Description of the main research directions investigated by the institute

As stated above, research activities in the IPS are structured around three departments which correspond to three main thematic areas or research directions. The next section is organized around these three departments. However, it should be noted that the following description is slightly simplified for the sake of clarity because in fact there are frequent overlaps and collaborations among the working groups both within the departments and across the departments. In what follows, we list the main achievements which were accomplished during the evaluated period and which were represented by publications, predominantly in peer-reviewed journals with IF, but also by several monographs.

A. Department of Personality and Social Psychology (DPSP)

In line with the research strategy set out five years ago, the members of DPSP focused on state-of-the-art scientific advancement in the field of personality and social psychology. DPSP continued the research in two research areas. In the first area, we examined human development across the life span and managing difficult situations. We successfully continued solving five projects – Brno Longitudinal Study of Life-Span Development (BLS), Generation 2020; Growing in Late Adulthood (GLA), Quality of Life Longitudinal Study of Pediatric Oncology Patients (QOLOP); Bullying and Exclusion in Adolescence Study (BEAS) – within which we examined the conditions of successful life development in different life periods (childhood, adolescence, adulthood and old age). The second area of research in our department includes intergroup relations. In the Brno Lab of Intergroup Processes, we focused on the research of intergroup contact and acculturation.

In sum, we consider a significant improvement compared to the last evaluated period; our employees initiated international studies, invited foreign collaborators and were the first authors of studies published in prestigious Q1 foreign journals. In the following section, we will describe the most important results of the abovementioned projects, which significantly contributed to the increase of knowledge of studied topics and attracted attention in the international context.

Brno Longitudinal Study of Life-Span Development (BLS)

Unique longitudinal studies on life-span development have been running since 1961 in our department. Within BLS we focused, among others, on personality predictors of successful development in adulthood. Our results suggest that subjective (well-being) and even objective (career stability) aspects of adaptive development in adulthood can be predicted on the basis of personality characteristics in toddlerhood and adolescence. Extraversion measured at the age of 16 proved to be the best predictor of well-being indicators in adulthood; in case of self-efficacy, it was also childhood disinhibition. Extraversion in adolescence, childhood disinhibition and negative affectivity predicted career stability. The results support the hypothesis that characteristics such as activity, vigor and assertiveness are more important for good future adjustment than emotional stability (the study has 9 citations on WOS).

Growing in Late Adulthood (GLA)

In this project, we aspired to broaden the knowledge about life experiences of older adults. In our papers, we have suggested that ageing means a primarily balanced dialogue between integrity and despair on the way to wisdom. We published 15 papers in an IF journal and we put our full effort into disseminating new ideas about ageing, growing old, and integrating. Our results highlight the meaning of processing and reconstruction of negative life experiences, stressing positive relationships with others are a significant part of successful ageing and that loneliness can turn the elderly into social cynics. Our investigations showed that policy and social status, wealth and education influence achievement of integrity and vulnerability to despair. We found that generativity contributes to successful ageing which then helps people face death relatively unafraid and that reminiscences motivate generative behavior and indirectly affect meaning in life in the elderly.

Bullying and Exclusion in Adolescence Study (BEAS)

In 2015-2019, we aimed to expand the knowledge about factors that promote or hinder defending during early adolescence. Although many early adolescents feel motivated to act morally and defend their classmates victimized by bullying, only some of them behave in line with these motives. Our results were published in five papers in journals with IF, including the world's leading Journal of Youth and Adolescence. We found that defending is associated with moral motives, personality traits, and family support, but that the most important factors that shape defending include peer norms and status among peers. Specifically, students who decide to not defend their victimized classmates are typically concerned about challenging the peer norms and putting at risk their own friendships. This is a vital information that can help target the anti-bullying efforts while cultivating peer norms and promoting classroom friendships.

Quality of Life Longitudinal Study of Pediatric Oncology Patients (QOLOP)

We used longitudinal design within the QOLOP project. We analysed predictors of psychosocial adaptation in a unique sample of Czech childhood cancer survivors. The results emphasize the influence of parenting factors and survivors' emotionality over objective medical data and provide important implications for the clinical care of childhood cancer survivors and their families. The journal belongs to the top 25 % outputs in oncology and the study has six citations in the WoS.

