



PATHWAYS 15th International Workshop

14 – 16 March 2016

Goodenough College, London

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Welcome

Dear Colleagues

On behalf of the Jacobs Foundation I welcome you to the 15th PATHWAYS Workshop at Goodenough College, University College London. This year we have a special event, combining the PATHWAYS workshop with a seminar on 'Educational Inequality in an International Context' organized by John Jerrim in collaboration with the British Academy and the OECD. The overall theme of the 15th workshop is thus: 'Social Inequalities in Aspirations and Attainment – Evidence and implications'.

The aim of the workshop and seminar is to give the PATHWAYS Fellows the opportunity to present their recent research, to discuss with their mentors and international colleagues, to engage in newly created networks, to plan future papers, projects, and activities. The Fellows have chosen a variety of modes to present their latest findings and ideas for new projects. The mix of paper presentations, posters, and project proposals promises exciting new insights regarding issues of educational inequality and possibilities for interventions. Notably, a number of Fellows are engaging in comparative research, comparing findings across different countries and across different socio-historical contexts. It is wonderful to see that teams are building, addressing similar concerns and forging a future research agenda. Finding common themes and common patterns across context generates valuable insights into generalizability of findings as well as context specific issues, and expands the current evidence base.

Another important issue for this meeting is the preparation for the next phase of the PATHWAYS Program, securing collaborations beyond 2016 when the funding from the Jacobs Foundation for program activities ceases. On Wednesday, 16th March, John Jerrim is running a workshop on the future of Pathways, facilitating your input and suggestions about how to continue our collaboration and networking on a global scale, exploring a variety of funding sources. It is wonderful to see that the event is bringing together current Fellows and alumni, now established in tenured positions all over the world, and being able to advance capacity building in the 3rd generation.

The meeting will offer ample opportunity for discussion and networking, for developing and finalizing joint papers as well as for planning future activities. I hope you will have a productive and rewarding time in London, and that you will enjoy the special event at the British Academy.

Ingrid Schoon



List of Participants

Name	Institute	Email
Jake Anders	UCL Institute of Education, UK	jake@jakeanders.uk
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Jukka Marjanen	University of Helsinki, Finland	jukka.marjanen@helsinki.fi
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Ulrich Trautwein	University of Tübingen, Germany	ulrich.trautwein@uni-tuebingen.de



Meeting Programme

Monday 14 March 2016

- From 15:00** **Check in at Goodenough College**
- From 15:30** **Tea and coffee in the Churchill Room**
- 16:00 – 17:30 Introductory meeting (Churchill Room)
- 19:00** **Dinner at Goodenough College (Great Hall)**

Tuesday 15 March 2016

Meeting takes place in the Churchill Room

- 07:00 – 09:00** **Breakfast**
- 09:00 – 09:45 Paper Presentations (15 minutes):
- *Soobin Kim*
 - *Jake Anders*
 - *Maria Pavlova*
- 09:45 – 10:30 Questions and discussion of papers
- 10:30 – 11:00** **Tea & Coffee Break**
- 11:00 – 12:30 Poster presentations
(5 minutes to present each poster followed by time for individual consultations and questions):
- *Angela Chow*
 - *Richard Gollner*
 - *Anna-Lena Dicke*
 - *Nayssan Safavian*
 - *Florencia Sortheix*
 - *Clemens Lechner*
- 12:30 – 13:30** **Lunch**
- 13:30 – 14:30 Fellow meetings with PIs/Fellow collaborations
- 14:30 – 15:00** **Tea & Coffee Break**
- 15:00 – 17:00 Steering group meeting (Small Common Room)

Fellow meeting (Churchill Room)
- 19:00** **Dinner at Dishoom, Kings Cross**



Meeting Programme

Wednesday 16 March 2016

Meeting takes place in the London House Large Common Room

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|----------------------|---|
| 07:00 – 09:00 | Breakfast |
| 09:15 – 10:00 | Paper Presentations (15 minutes): <ul style="list-style-type: none">• <i>Terry Ng-Knight</i>• <i>Hanna Gaspard</i>• <i>Jukka Marjanen</i> |
| 10:00 – 10:45 | Questions and discussion of papers |
| 10:45 – 11:15 | Tea & Coffee Break |
| 11:15 – 13:00 | Feedback from steering group and fellow meetings |
| 13:00 – 14:00 | Lunch |
| 14:00 – 15:30 | Workshop run by John Jerrim on the future of Pathways |
| 15:30 – 17:00 | Fellow meetings with PIs/Fellow collaborations |
| 19:00 | Dinner at Balfour |

Thursday 17 March 2016

- | | |
|----------------------|--------------------------|
| 07:00 – 09:00 | Breakfast |
| | Event at British Academy |

Friday 18 March 2016

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| 07:00 – 09:00 | Breakfast and departure |
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Abstracts

15 – 16 March 2016

The contributions are listed in order of presentation. The summary shows the name of the presenter(s) only.

