	6,0	3,7	3,4	2,9	3,2
fte PhD / fte scientific staff	0,4	0,4	0,5	0,5	0,4	0,2	0,5	0,5	0,5	0,4
internal theses/fte tenured staff	0,5	0,5	NA	NA	0,3	0,1	NA	NA	0,5	0,5
IN+EXT theses/fte tenured staff	0,7	0,7	0,4	0,5	0,6	0,2	0,5	0,3	0,6	0,5

OUTPUT Scientific publications	TiU total	TiU 2016	UG total	UG 2016	UU total	UU 2016	VU total	VU 2016
Refereed articles	1916	298	1518	263	2414	341	2771	542
Scientific books	9	1	20	2	31	2	25	3
Scientific book chapters	113	15	239	17	265	30	172	17
PhD theses internal	110	13	81	11	0	0	0	0
PhD theses external	0	0	38	6	0	0	0	0
PhD theses internal and external	0	0	119	17	146	22	126	20
Other research output	69	21	61	16	26	8	29	4
total scientific publications	**2217**	**348**	**2076**	**332**	**2882**	**403**	**3123**	**586**
Professional/popular								
Reports	18	2	54	8	0	0	42	1
Professional publications	157	9	199	33	0	0	158	15
Publications aimed at general public	33	3	250	66	0	0	187	18
Total professional/popular	**208**	**14**	**503**	**107**	**0**	**0**	**387**	**34**
publications/staff	**TiU average**	**TiU 2016**	**UG average**	**UG 2016**	**UU average**	**UU 2016**	**VU average**	**VU 2016**
Refereed articles/ fte scientific staff	3,7	3,9	3,0	3,3	4,1	3,3	4,6	5,2
Refereed articles / fte total staff	3,7	3,9	2,9	3,1	3,9	3,1	4,2	4,9
Total output/ fte scientific staff	4,2	4,6	4,2	4,2	4,9	3,9	5,2	5,6
Total output/ fte total staff	4,2	4,6	3,9	4,0	4,7	3,7	4,8	5,3
fte PhD / fte scientific staff	0,5	0,5	0,5	0,5	0,4	0,4	0,5	0,5
internal theses/fte tenured staff	0,7	0,5	0,5	0,4	NA	NA	NA	NA
IN+EXT theses/fte tenured staff	NA	NA	0,7	0,5	0,7	0,5	0,9	0,8

PhD candidates	LEI				EUR				OU				UvA				MU			
	number				number				number				number				number			
	m	f	total		m	f	total		m	f	total		m	f	total		m	f	total	
enrolment	19	42	61		9	25	34		7	8	15		29	56	85		39	73	112	
	4Y	5Y	7Y	DIS	4Y	5Y	7Y	DIS	4Y	5Y	7Y	DIS	4Y	5Y	7Y	DIS	4Y	5Y	7Y	DIS
% graduated	5 %	39 %	77 %	5 %	6 %	50 %	96 %	9 %	20 %	60 %	100 %	7 %	1 %	34 %	82 %	4 %	9 %	48 %	76 %	7 %

PhD candidates	TiU				UG				UU				VU			
	number				number				number				number			
	m	f	total		m	f	total		m	f	total		m	f	total	
enrolment	17	73	90		20	55	75		28	66	94		27	65	92	
	4Y	5Y	7Y	DIS	4Y	5Y	7Y	DIS	4Y	5Y	7Y	DIS	4Y	5Y	7Y	DIS
% graduated	17%	67%	89%	8%	8%	35%	76%	9%	12%	50%	86%	11%	38%	54%	74%	5%