The Brno Lab of Intergroup Processes (BLIP)

The Brno Lab of Intergroup Processes (BLIP, https://www.psychologickyvyzkum.cz) gathered eight researchers passionate about improving relations between members of different groups in societies (e.g., the Roma and Czech majority). We aim at finding viable ways of reducing prejudice and discrimination through intergroup contact, acculturation of immigrants, mass media exposure, sensitive use of language for describing group membership, and social perception. Our special focus is post-conflict societies where we study how to enhance reconciliation between former adversaries. Since its beginning in 2014, the members of the BLIP published more than 20 papers

in renowned international outlets, obtained five competitively awarded grants from national and international funding bodies, and engaged in numerous outreach activities.

In one of our studies, we examined news report valence and linguistic labels on prejudice against social minorities. Mass media represents the major source of information about social minorities (e.g., immigrants) because direct contact with minorities is often limited. Consequently, news and language describing social minorities in mass media can exacerbate or attenuate prejudice against social minorities. In three studies in distinct intergroup contexts, people's prejudice against social minorities changed after only a single exposure to a news about social minorities. Positive news attenuated prejudice, while negative news exacerbated prejudice to a larger extent than positive news attenuated prejudice. Labeling ethnicity with nouns (e.g., a male Roma) resulted in more prejudice against social minorities than adjectives (e.g., a Roma man).

The Five-Factor Personality (BIG 5)

The core topic of DPSP for many years has been the research related to the five-factor personality model. In 2015-2019, we applied results in four Q1 journals. We continued researching the accuracy of ethnic stereotypes. We have proposed and tested an alternative approach to overcoming the methodological shortcomings of previous studies, and applied it to data from ten European countries. We participated in the preparation of studies that are an important contribution to the field relating to trait hierarchy and personality development.

B. The Department of Cognitive Psychology (DCP)

The members of the Department of Cognitive Psychology continued their experimental research mainly, but not exclusively, in the field of psycholinguistics and visual perception.

Visual perception (VP)

Our attention was directed towards selected research areas within this extensive field, including visual space perception, scene perception and memory, eye movements and multiple object tracking. Our results were published in seven papers on high-ranking international journals. In one study (Lukavský & Dechtěrenko, 2016), for example, we dealt with the problem that processing of visual input takes the brain dozens of milliseconds, which may be critical for many real-life activities. Do we predict the changes around us? Can we extrapolate the positions of moving objects? We used original methodology to measure the prediction/lag in eye movements. We presented people with a dynamic attention task, where they were asked to track four moving objects on a screen without mistaking them for other moving objects. We repeatedly presented the same trials forward and backward and collected gaze data. We found that eye movements were systematically lagging by approximately 110 ms. Reducing the predictability of the observed scene and higher cognitive workload could increase the lag, but the higher predictability and lower workload decreased the lag only insignificanly, suggesting the existence of a lag lower bound limit.

Psycholinguistics (PL)

In psycholinguistics research, the principal topic was grammatical development, especially early comprehension. One key finding (Smolík & Bláhová, 2019) was that Czech children use grammatical gender to actively anticipate upcoming nouns in sentences they hear. To our knowledge, this was only the second report of such anticipatory processing in the world, and first using grammatical gender. Previous studies found facilitatory effects of prediction on noun processing, but predictive effects before the noun onset. The finding is important because of the great role currently attributed to anticipation and error-based feedback in language learning and learning in general. It is a part of our broader research examining the role of grammatical and semantic dimensions in early language, including the first study that used child data to show strong effects of word imageability on the age of acquisition of words (Smolík, 2019). The scientific results of psycholinguistics group were published in seven papers on high-ranking international journals. In addition, we developed the Dovyko questionnaire which provides the overview of the child's vocabulary and grammar development of children at the age from 16 to 30 months.

C. The Department of Research Methodology (DRM)

In 2015-2019, members of the Department of Research Methodology focused on the application and advancement of quantitative and qualitative methods in state-of-the art psychological research. The DRM includes five research groups, each specializing in a different type of research methodology, namely:

(1) psychosemantics (Psychosemantics in Neuroscience Research Group, PsyNe); (2) advanced statistics and adaptive testing (Advanced Statistics Research Group, AdSta); (3) mixed-method research (Organizational Studies in Higher Education, OSHE); (4) narrative and phenomenological methods (Narrative Inquiry Research Group, NIR); and (5) constructionist psychology approach.

In the following section, we describe the most important results of our research groups, which have significantly contributed to the increase of knowledge of studied topics and attracted attention in the international context.