Session 1: Paper presentations

- Soobin Kim
College Enrollment over the Business Cycle: The Role of Supply Constraints
- Jake Anders
Private school advantage in pay growth among early entrants to high-status graduate jobs
- Maria K. Pavlova
Cumulative Advantage and Disadvantage in the Working Life: Psychosocial Consequences of Continuous Employment vs. Long-Term Unemployment

Session 2: Poster presentations

- Angela Chow
Science Motivation Trajectories and Educational Outcomes in Secondary School
- Richard Göllner
The Higher the Better? Compositional Effects of American High-Schools on Life Course Outcomes
- Anna-Lena Dicke
The role of perceived social norms and parents' value in the development of interest in biology
- Nayssan Safavian
Examining gender differences in patterns of STEM-related career aspirations and attainment from early adolescence to adulthood.
- Florencia M. Sortheix
Personal Value Change in Young Adults in Response to the Global Financial Crisis in Europe
- Clemens M. Lechner
Work Values as Predictors of Young Adults' Entrepreneurial and Leadership Intentions



Abstracts

Session 3: Paper presentations

- Terry Ng-Knight
A longitudinal study of self-control at the transition to secondary school: considering the role of pubertal status and parenting
- Hanna Gaspard
Relevance interventions in the classroom: A means to promote students' homework motivation and engagement?
- Jukka Marjanen
Testing a conceptual model for optimal learning moments



Abstracts

College Enrollment over the Business Cycle: The Role of Supply Constraints

Soobin Kim

Michigan State University

Many studies on cyclical variation of higher education examine the relationship between cyclical variation in labor market conditions, and changes in enrollment. Changes in enrollment are caused by changes on both the demand side and the supply side. However, much of the previous literature implicitly assumed elastic supply of enrollment. This study identifies institutions with supply constraints and investigates how those constraints have affected institutions' decisions on enrollment, and how such effects vary across institutions. I find that, in the short run, institutions are different in capacity to absorb additional students, so that recessions have heterogeneous effects on enrollment size and on freshman achievement. During recessions, some capacity constrained institutions increase enrollment less than proportionately to the increase in the number of applications and, as a result, increase their admissions selectivity. Other institutions respond to increase in demand by accepting more students, resulting in a drop in new-student achievement.



Abstracts

Private school advantage in pay growth among early entrants to high-status graduate jobs

Jake Anders

National Institute of Economic and Social Research

Graduates from state schools are less likely than their private school peers to enter "professional" jobs on leaving university (Macmillan et al., 2015). However, more can be learnt about the advantages accruing from private schooling by considering the pay growth of those who do enter such jobs. This paper considers differences in the salary growth of graduates that secure a high-status job by whether they attended a private secondary school, using data from a recent survey of English graduates. While there is faster pay growth among those who attended a private school, after controlling for a range of background characteristics, individuals from state schools are just as likely to remain in high-status jobs at this early stage of their careers. Nevertheless, it is evidently not enough simply to ensure fair access to professional jobs and assume that those who enter will go on to achieve similar levels of financial success regardless of background.



Cumulative Advantage and Disadvantage in the Working Life: Psychosocial Consequences of Continuous Employment vs. Long-Term Unemployment

