

## Research Training Project - Call 1, 2023

### Cover page

<b>Name of Applicant</b>	Vojtěch Fiala
<b>Title of the Research Training Project</b>	Association between social media use and attribution of facial characteristics
<b>Focus Area Sustainability OR Digital Societies</b>	Digital Societies
<b>Abstract</b> (2000 characters maximum-including spaces) [given that the online interface allows only 1000 characters, I decided to follow the limit of 1000 characters]	The proposed project will focus on the association between the appearance of facial stimuli in online social media and ascribing facial characteristics. The first research question asks whether perception of human faces differs depending on the person's experience with social media. The prevailing 'visual diet', which affects social perception of faces, can be diverse and extensive regarding the number of ethnicities seen regularly by the users, which may affect their facial perception. The second research question is if the facial characteristics of influencers are systematically different from characteristics of the common population: Using facial images of the influencers and tools of geometric morphometrics, I will study the association between high status within social media and facial configurations. The results of our project may affect the policy of local organisations that work with youth and alert the administrators of social media on the risk of the services they provide.

## **Section 1: Quality, innovativeness of the project and stakeholder interaction**

### Component 1: Quality and pertinence of the project's research and Innovation objectives

Key questions and requirements:

*What are research and Innovation objective of your project and how does your project incorporate state of the art ideas?*

The research objective of my project is to study the effect of a global online environment and its challenges for human sociality and interpersonal interactions, with a special focus on facial perception. The Innovation objective of my project is to study modern social media within the framework of evolutionary psychology and to consider the large-scale cross-cultural scope of the social media environment.

Two main research questions will be addressed. RQ1: The first question asks if the facial perception of attractiveness, trustworthiness, typicality, and dominance by users, non-users, and by users of different social media is similar or rather distinctive. RQ2: The second research question is if the facial characteristics of influential social media users as measured by tools of geometric morphometrics are systematically different from the facial characteristics of the common population and if there is an association between the level of development of such features and the ranking of the influencers.

Current-era urbanised environments deviate from traditional small-scale (and traditional large-scale) societies in which human social perception was most likely shaped (the so-called 'environment of evolutionary adaptedness', Tooby & Cosmides, 1990). In such traditional societies, the interplay of visual and acoustic perception and 'social knowledge' would work optimally. At the same time, it may fail in modern large-scale urban environments, since the challenges in such an environment differ from the 'natural state' that human psychology was adapted to.

Working from such assumptions, state-of-the-art evolutionary psychology has found differences in ascribing characteristics to faces between traditional (mostly small-) and modern, industrialised (mostly large-scale) societies (Marcinkowska et al., 2019; Scott et al., 2014). Nonetheless, currently, we may be entering yet another era, the era of 'online megalopolises'. There is evidence that present-day mass media like television (Boothroyd et al., 2020), and the internet (Batres & Perrett, 2014) affect facial characterisation. The question remains, however, if human behaviour, including the social perception of faces in the present-day online environment, is explicable within an evolutionary (adaptationist) framework and amenable to study using the tools of evolutionary psychology.

Potentially, further conceptual step is needed to characterize the present-day human environment. While modern-era people have lived in cities with hundreds of thousands or millions of individuals, humans nowadays live in an environment with permanent access to the internet ('online environment'). Accordingly, the lived environment of an individual, who is almost always online, may effectively consist of billions of people. The prevailing 'visual diet', which affects the social perception of faces (Singh et al., 2022), may be enormous regarding the number of individuals and extensively diverse regarding the number of regularly approached ethnicities. If evolutionary psychology intends to study contemporary humans, it must consider facial perception from the perspective of the online environment. There is currently a concern that society splits into filter bubbles and that social media magnifies this phenomenon (Sindermann et al., 2020). This may create differences in facial perception between social media users and non-users, and, in a similar vein, between different social media users.

