

DDIP: An Extraordinary Undergraduate Opportunity

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Housed within the Departments of Psychology and Psychiatry as well as the Center for Experiential Education and Service Learning is an immense opportunity for undergraduate students to participate in a unique two-quarter program focusing on persons with developmental disabilities. The Developmental Disabilities Immersion Program (DDIP) is an intensive program in which undergraduates participate in coursework, fieldwork, and independent research projects with the goal of learning about developmental disabilities and preparing for graduate and professional degrees. The incorporation of these facets is designed to allow students to learn about a variety of issues pertinent to the developmental disabilities community as well as the opportunity to apply those lessons in both the field and the research laboratory.

The program is lead by a team of three professors: Dr. Arv Fluharty, Dr. Gary Galbraith, and Dr. Alexander Tymchuk, each of whom present a unique perspective on the world of developmental disabilities. Additionally, two teaching associates as well as a program coordinator assist with coursework and DDIP class activities.

During my junior year (two years ago), I participated in DDIP and found it to be an incredibly valuable experience – so much so that I am not sure if I can contain the wealth of my experience within this short article. The program gave me the opportunity to work with children in a preschool classroom, conduct an independent research project, and participate in close-knit classes twice per week. Moreover, the program gave me the opportunity to develop a close working relationship with fellow students and professors that only a small program dependent on group work and forum discussions such as DDIP can provide. Classes included lectures (as do many classes) but group discussions were expected. The classrooms were often small – everyone seated around a conference table or in a circle as to promote the exchange of ideas.

The Coursework

Each DDIP student must enroll in three classes for the winter and spring quarters: Psych 193, Psych M180A/B, and Psych M181A/B. These classes are held on Tuesday and Thursday afternoons/evenings during both quarters of the program. The small class size (no more than 30 students) and an open, communicative learning environment present a unique learning environment not offered within the traditional classroom setting. Group collaboration is encouraged, as well as required, in order to complete the assigned course load. To supplement the unique learning environment, imaginative assignments are also frequently assigned. At the end of the winter quarter students are required to design and post a website on a topic of his/her choice related to developmental disabilities. Additionally, written exams cover a variety of topics in detail pertaining to developmental disabilities.

The Fieldwork

Each student enrolled in DDIP is required to participate in a fieldwork assignment for 12 hours per week. Students are placed in one of two settings. The first of which is at a local school working with children in a special education classroom, or mainstreamed children in a regular preschool, elementary, or junior high classroom. Students may also be placed at the Lanterman Developmental Center, which is a residential facility for adults with severe developmental disabilities.

My fieldwork placement was in a local school; it gave me the opportunity to work with preschool children in a special education setting. This opportunity was invaluable, not only was I able to learn about the educational system and how it adapts to persons with developmental disabilities, but I also developed incredible relationships with my students. The fieldwork placement allowed me to learn about the IEP (Individual Education Plan) process, as well as assess student progress toward educational goals. The fieldwork placement is supplemented by coursework in Psych 193, in which students are given the opportunity to learn and discuss issues important to their work.

The Research

Another important aspect of DDIP is the individual research project, which is completed by each student. At the beginning of the program, each student is assigned an advisor (some students receive the same advisor and therefore collaborate on projects). Students then work for 12 hours per week on a research project, which they carry out throughout their entire participation in DDIP. Similarly to the fieldwork placement, the DDIP coursework supplements the research requirement with Psych M181A/B. Through the auxiliary coursework students experience each stage of the research process. The winter quarter is spent developing and conducting the research project, while the spring quarter is spent analyzing the results and preparing a manuscript for publication. The process begins midway through the winter quarter when students are required to submit a research proposal stating the aims of their research and its importance to the field of developmental disabilities. By the end of the winter quarter, students are expected to have their project well developed and are asked to defend their research design and methodology before a panel of professors and teaching associates. Lastly, spring quarter is spent writing a manuscript, which will be published in the Pacific State Archives, in addition to preparing a presentation for the annual DDIP symposium.