Maria K. Pavlova

University of Jena, Germany

The negative effects of unemployment, especially long-term unemployment, on mental health are well known. They are often explained by the loss of manifest (i.e., income) and latent (e.g., social contacts) benefits of employment. However, little is known on whether such benefits or resources are accumulated during stable employment, whether exactly the same resources are depleted during long-term unemployment, and whether such cumulative processes can contribute to a growing divergence in mental health between continuously employed, intermittently employed, and long-term unemployed individuals over time. To investigate such cumulative processes in the working life, I drew on the life-course theories of cumulative advantage and disadvantage. I used data from the German Socio-Economic Panel, a representative 30-year survey of German adult population, and estimated multilevel models with pairs of yearly observations clustered within individuals (N ranged between 7,201 and 20,419). A longer duration of continuous employment was associated with a lower likelihood of social isolation (i.e., having no one to turn to in case of severe illness) and predicted a positive residual change in perceived employability, satisfaction with health, and general life satisfaction over one year. However, these positive effects, especially those on perceived employability, were dampened in those workers who stayed a long time with the same employer. A longer duration of continuous unemployment had exactly the opposite (i.e., unfavourable) effects on these outcomes. Findings illustrate the cumulative nature of psychosocial resources associated with paid employment and underscore the psychological costs of an insider–outsider labour market.



Abstracts

Science Motivation Trajectories and Educational Outcomes in Secondary School

**Angela Chow¹, *Ming-Te Wang², Jacquelynne S. Eccles³*

¹Indiana University, ²University of Pittsburgh, ³University of California, Irvine

Studies suggest that students' motivational beliefs about science learning are critical for improving performance, increasing high level course enrollment, and instilling a desire to pursue a STEM career. In this study, we incorporated expectancy-value theory and person-centered approaches to capture the heterogeneity of adolescents' motivational trajectories in science from 7th to 12th grade and link these profiles to science outcomes. We used a cross-sequential design based on three different cohorts of adolescents (N=699) coming from 10 public secondary schools. Children's ability self-concept and task values in science were found to be positively related and closely interlinked over time. We further identified seven groups of students with differential trajectories of change. Not only did we detect heterogeneity in patterns of science motivation, we further found differential associations with science achievement, advanced science course taking, and STEM career aspirations across these trajectories.

**Equal first authors*



The Higher the Better? Compositional Effects of American High-Schools on Life Course Outcomes

Richard Göllner¹, Rodica Damian², Brent Roberts³, Ulrich Trautwein¹

¹University of Tübingen, ²Houston University, ³University of Illinois at Urbana-Champaign

The effectiveness of public institutions such as schools, high schools or universities is one of the main interests in educational research and public debate. This has led to the publication of quantitative comparisons which are also of special interest for students and parents in choosing the best institution for educational success.

One central question in educational research refers to the extent to which the composition of students within educational institutions has an effect on students' academic success over and above individual characteristics. Such compositional effects were already highlighted by several authors mostly referring to school average socioeconomic status. Coleman (1966) concluded that schools with high percentage of disadvantage students tend to have lower outcomes, even after taking account of student background and geographic differences.

However, the principle "the higher the better" seems not to be applicable to other compositional features. In several studies, empirical research found the paradoxical effect that school average ability has a negative impact on the academic self-concept, future aspirations and school grades. Tymms (2001) found that in classes with a high average academic level, student attitudes towards mathematics, reading and school were more negative. The explanation of such findings have their early roots in sociological research by Festinger (1954) and Davis (1966) stating that individuals have a drive to compare themselves with other persons in order to evaluate their own opinions and abilities.

Despite considerable scientific and practical interest in the effectiveness of educational institutions, the question raises how group composition affects individuals' life. In the present study we will present preliminary results of a large-scale representative sample of high school students in the 60s and addressed this issue over a period of 50 years. Specifically, we were interested in the following questions (i) Does the socioeconomic composition of high-schools have a positive effect on educational attainment, income, and occupational prestige? (ii) Does the socioeconomic composition still have an effect on outcomes when we control for individual characteristics? And (iii) does the average math ability shows similar compositional effects or does higher math ability at the school level resulted in more negative effects on lifetime outcomes.



Abstracts

The role of perceived social norms and parents' value in the development of interest in biology

Anna-Lena Dicke¹, **Chris S Hulleman**², **Jeff J Kosovich**², **Dustin Thoman**³

¹University of California-Irvine, ²University of Virginia, ³California State University
- Long Beach

It is tempting to consider the development of interest in a topic to be an individual matter. That is, whether a person becomes interested in a topic can be construed as owing mostly to direct experiences and a unique constellation of temperament and personality characteristics. However, interest development is also a social phenomenon that may be influenced by one's perceptions of social norms and the values of our caregivers and peers. We used a survey to examine the relationship between perceived parental values, perceived peer norms, and teacher behaviors and high school students' (N = 443) interest in biology. Using structural equation modeling, we found that peer norms and parental values for science predicted perceptions of greater relevance of the material to students' lives, which led to increased interest. In contrast, we found that teacher behaviors led to increased success expectancies, which also led to increased interest in biology.