*What are the novel, ambitious, adventurous, and/or transformative aspects of your proposal?*

In my research, I will compare the facial perception of users of online social media, participants with experimentally induced 'online environment deprivation', participants experimentally exposed to social-media style presentations of facial stimuli, and participants who report not using social media. Participants will be asked to fill in a personality questionnaire, which enable us to study the association between personal characteristics and social media use. Finally, the consistency of evaluations *within* each of the groups (social media users and non-users) will be assessed.

I will also study if the morphometric predictors of facial perception borrowed from the adaptationist studies of 'offline' facial perception (sex-typicality, averageness, ethnical typicality, low fluctuating asymmetry) apply equally well to the online social media environment. Online social

media also allow users to control what they see. They enable them to upvote posts and share them. The most influential users may be perceived as the most trustworthy, attractive, and dominant, and their facial characteristics may overlap with the characteristics that evolutionary psychology posits as preferred (i.e., low facial asymmetry, high sex-typicality, averageness, youthfulness, and healthy appearance, see Fiala et al. 2021, and citations therein). This process most likely mirrors human overall social preference for attractive individuals (Dion et al., 1972).

While there are studies to address the 'attractiveness' (Eggerstedt et al., 2020) and trustworthiness (Wiedmann & von Mettenheim, 2020) of influential social media users, these studies are not evolutionary (they do not consider facial perception as a product of adaptive evolution). Even those to examine the facial attractiveness of influential users focus in most instances on the perspective of classical aesthetics (e.g. whether popular social media influencers possess 'ideal features', corresponding to a canon of beauty; Eggerstedt et al., 2020). They also compare attitudes towards plastic surgery in social media users (Das & Drolet, 2021), and explore the association between the personal characteristics of influential users, including attractiveness and trustworthiness, and their business success (Wiedmann & von Mettenheim, 2020). At the same time, evolutionary studies on facial perception in modern large-scale environments omit the perception in online media environments. My project intends to fill in this large gap in contemporary research.

Human facial perception and characterisation are affected not only by the use/non-use, but also by type of use, frequency of use, and by use of different types of online social media. Some social media present both static and dynamic stimuli (Instagram, Facebook, Twitter), whereas others focus on dynamic stimuli (TikTok, YouTube Shorts). These distinctions may also affect the ascribed characteristics. There is evidence that facial characterisation may differ between static and dynamic stimuli (Rubenstein, 2005). To address this issue, we will allow participants from the groups of different social media users to rate facial stimuli, subsequently comparing their preferences.

The most influential and successful 'online world dwellers' should possess facial characteristics that evolutionary psychology considers as preferable (e.g., average, symmetric, youthful, ethnically-typical and sex-typical – or otherwise, in the case of male sex-typicality; see Boothroyd et al., 2007). Alternatively, the most influential online media users are not the most attractive individuals – as users rather prefer someone with whom they may identify (i.e., rather moderately attractive than super attractive).

*Indicate the urban challenges or opportunity/ies that you want to address with your project with reference to either Sustainability or Digital Societies?*

As outlined, my project would focus on Digital Societies. Its main ambition is to collect data on online facial characterisation and differences in facial characterisation between social media users and non-users. It will search for evidence of evolutionary mechanisms acting in online social media.

Evolutionary psychology has identified differences in perception between large-scale urban and small-scale traditional societies. The same distinction may also apply to the difference between on- and off-line facial perception (and, in a somehow weakened form, also for users of different kinds of social media).

Alternatively, the perception within the online environment (the digital society) may be like the perception in large-scale urban societies (offline urban environment). This project has the ambition to initiate a new paradigm in evolutionary research that considers all online users as inhabitants of one large online megalopolis. It will study how their psychology differs from the psychology of the non-users of online social media (in the case of facial characterisation).

*Indicate if your project requires an interdisciplinary approach, and if so how this approach supports the execution of the project.*

My project is closely tied with evolutionary psychology and evolutionary anthropology (including studies on visual perception), fields that are already inherently interdisciplinary. Methodologically, it will use the tools of Bayesian statistics, geometric morphometrics, psychometrics, and social psychology, all applied from the perspective of human evolutionary psychology. Without using tools from these diverse disciplines, the project would not be doable.