Psychosemantics in Neuroscience Research Group (PsyNe)

In 2015-2019, the PsyNe Group focused on the development of complex research protocols in highly interdisciplinary projects focusing on the neural aspects of the social cognition. As a major contribution to this area of research, we conducted a comprehensive methodological evaluation of normative emotional visual stimuli used frequently in current neuroscience research. Our studies – which were published in high-ranking journals with impact factor – revealed that: (1) emotional photographs are classified on the basis of semantic content in addition to broad dimensions of valence and arousal; and (2) their evaluation is context-dependent – subjective ratings of the stimuli are influenced strongly by the presentation sequence and gender of the participants. These findings have major methodological implications for research in neuroscience that employs normative picture stimuli. Our findings further suggest that to achieve a greater accuracy of results in future emotion research, a more detailed

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stimulus categorization defined by semantic content over and above standardized norms on broad dimensions of valence and arousal is needed.

Advanced Statistics Research Group (AdSta)

In 2015-2019, we continued applying advanced statistical methods across diverse research topics, based on our frequent and productive cooperation with researchers from all three Departments. Apart from this collaboration, our major original contribution was twofold. First, we conducted a study on measurement of spatial reasoning. In contrast to the traditional approach to such measurement, our research introduced the concept of a computer-based test, which not only applied multimedia elements to the presentation of complex test stimuli, but also utilized interactive elements into the response mode and consequently proposed innovative scoring procedures. The main benefit compared to traditional tests is a significant increase in the ecological validity of testing, which is considered a key issue in the context of measuring spatial reasoning. Second, we conducted a large-scale experimental research into mobile videogames, in which we simultaneously tested two competing hypotheses regarding the relationship between videogame violence and aggressive tendencies. This study was significant for the field because it is one of the first studies that used laboratory experiments to examine the topic of videogames on mobile devices.

Organizational Studies in Higher Education (OSHE)

The Organizational Studies in Higher Education (OSHE) group focuses on the state-of-art research that lies in the intersection between Organizational Psychology and Higher Education Studies. This research group involved four researchers who applied a mixed-method approach to the study of occupational well-being and productivity in the higher education sector. During the evaluated period, we successfully completed two large-scale projects focused on predictors of employee well-being (i.e. job stress, job satisfaction, work engagement, and burnout) in public higher education, and on factors contributing to the development of academic excellence. Specifically, based on the integration of advanced statistical methods (SEM) and qualitative analysis, we developed new systemic models of faculty well-being, faculty burnout, academic leadership, and other central organizational psychology concepts.

For instance, in a highly cited study on faculty burnout (24 WoS citations), we used the Job Demands-Resources (JD-R) theory to test a structural equation model that hypothesized a positive effect of selected job demands (e.g. job insecurity, work-family conflict) and a negative effect of selected resources (e.g. influence, social community) on burnout. Results showed that the strongest predictor of burnout was work-family conflict, which had a direct positive effect on burnout and mediated the positive effect of quantitative demands on burnout. The study was one of the first to formulate an SEM model of faculty burnout in the discipline of higher education, developing a coherent theoretical framework, with significant practical implications. In another study which has generated broad international interest (25 WoS citations), we implemented the Job Demands-Resources (JD-R) model to investigate how job demands/resources in the academic environment interact with multiple dimensions of faculty well-being. The study was one of the first to develop and empirically test a theory-grounded model of faculty well-being, providing evidence for the dual processes, including the "motivational process" (i.e., job resources were related predominantly to work

engagement and job satisfaction) and the "health impairment process" (i.e., job demands were predominantly associated with stress, mostly through work-family conflict).

Narrative Inquiry Research Group (NIR)

The NIR group gathers leading Czech experts on narrative inquiry approach. Narrative approach postulates that human experience is narratively construed, and should therefore be explored using narrative analysis of subjective experience, as it is reflected in interviews and other textual data. In 2015-2019, one of the central aims of the NIR group was to expand knowledge about resilience (i.e. mental toughness) in older age. Our findings revealed that resilience in older age is associated with three narrative genres: 1) heroic coping, 2) affirmation of lucky moments, and 3) ironic stance. These genres can be synthetized via the concept of life-story genre, indicating that essential for the mental toughness in older age is to construct one's life through a specific type (genre) of the "good, powerful story". These findings were published in a high-ranking international journal Ageing & Society. As another major achievement, we articulated and exemplified the recent developments in the narratively oriented approach (NOI) in a book chapter published in a prestigious and highly cited monograph The Sage Handbook of Qualitative Research in Psychology.