Abstracts

Examining gender differences in patterns of STEM-related career aspirations and attainment from early adolescence to adulthood.

Nayssan Safavian¹, Arena C. Lam¹, Fani Lauermann², Jacquelynne S. Eccles¹

¹University of California, Irvine, ²University of Bonn

This research examines the longitudinal profiles of STEM-aspirers to describe the trajectories that lead into STEM and non-STEM careers by: (a) detailing the development and changes in career aspirations from early adolescence into adulthood (grades 7, 10, and 12, and 6 years after high school), and (b) documenting gender differences in aspiration trajectories and career attainment (at age 42). Career aspiration and attainment data from the Michigan Study of Adolescent and Adult Life Transitions were categorized into four domains: traditional STEM-related careers in the physical sciences, engineering, mathematics, and technology (PMET); life sciences (e.g., biology, health sciences); social sciences, and non-STEM. Using latent profile analysis, three common patterns of career aspirations emerged: those who consistently aspired to non-STEM careers (63% of sample); those who aspired for PMET careers in-and-throughout adolescence but began shifting to non-STEM aspirations by adulthood (17%); and those who aspired to life science careers in-and-throughout adolescence but began shifting to non-STEM aspirations by adulthood (20%). Logistic regressions predicting to eventual career attainment indicated that males were more likely to be characterized by the PMET career aspiration profiles, whereas females were more likely to be characterized by the medical/life career aspiration profile. In addition, males were more likely to attain PMET-related occupations, and females were more likely to attain careers in medical/life at age 42. The findings underscore the importance of distinguishing between PMET and life sciences for understanding gendered career preferences and choices within STEM (e.g., life sciences vs. PMET).



Personal Value Change in Young Adults in Response to the Global Financial Crisis in Europe

Florencia M. Sortheix¹, **Philip D. Parker**², **Clemens M. Lechner**³, **Shalom, Schwartz**⁴,
¹University of Helsinki, ²Australian Catholic University, ³University of Jena, ⁴Hebrew University of Jerusalem

This paper used European Social Survey data from 2002 to 2012 to assess the impact of the global financial crisis (GFC) on personal values, and test whether differences in country's welfare systems could moderate the expected value change. Longitudinal multilevel analyses included younger individuals' (age below 36) value priorities and controls at the individual level, and at the country level, unemployment rate, annual social expenditure (percentage of gross domestic product), and the extent of external and fiscal debt of the country. Preliminary results showed that the GFC increased the importance of achievement, power and security and decreased the importance of universalism, self-direction and conformity values. These changes moderated by welfare expenditure the extent of the crisis. These results show how a difficult economic context may shape the value priorities of a generation and what country characteristics diminish this impact. We discuss educational, psychological and policy implications of our findings.



Work Values as Predictors of Young Adults' Entrepreneurial and Leadership Intentions

Clemens M. Lechner¹, **Florencia M. Sortheix**¹, **Martin Obschonka**^{1,3},
and **Katariina Salmela-Aro**⁴

¹Center for Applied Developmental Science (CADS), University of Jena, Germany

²University of Helsinki, Finland

³Saarland University, Germany

⁴University of Jyväskylä, Finland

Most theories of vocational development assign a central role to work values in shaping young people's vocational preferences and choices. Yet, compared to other factors such as abilities, personality traits, and interests, relatively few empirical studies have investigated the role of work values in shaping vocational preferences. This applies particularly to vocational preferences falling into Holland's E (enterprising) interest cluster, such as entrepreneurial (i.e., founding a business) and leadership (i.e., assuming the role of a business or group leader) preferences. In the present study, we investigate whether work values predict entrepreneurial intentions and leadership intentions above and beyond other well-known socio-demographic and psychological precursors. For this purpose, we use data from two waves of the Finnish Educational Transitions Studies (FinEdu), considering effects of six work value dimensions (rewards, security, intrinsic, autonomy, social, experiential), measured in 2011 (age 23–25; $N = 1,096$), on entrepreneurial and leadership intentions in 2014 (age 25–27; $N = 1,138$). Work values—especially rewards, security, and autonomy—predicted both entrepreneurial and leadership intentions even after controlling for a host of personality, motivational, and sociodemographic factors. The pattern of effects was similar for entrepreneurial and leadership intentions, although effect sizes were generally stronger for the latter. In addition, work values explained a substantial share of the gender gap in entrepreneurial and leadership. These results suggest that work values play an important role in shaping young adults' entrepreneurial and leadership intentions.