## Component 2: Soundness of the proposed methodology, procedures, and feasibility.

Key questions and requirements:

*Why are the proposed methodology and procedures appropriate?*

As detailed in the CV, I possess the following skills: geometric morphometrics, preparation of rating questionnaires, and Bayesian statistics. Using these tools, I can collect and analyse both experimental and non-experimental data to address the research problems as listed in Component 1:

The RQ1 (association between facial perception and use of online social media) will be addressed using a questionnaire rating of facial stimuli (either from freely available databases or from a database of faces that was collected for scientific purposes by me or some of my colleagues). I will examine the potential differences in ascribed characteristics (facial perception) between users and non-users of online social media and personality differences between the groups.

Questionnaire ratings (RQ1) are probably the most widely used tool for studies of facial perception in evolutionary psychology. Raters will be recruited either online (using advertising on social media, emailing to potential raters, or a 'snowball method') or in face-to-face interaction (on the street, at the university campus). They will be subsequently asked to rate a predefined set of facial stimuli and to answer general demographic questions. Collected data will be subsequently processed and used in statistical analyses. I have extensive experience in collecting and analysing questionnaires as it has always been the main tool of my research. Personality questionnaires to examine the association between psychological/personality characteristics and social media use (RQ1) will be selected and edited in cooperation with the co-host institution.

The RQ2 (association between facial characteristics and high ranking among the influencers) will be addressed in the following way: Using a freely available facial database and faces of the most influential users who belong to the same world region, I will search for associations between facial metrics and popularity of the influencers. Faces of the most influential social media users may systematically violate the population mean and possess highly average, ethnically typical, symmetrical, and/or sex-typical faces. These systematic differences can be identified by geometric morphometrics.

The tools of geometric morphometrics provide a recognised and widely accepted approach to describing the shape variability of a given set of objects, including faces. Initially, each face will be marked by 72 landmarks (half of them, being sliding semilandmarks, denoting edges and curves), following previous studies, including some of my research (Fiala et al., 2021). Subsequently, I will process these configurations using generalised Procrustes analysis. After that, the measures of 'averageness' (distance from population mean) and 'cross-group typicality' (see Kleisner et al., 2019) of the given face will be calculated. Other 'standard measures' like sex-typicality (typicality of a given face concerning its biological sex, Komori et al., 2011), and facial asymmetry will be also obtained this way. These measures are predictors of perceived facial characteristics (see the referenced articles).

*Note: The Gantt chart is located below Component 2.*

*What makes your overall approach feasible?*

As stated above, in the proposed project, I plan to use only facial stimuli that are currently available – either using some of the openly available databases, databases of my collaborators, or a database made from stimuli from the internet (the third dataset would be only used for anthropometric and geometric morphometric analyses, not for rating). The project would collect two kinds of data: (1) Rating and psychometric data – i.e., how raters of different attitudes towards and with different levels of use of online social media assess faces from openly available databases (Chicago FD, Bogazici FD, and others) and (2) morphometric data and other facial measures of the influential users (Influencer's data).

The participants will assess facial stimuli. We will primarily collect rating data using classical questionnaires with facial stimuli and participants, who were not primed before rating in any way. Nonetheless, the online experiment-building platforms (Qualtrics, Labvanced) allow us to create designs that look very similar to a timeline of social media, which will be used to prime the participants in one of the experiments (rating directly after exposure to online social media timeline). The main hosting institution – the Faculty of Humanities, Nicolaus Copernicus University, presents a good source of young volunteers for the project. I plan on drawing on the established resources of the host (Center of Excellence IMSErt), its online platform for recruiting participants, as well as its

resources to remunerate participants (which will be instrumental in making the participants refrain from using social media for a given period).

