



Donders Institute
for Brain, Cognition and Behaviour



IMpACT SWOT analysis 2014

Radboud University Nijmegen



IMpACT SWOT analysis

Strengths (internal)

- International team of experts
- overseeable number of members, personal acquaintance and trust
- regular meetings in person, not only TCs
- Selective membership
- Team works well together
- Strong and flexible group
- Together, IMpACT partners have a good track record
- Access to much experience, large samples and complementary technologies
- We have a highly respected leader and a democratic organization; all voices are being heard
- Strong in molecular genetics (especially GWAS & Candidate genes)
- Focus on a topic (adult ADHD) sufficiently narrowed and interesting
- Well-chosen niche: adult ADHD, with unique expertise in this
- Largest patient sample
- Highly diverse and well-characterized, cohorts
- Ability to constantly work on multiple projects
- Multiple levels of research approaches for the different components of ADHD (clinical, behavioral, genetics, translational)
- IMpACT has been/is crucial to the development and strengthening of several “young research groups” in their respective countries
- Good and promising atmosphere of our collaboration has a strong motivational effect for students
- Attractive for brilliant students
- Already succeeded in obtaining money (AGGRESSOTYPE)
- Easy and fast decision processes
- High mobility of junior researchers – we should encourage joint Ph.D. student projects or student exchanges
- To tighten collaborations also on the formal level
- We now have our database and plenty of additional genetic data. We should make more use of this treasure chest.
- Collaboration with other research groups

- We have not been able to utilize the full strength of our combined sample for discovery-most of our papers/study designs thus far are single-site “discovery” and IMPACT used as follow up. Very low powered design for modern genetics.
- Simple candidate studies that were state of the art five years ago are now considered suboptimal. We have not moved beyond candidate gene studies, although we have access to many types of data and skills.
- Too little direct research collaboration – rather “sample sharing” and genotyping, but only limited strategic and specific research project
- No centralized location of DNA at genotyping-provider for quick/robust replication across the entire sample.
- Lack of a set of core measures that should be mandatory for any adult ADHD-study (to enable easy cross-sample comparisons).
- No common core adult ADHD grant -> ie we have not been “forced” to do a common bold targeted effort.
- What do others perceive as our weakness: Maybe we have not been ambitious enough? We are the biggest players in adult ADHD. Have we been going too much for low hanging fruits? Where is the really “big project”, that will lead the way?
- Still not reaching genome-wide significance with patient sample
- Only few attempts of joint work on mechanisms
- IMPACT projects/collaborations are not prioritized by participating groups - considering their total scientific output during the past five years, IMPACT papers account for a small and declining proportion
- We have not produced any high profile papers together. This leads to a situation where we don't have high expectations for the future
- Goals of having easily accessible common database and rapid replications have not been realized. Simple replication of few SNPs may last months and result in increase in co-authors but little scientific added value.
- The democratic/ consensus based ruling structure means that the leader (or IMPACT as such) cannot force any partners to prioritize or speed up important collaborative projects. The effect may be that partners refrain from involving other potential collaborating groups
- There is no common financing mechanism that directly encourages collaboration.
- Difficult task to combine multiple inspiring and innovative projects from students and post-docs with the parallel need to focus on larger, ambitious goals of the collaboration
- We are lacking sequencing, CNV studies, functional genomics that competitors do have
- Large-scale collaborative projects for key areas are missing:
 - gene x environment effects on ADHD and associated conditions/impairments
 - to address neurobiological underpinnings of ADHD (from genes to behaviour)
- Lack of funding for direct IMPACT related topics → no dedicated, “exclusive” staff (Ph.D. student, postdoc) for IMPACT
- Lack of long term strategies for IMPACT
- Apparent loss of coherence within the group
- The increasing diversification of interests and responsibilities of the IMPACT members, which reduces time availability and concentration/focus (in 2007 we were younger!)



IMpACT SWOT analysis

Opportunities (external)

- IMpACT consortium has been/is very important for obtaining country-specific funding for many of us
- As more robust genetic associations (hopefully) emerge, there will be a need to explore mechanisms and translate this into novel treatments. IMpACT has access many resources to aid this process
- The integration of experimental (molecular/animal) data with human genetic studies are needed to understand mechanisms. We could perform such studies, but this is much more challenging than performing “simple” association studies. We should carefully select such suitable future projects. In summary: Our total experience, large data sets and technologies could potentially be used to lead and define the adult ADHD research field in the future.
- Epidemiological data / databases (e.g. from Sweden and Norway) are a particular strength, but have never been used in IMpACT. This should be a priority for the future.
- We are all gathering more “generic” genotyping data (GWAS etc) that are more adaptable to meta-analysis and sharing.
- The PsychChip results should identify common and rare variants for follow-up in candidate gene association and functional genomic paradigms.
- More samples are getting available for research world-wide, although maybe not at enough speed?
- How can we “quadruple” our number of samples?
- Develop a PGC-sub-cohort of all available adult ADHD GWAS samples. Perhaps make this an official PGC-partner?
- Extending our core to become the leading consortium in both juvenile and adult ADHD (or ADHD across the lifespan)
- Being able to apply for EU grants, such as Aggressotype; H2020 and NIH grant proposals offer opportunities
- Knowledge of our different strengths (and weaknesses) also forms a basis for other successful collaborative initiatives, such as symposia and joint H2020-proposals.
- Good embedding of IMpACT members in other large international consortia (PGC, ENIGMA,..)
- We should consider using the Aggressotype model, i.e., to apply a broader range of ideas/methods to adult ADHD.
- Look for and collaborations with groups that have population based samples with ADHD measures available (i.e. SAGA approach)





IMpACT SWOT analysis

Threats (external)

- The “research community” has not gathered enough ADHD samples available for molecular research.
- Need to raise the profile and importance of studying ADHD in adults –to compete with other disorders
- New (EU) grants/schemes force us to move away from our core phenotype adult ADHD
- getting lost in TCs, better is: having annual meetings!
- Need of more financial support
- Although partners are generally positive, many others obligations lead us to put less priority on IMpACT and IMpACT phone calls.
- In real life, partners and groups in IMpACT compete more than collaborate with each others. This is part of standard academic culture, but may also be counterproductive.
- Dispersion of research topics of the IMpACT members.
- The PGC and Broad have lately been defining progress in Psych. Genetics. IMpACT seems to be more or less irrelevant in this development.
- IMpACT was originally based on mediums sized genetic candidate gene studies. As larger GWAS studies have emerged, this design is considered less relevant and obviously threatens IMpACT.
- Decreases in funding by NIH
- Recent funding to Broad may limit resources to others
- Data sharing complexities outside a consortium
- Funding has moved away from GWAS toward sequencing where we are relatively weak
- We need to consolidate our consortium and make it more visible to the scientific community (e.g. sign manuscripts including IMPACT in the authorships?)
- Insufficient presence in scientific associations/on scientific meetings