Abstracts

A longitudinal study of self-control at the transition to secondary school: considering the role of pubertal status and parenting

Terry Ng-Knight

UCL Institute of Education

Higher self-control in children and adolescents is associated with a range of positive outcomes in adulthood. However, little is known about the naturalistic development of self-control during early adolescence and the factors that affect this. We examined the role of puberty and parenting style as theoretically important influences on stability and change in self-control. A longitudinal (3 waves), multiple-informant dataset of children entering early adolescence ($M = 11$ years) was used to explore longitudinal change in self-control using latent growth curve modelling. Children's self-reported self-control declined during the one-year study period and declines were associated with children's adaptation to secondary school, and their behavioural and social functioning. Associations with self-control were found for pubertal status and parental affect, but not for parental discipline. The findings suggest early adolescence is a period when self-control declines, particularly for those experiencing puberty earlier than their peers, and that parental affect has important effects on self-control during this period.



Relevance interventions in the classroom: A means to promote students' homework motivation and engagement?

*Barbara Flunger¹, **Hanna Gaspard²**, Isabelle Häfner², Brigitte Brisson², Anna-Lena Dicke³, Benjamin Nagengast², & Ulrich Trautwein²*

¹ *Utrecht University, Netherlands*

² *Hector Research Institute of Education Sciences and Psychology, University of Tübingen, Germany*

³ *University of California, Irvine, US*

Many students deal with motivational problems when doing homework and fail to complete their homework. To investigate whether an intervention that effectively promoted domain-specific value beliefs could also increase students' homework motivation and behavior, data of a cluster randomized controlled study with two classroom-based relevance interventions were analyzed (i.e., the MoMa study; Gaspard et al., 2015). In this study, eighty-two ninth-grade classrooms were randomly assigned to one of two experimental conditions (either writing a text or evaluating interview quotations) or a waiting control condition. Students' homework motivation and behavior were assessed with homework diaries that students completed for four weeks after the intervention. Using latent growth curve analyses, it was found that students reported higher levels of utility of homework for future life, maintained interest as well as homework effort in the quotations condition compared to the control condition. There was also an effect of the text condition on the change in the amount of homework completed over the course of the four weeks of diary completion. In total, the intervention promoted four out of eight considered outcomes. Thus, relevance interventions in the classroom can be a promising tool to foster students' homework motivation and effort.



Testing a conceptual model for optimal learning moments

Jukka Marjanen,¹ Katariina Salmela-Aro,² Barbara Schneider,³ Jari Lavonen,¹ Joe Krajcik,⁴ and PIRE team

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⁴Institute for Research on Mathematics and Science Education, Michigan State University, East Lansing, Michigan

Schneider et al. (2015) present a theoretical model for optimal learning moments. According to them, an optimal learning moment occurs when 1) students are interested in what is done in the classroom, 2) students are sufficiently challenged by the tasks presented to them and 3) students feel skilled enough to perform the tasks. According to the optimal learning moment model, subjective feelings of success, happiness, confidence, enjoyment and activeness (as enhancers) are expected to occur in conjunction with optimal learning moments. On the contrary, the absence of feelings such as boredom and confusion (detractors) is expected when experiencing an optimal learning moment. Finally, feelings of stress and anxiety are accelerants for optimal learning moments.

In the present study the conceptual model is tested against empirical data using multilevel structural equation modelling (SEM). This approach allows for assessing model-data fit and comparisons between U.S. and Finland.

The data was collected using Experience Sampling Method (ESM), where the same students were asked to fill in the same Likert-type questionnaire multiple times in different classroom contexts. This way the temporal and situational nature of the optimal learning moments can be captured more accurately than using a traditional one-time survey or questionnaire. The Finnish data includes 160 (U.S. n = 244) students in two secondary schools (in U.S. data there were 4 schools). Since the responses are clustered within students, it is necessary to use multilevel techniques in the analysis.