The second part of the project does not imply direct stimuli assessment by participants/raters. Therefore, there is almost no risk of not being able to collect the necessary data. The most influential users (i.e., social media users with the highest counts of likes or numbers of followers on the given network) are regularly reported (e.g.: <https://socialblade.com>). Databases allow us to sort these influential users by region. Also, facial photos of these persons are readily available. Supplying the selected social media with their, preferably facial, photos is a part of the process. I will download and measure these photos. I do not intend to make the processed photos publicly available, nor to collect their ratings. I will only take the anthropometric (e.g., fWHR) and morphometric measures (using the landmark-based geometric morphometrics, as outlined above).

Selected photos or video frames shall satisfy certain requirements regarding quality and configuration. Importantly, I have the necessary experience and expertise to select images that will not distort the anthropometric and morphometric measures, so that systematic biases may be prevented (see Třebický et al., 2022). For the same reason, using images downloaded from the internet is acceptable. Tools of geometric morphometrics describe facial shape only relatively (i.e., across the given dataset). Nonetheless, this approach is more powerful when the count of (non-distorted) facial configurations is higher. For example, similarities and differences between most followed online social media users and a random sample from the same region (e.g., Chicago Face database & North American influencers, Ma et al., 2015) can be assessed. All the configurations will be denoted using landmarks and entered into a common morphometric analysis. The photos need not be of the same resolution, however, they must be analysed at once. The collected and generated data will subsequently enter Bayesian models which enable us to explore the credibility of all relevant associations.

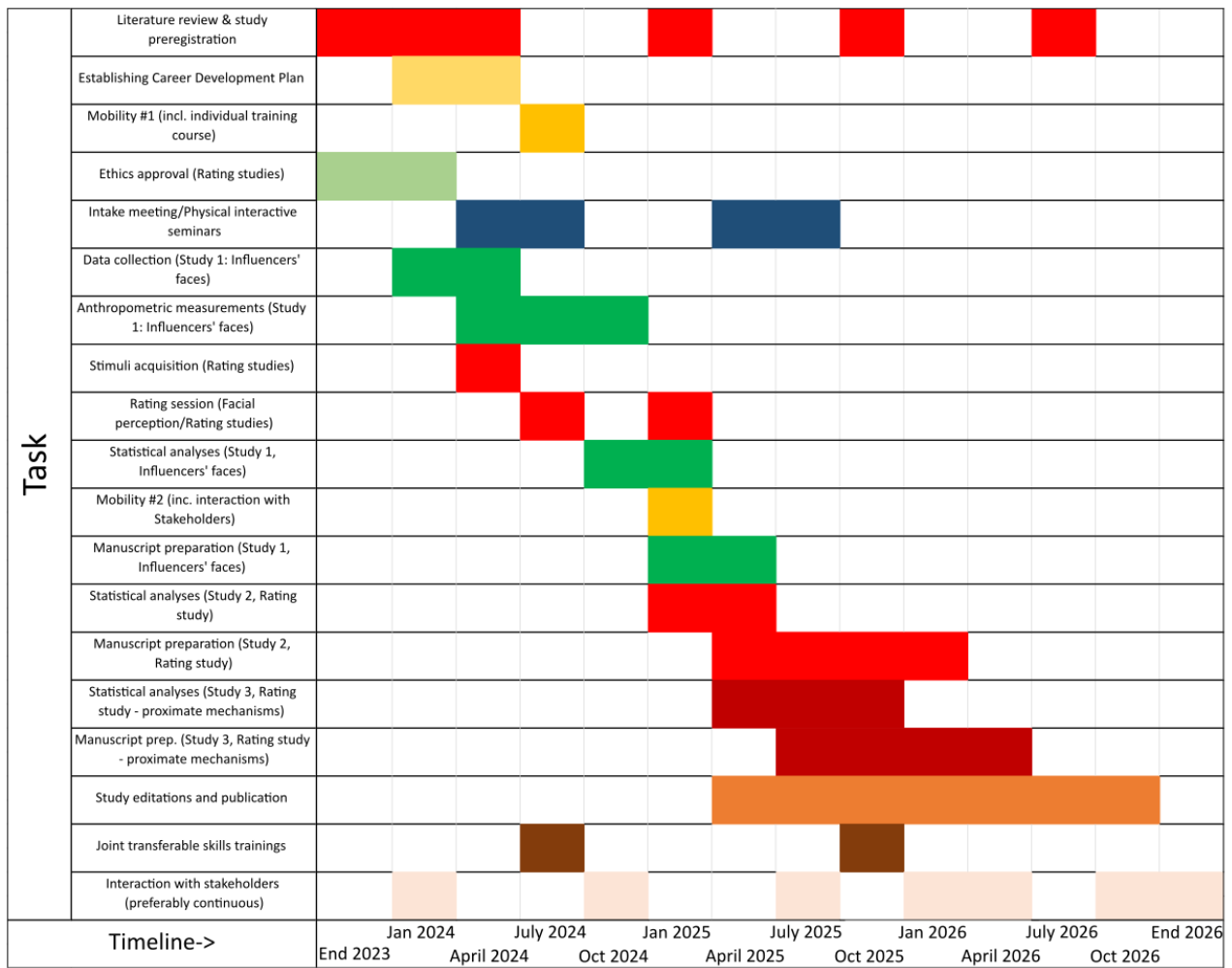
Taken together, both the morphometric (anthropometric) and rating part of the project are doable. The proposed methodology includes widely accepted tools of questionnaire ratings, geometric morphometrics and Bayesian statistics. The tools allow us to address the understudied phenomena of online facial perception.

#### *How will you manage the data?*

For the project, we will collect two kinds of data: The rating data and the morphometric/ facial-metrics data. The rating data (i.e., how the recruited participants rate the stimuli) would be collected using online tools that ensure a high level of reliability and safety. The CLES group at NCU has access to 'Labvanced', an experiment-building platform that allows collecting facial ratings. I also have large experience with 'Qualtrics', an experience manager that serves to prepare questionnaires and collect the ratings online. Only basic demographic information of the raters will be collected (age, height, weight, time spent on social media daily/weekly, which media they use, and the date of their first registration on the given platform). These data will be anonymised (participants' data being stored under a numeric code, on a computer protected by login). An online backup copy will be updated continuously in an NCU Toruń safe institutional cloud.

The morphometric/facial-metrics data will be collected directly from social media. It is usually allowed to create sets of data, based on the contributions that are available for free (either to any internet user or upon registration). I do not intend to deviate from this approach in any way. Only the data that would be created/measured during the research conduction will be used in this study. As I also possess basic knowledge of using tools to automate the scraping of webpages, like the package Rvest (Wickham, 2022), I can also obtain the data directly from the webpage (e.g., downloading rankings from various sources to compare them).

After collection, the data would be processed to conduct Bayesian analyses. The Bayesian approach is better at addressing the proposed hypotheses, as it returns not only the estimate of the (most probable) mean bivariate coefficient, but also the distribution of all the relevant estimates, given the data and prior distributions. As such, the Bayesian approach is useful in psychological research.



A schematic overview on the timeline of my project (Gantt chart).



Component 3: Contribution to societal and/or economic impact as well as identification of non-academic stakeholders and stakeholder interaction

Key questions and requirements:

*What is the potential societal and/or economic impact of your project on a short, medium or longer term basis?*

Both the societal and economic impact depends on the soundness of the results. I will, in the following paragraphs, present eventual conclusions, based on the different results:

The results may reveal substantial differences in the facial perception between online social media users and non-users. This result may, in the short-term perspective, initiate the debate on the feasibility of using online social media. We shall distinguish between using social media itself and the potential negative effects related to using online social media. We will look for the effects of using social media on human perception. These effects can (but need not) be interpreted as harmful. This should help the stakeholders to apply strategies to cope with such potentially harmful effects (and, in the first row, to assess, if they are harmful). For example, it may be revealed that heavy users of social media perceive faces differently than other groups. Our result may bring solid evidence on how online social media alters the perception, and, therefore, psychology, of their users. Such an effect should be conveyed to relevant authorities (Ministries of Education, Ministries of Health, and social media administrators themselves). The subsequent debate may resolve if these effects can be considered harmful.