Overall, the measurement models for the different parts of the conceptual framework fit the data well on both levels of measurement (within and between). However, on the within level the latent structure of the enhancers was two-dimensional. On the between level, only the enhancers had a positive and statistically significant influence on optimal learning moments. On the within level one of the enhancer factors as well as the accelerants had a positive relation on optimal learning moments. The result is similar to the one published in the article by Schneider et al. (2015).

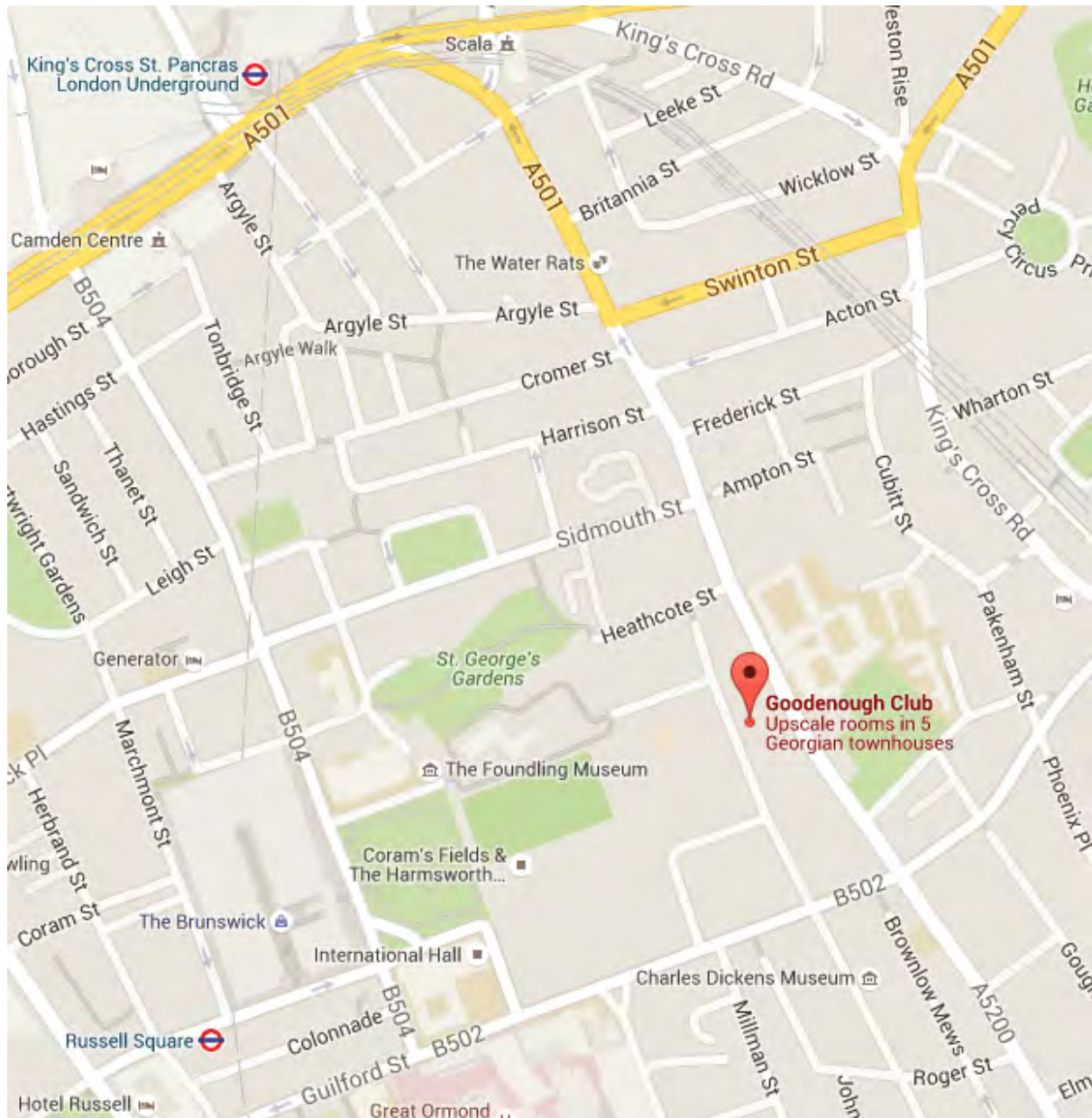


Notes

Goodenough College/ Goodenough Club

23 Mecklenburgh Square, London WC1N 2AD

Telephone: +44 (0)20 7837 8831 <http://club.goodenough.ac.uk/>



Nearest tube station: Russell Square or Kings Cross

From Heathrow airport: Take the Piccadilly Line tube from Terminals 1,2,3, 4 or 5 direct to King's Cross St. Pancras station or Russell Square. Alternatively take the Heathrow Express to Paddington station and change for the Circle Line to King's Cross station.