On a medium-term basis, it may help the generation of nowadays teenagers to develop their attitudes towards online social media. This way, both the advantages ('If I follow people of various ethnicities, I may improve my skills of communication, since I would be able to better perceive their emotions, improve my recognising skills and skills in ascribing characteristics to faces of other ethnical groups.') and risks ('If I spend too much time using online social media, I may worsen my abilities of social communication with individuals in the offline world') will be recognised.

On a long-term basis, our research may help the developers of future generations of online social media. The data collected on the current generation of social media also presents the basis for the future. The most popular social media of the current era may be quickly abandoned. New online social media may (and most likely will) grab the participants' attention by using slightly different approaches. Evidence from the project may identify the inevitable side effect of using social media (e.g. if users of any media undergo the same perception shift). If we find that the current generation possesses certain risks, which can be controlled, the next generation of social media should avoid them.

If the results reveal that online social media do not affect facial perception (null results), we may conclude that human facial characterisation is relatively stable and that social media do not affect facial characterisation and related behavioural patterns. It may be also revealed that based on their facial metrics, the most influential users are not extraordinarily attractive, 'supernormal stimuli', and that there is no difference between following a girl from the neighbourhood and a girl from the neighbourhood continent.

Given that we use Bayesian tools, we may be more successful in convincing the scientific community that the eventual null results are not false negatives but rather that they mirror the relatively negligible effect of using social media on the psychological process of facial characterisation. From the short-term perspective, it would supply the developers of online tools and public institutions (including municipalities, educational and governmental institutions) with solid evidence that the alleged large-scale harmful effect of social media on human psychology, does not manifest itself in facial characterisation. Social media thus may be used to one's advantage – as useful tools for remote communication.

*Identify the type of relevant stakeholder groups and/or stakeholder representative organisations which may benefit from the results of your project in the short, medium or longer term:*

The stakeholders, as outlined above, will be: The developers of online tools (developers) and public education and governmental institutions (institutions). The developers include online social media administrators, technological companies, and advertising agencies. The primary anticipated source of their interest in my project is to improve their products. My goal will be to present the results with respect to the fact that the youth, the primary users of these online services, would grow up in the world that we have created. Therefore, I should motivate the developers to focus on (and avoid) the

potential problems of their products (e.g., development of addiction, fractionalisation of the social world, the tendency to highlight potentially harmful trends), not to focus only on making a profit.

The institutions that will become stakeholders in this project are (from the local to global institutions): The Nicolaus Copernicus University, the universities overall, and institutions that work with youth. The institutional boards will be contacted so that they may benefit from the results, mainly from the identified risks. The education plan of local universities/high schools may be altered to consider the risks. If facial perception is affected by using/not using online social media, further focus shall be put on other potential correlates of using social media. In the long-term perspective, the adopted social media policy can be, like in the case of the developers, used to anticipate, which effect would the next generation of social media bring.

*Indicate how you intend to interact with one or more of these stakeholders during the execution of your project.*

In the first stage, the results will be reported to the scientific community (in peer-reviewed journals) and the students at the local universities (Nicolaus Copernicus University, Universität Bremen). We will also inform the online platforms, whose services the examined influencers use. We will pre-register the study, using an online platform (e.g., osf.io).

The communication with the local university scientific community, with my collaborators and with the students would take place using online channels (webpage of the faculties/universities and the Centre for Language Evolution Studies), word of mouth and emailing. Upon publication, the peer-reviewed studies would be also sent to the administration of the online media in question. I plan to public exclusively in open-access journals so that the results will be readily available and can be shared with (and, subsequently by) these services administrators and developers. Regardless of how ground-breaking the results would be (e.g., we may find that the raters agree on the facial attractiveness, with only minor and non-systematic differences between users/non-users), they have a relatively high potential of being accepted by a good-quality journal, which will also add them the relevance for the public.

Currently, search engines, like Google Scholar and Web of Science seem to not return many results of the search when using keywords like 'facial attractiveness AND Facebook', 'facial perception AND TikTok', etc. It is, however, unlikely, that I would be the first one to consider the outlined topic. We will try to convince the 'culprits' of our research (i.e., online social media) that our research is sound. This may also improve the visibility of the new field of using tools of evolutionary psychology to study human behaviour on online social media and in search engines.

**Note:** *In case a separate paragraph of an Ethics Statement should be added, please see below. The detailed description is available in [Fiala\\_ethics.pdf](#).*

The participants, who will be recruited for the rating part of the study, will be informed about the scope of the study and encouraged to report any inconvenience they felt during the questionnaire completion. They will be informed that their participation is voluntary. We will not record the participant's name, or other information by which participants can be identified. We study the effect of social media use. Some participants may find the question(s) related to the use of social media too personal. They will be allowed to skip the question on frequency and type of social media use. Given that participants may want to consult, if the amount of time they spend on online social media is excessive, a link to the crisis hotline and a contact to a dedicated person at the university will be also reported to the participants. The photographs of influential social media users will not serve as stimuli in this project (detailed terms of use of these photos is available in the file 'Fiala\_ethics.pdf'). Facial stimuli that will be rated by the participants consist of facial photos from freely available databases (e.g., Chicago Face Database). The participants in these databases allowed the use of their photos for scientific purposes. We will apply for Ethical Approval for the parts project that will use participants (recruit raters) by the local Ethics Committee and initiate these parts of the project only after the approval will be received.



## **Section 2: Match with the research environment of host university and co-host university**

### **Component 1:** Thematic fit with the research group at host university

Key question and requirements:

*How will your research project fit within the research conducted at the prospective host research group (host university)?*

The Centre of Language Evolution Studies (CLES) at the Faculty of Humanities, Nicolaus Copernicus University (NCU), Toruń, is a part of Interacting Minds, Societies, Environments (IMSErt), one of the key research areas at NCU. The primary interest of the group lies in the emergence and evolution of communication systems. The key research questions are: How does the language evolve? Which are the sources of language communication? How are language and communication affected by technology and technological development? How to define the relationship between language and cooperation?

Studying facial variance presents an integral part of the group's research interest. Both dynamic facial stimuli (facial mimics) and static faces present entry-level information that precludes complex communication. Based on the first impression, the subsequent behaviour of the approached person is estimated/predicted by the perceiver and their behavioural strategy is chosen accordingly. Ascribed characteristics based on faces (facial first impressions) are usually arrived at within milliseconds and the process of facial characterisation is considerably stable across individuals and even cultures (see Fiala et al. 2021 and citations therein). A systematic shift in first impression formation, when identified in a given group, is explained as an outcome of adaptive processes.

The facial feature that deserves large attention is the human eye. Originally, the sclera of modern humans, in most cases homogeneously white, has been suggested to function to facilitate coordination within a group through gaze following. Experimentally altered eye phenotype affects the ascribed characteristics of a given face, making them more 'human-like' and 'favourable' to a human perceiver (Waciewicz et al., 2022). It is, therefore, likely that the psychological mechanism of our ancestors developed hand in hand with phenotype change towards the modern human eye appearance and that this psychological and physical phenotype initiated the evolution of complex systems of human communication.

My original contribution to the CLES group lies in the (i) expertise of evolutionary psychology, (ii) knowledge of geometric morphometrics (and ability to use its tools), and (iii) knowledge of Bayesian statistics. These tools, when combined with the knowledge and approach of 'classical' studies of the origins and evolution of language, enable us to study the evolution of communication systems in modern humans and their ancestors. The combination of evolutionary psychology and evolutionary studies of the origins of language may shed more light on the role of facial phenotype in effective communication. The mechanism of attributing characteristics to faces should reveal the evolutionary forces that have enabled complex human interactions.