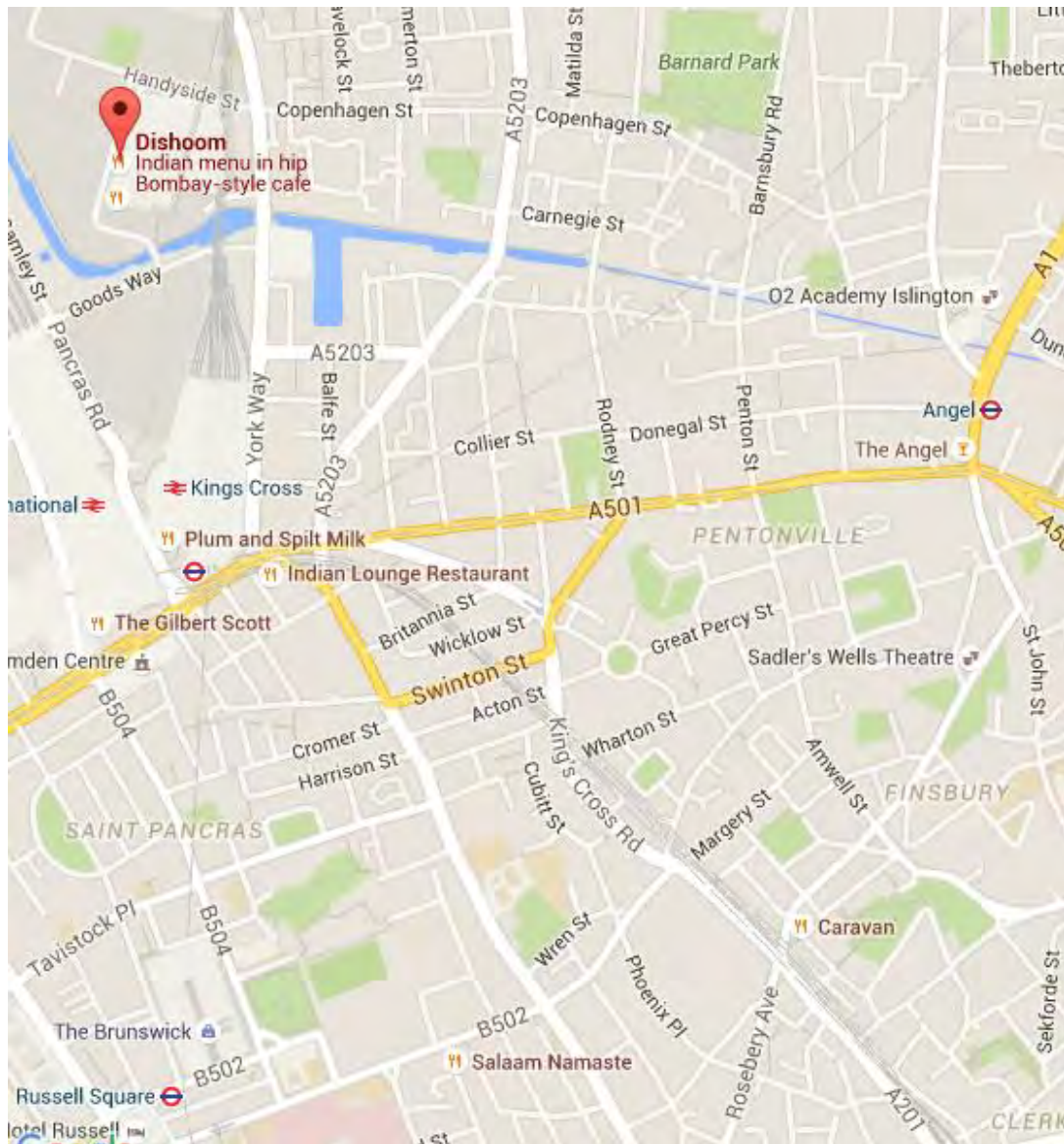
From Gatwick airport: Take the Gatwick Express to Victoria Station. Take the Victoria line direct to Kings Cross