### **Component 2:** Thematic fit with the research group of the co-host university

Key question and requirements:

*How will your research project fit within the research conducted in the research group of the prospective co-supervisor (co-host university)?*

The Toruń group focuses on ultimate functional explanations (i.e., which aspects of human phenotype enabled the evolution of complex societal structure and communication system). My cooperation with the Personality Psychology and Psychological Assessment group at The Institut für Psychologie, Universität Bremen will aid in addressing the proximate (*sensu* Tinbergen) basis of the examined psychological phenomena of first impression formation in the online environment.

The expertise of members of the Personality Psychology and Psychological Assessment group consists of studies on the lifelong development and change in personality and long-term stability/change of preferred personal characteristics. The researchers also study associations between hormonal change and preferred and perceived characteristics and associations between genetic background and psychological traits. These studies are an integral part of psychology and fields examining measured and ascribed individual characteristics. Therefore, the research topics of the group are close to my expertise, which is evolutionary psychology. The developmental, heritability-, and age-related perspective is necessary for addressing mechanisms, by which facial

perception (ascribing characteristics based on faces) is set and sustained in an individual. To identify, which of the mechanisms affect facial perception in the environment of online social media, I must examine, if there is systematic behavioural and psychological change between the users and non-users. Such a change may initiate a shift in ascribing characteristics based on the faces executed by online social media users (perception shift first). Alternatively, the association goes oppositely: certain personal characteristics cause the individuals, who possess them, to be prone to become heavy users of online social media (personal characteristics first).

Alternatively, no such shift in personal characteristics or effect of existing personal characteristics occurs. The high number of approached faces (intensifying the visual diet) in social media users is then the only mechanism that leads to differences in facial characterisation between the users and non-users. Detailed inspection of such proximate mechanisms is out of the scope of my expertise. However, it fits well into the scope of the Personality Psychology and Psychological Assessment group. Considering these proximate mechanisms as dynamic is also in the expertise of the head of the Group, Prof. Dr. Christian Kandler.

**Component 3:** *Potential to either initiate or further develop cooperation between host and co-host university*

Key questions and requirements:

*Does your project initiate a collaboration between the host and co-host research groups, or will it further develop an ongoing collaboration? Please note: initiating collaboration and developing collaboration are equally valued.*

Currently, there is no direct collaboration between the host and co-host research groups. In case of the project being accepted, such cooperation will be initiated.

*Does your project, foster interdisciplinary cooperation between the host and co-host universities?*

One of the goals of the proposed project is to foster such cooperation. Being an evolutionary psychologist, who currently spends time also dealing with linguistic data and with the concept of the evolution of language and communication in general, I will mediate the exchange of knowledge between the groups (the group of psychologists and the group of linguists). The proposed project may reveal the trends and potential selection forces that have shaped facial phenotype in contemporary humans and facilitated interpersonal interactions. In the project, we will inspect the preference of users of social media, that is, people whose visual diet regarding faces is exceptionally wide and diverse. We will also analyse the difference in facial appearance between a local population and the most influential social media users from the population. These data will have far-reaching consequences for studies of human facial variance and its role in ascribing characteristics (first impressions), social perception, and communication.

*Describe a brief personal mobility plan: indicate the rationale and desired length of stay in the co-host university (intra-YUFE mobility) and optionally other envisaged mobilities during your appointment as YUFE postdoc. Please note: other mobilities will be defined after appointment in consultation with the supervisor.*

I plan to conduct two visits at the co-host institution. I plan both visits to be of similar length (~1-2 months). The proposed length may change in case I will be enabled to take part in a semestral course in statistics or related field(s) during one of the visits at the co-host institution. During the first visit, I would like to initiate an individual training course. My primary goal for the first visit is: Meet personally the member of the group and broaden my knowledge of their expertise (both in psychology and in using data-analytic tools, e.g., specialised software for path analyses).

During the second visit, I plan to interact with Stakeholders at the local university and institutions on a face-to-face basis. In a similar vein, I also plan to get in touch with Stakeholders from online social media (administrators, developers). As face-to-face interaction with these Stakeholders may also be advantageous, a visit to them should be included in 'other mobilities'.

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