Notes

Dishoom, Kings Cross

5 Stable St, London N1C 4AB



Notes

Balfour

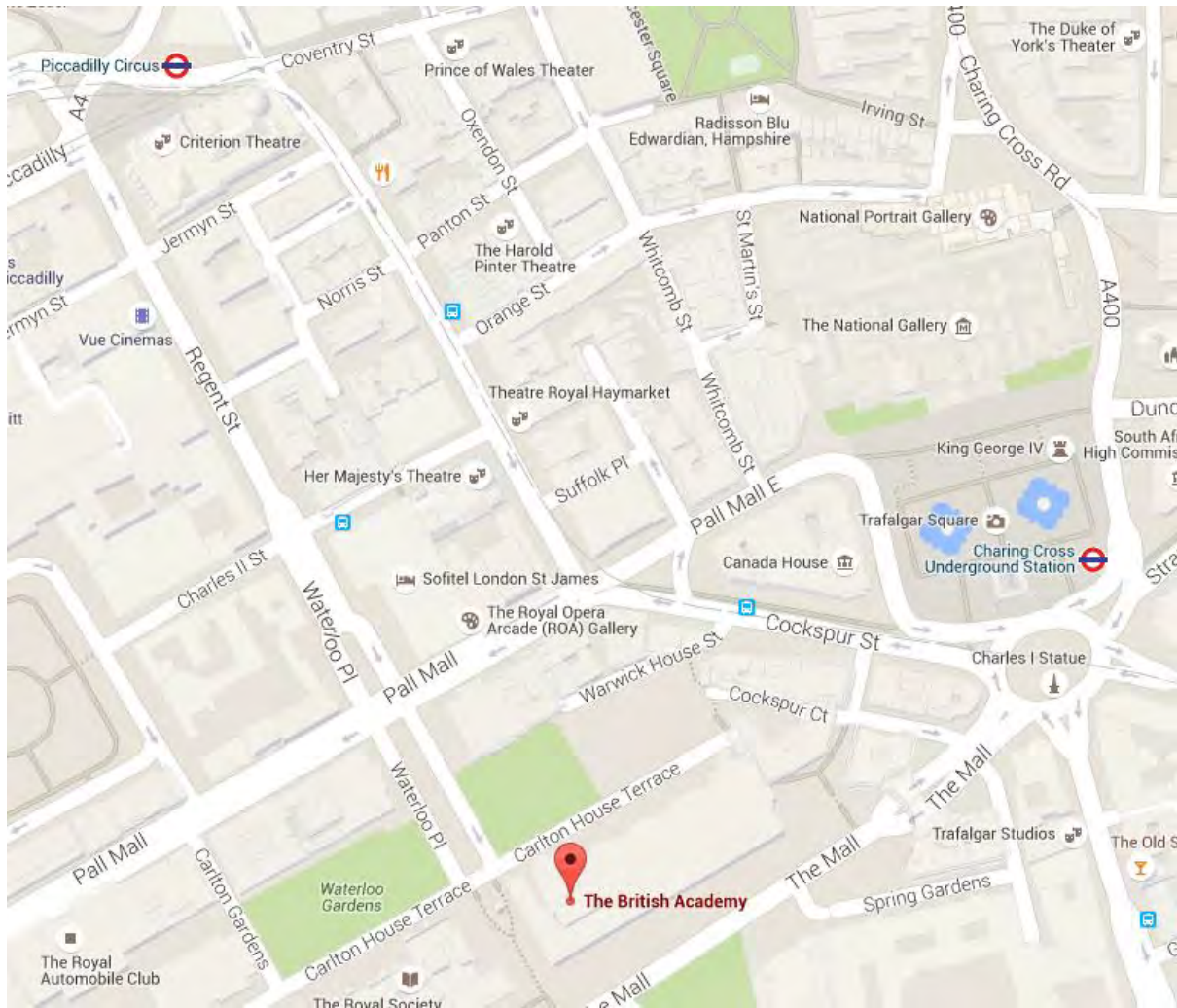
75-77 Marchmont Street, London WC1N 1AP



Notes

British Academy

10-11 Carlton House Terrace
St. James's, London SW1Y 5AH



From the Goodenough Club walk to Russell Square station and take the Piccadilly line direct to Piccadilly Circus. It is a five minute walk to the British Academy from there (total journey time: 20 minutes).