My research placement allowed me to experience intensive involvement in the research process as an undergraduate. The program gave me the opportunity to work closely with my faculty mentor as well as witness the development of a research project from the ground up. In addition, the incorporation of coursework into the research requirement allowed me to learn about the research activities of fellow DDIP students. The program offers the opportunity to work with faculty members in a variety of different research areas and fields – all focusing on issues important to the developmental disabilities community. Below are three abstracts written by developmental disabilities alumni as part of their research projects. Thus, this aspect of DDIP encourages students to explore a variety of research interests.

Abstracts from DDIP Alumni

Effects of Memory Load on Event-related Gamma Activity

Wang Chun-Yao, Ryoji Yanawake, Pierre Ebreo, and Francis Muralidharan
Advisor: Stan Lunde

Abstract

The present study examined effects of memory load on gamma EEG activity (35-45 Hz) during auditory discrimination. Subjects were presented auditory alphabetical letters every three seconds and requested to count the number of “target” letters in each trial. There were three levels of memory load based on target difficulty: a particular letter was target for the lowest memory load,

repeating letters served as target for the medium load, and the highest load used a target of letters identical to the letter two trials back in the sequence. EEG was recorded and analyzed from frontal electrodes on the left hemisphere (F1, F3, F7) and right hemisphere (F2, F4, F8). Data were band-pass filtered (35-45 Hz) and partitioned into evoked phase-locked potentials and induced non-phase-locked potentials. Evoked gamma activity for the low memory load increased to a positive peak at 700 ms while evoked activity for both medium and high memory load showed a negative peak at 800 ms. An interaction of memory load, stimulus type, hemisphere, and time was maximal at 400 ms. Induced gamma activity was greater in the left hemisphere than in the right hemisphere. Also, induced left hemisphere gamma to the targets increased to peak at 400-600 ms while right hemisphere gamma decreased, as did induced gamma for both hemispheres to the non-targets. These results indicate that both evoked and induced gamma play a role in the auditory perception of linguistically meaningful stimuli. The great left hemisphere activity may be due to left hemisphere specialization for language processing.

Feelings of Well-Being and Depression in the Children of Mothers with Mental Retardation: A Pilot Study

Cara J. Kiff

Advisors: Alexander J. Tymchuk & Shannon E. A. Sowards

Abstract

Research has shown that children with depression tend to come from distressed family backgrounds, and maternal depression has been reported to have a negative affect on the development of the mother-child bond and family environment. Previous research has revealed that children at risk for developing childhood depression often have depressed parents; thus, indicating that parental depression is a risk factor in the development of child depression. Researchers also have documented that, mothers with mental retardation report higher rates of depression as compared to mothers without mental retardation. Given that mothers with mental retardation ascribe to higher rates of depression and that depressed children often come from families with distressed parents, the relationship between maternal mental retardation and the development of depression in affected children merits study. It was hypothesized that the children of mothers with mental retardation will report depressive symptoms at a higher rate than the children of mothers without mental retardation, with the degree of symptomatology inversely related to the child's score on a well-being measure. The present study will use a within-subjects design. From this research, unique factors in the development of depressive feelings in children of mothers with mental retardation will be identified.

Human Brainstem Responses Reflect Stimulus Complexity

Judith F. Ashouri, Megan J. Brennan, Natalie W. Jovic, William J. Leiner, & James Wu

Advisor: Gary Galbraith

Abstract

Natural sounds exhibit wave-shapes consisting of a fundamental frequency (F_0), and combinations of harmonics of that frequency. Although the cortex is the terminus of sensory input and the locus of auditory discrimination, recordings of short-latency brainstem frequency-following responses

(FFRs) to periodic tones support the hypothesis of brainstem processing of auditory stimuli. In this experiment, brainstem responses of 21 subjects were evoked by six tones of varying complexity, including harmonic stimuli in which the F_0 is either present or absent. Tones were presented 60 dB above individually determined thresholds to equate for perceptual differences. The FFR mean spectral intensity was computed for each tone at the F_0 and evaluated by repeated-measures analyses of co-variance (ANCOVAs). Significant main effects were found for stimulus complexity and electroencephalogram (EEG) channel, with a significant stimulus by channel interaction. This study may provide groundwork for future studies focusing on neural processing of individuals with developmental disabilities.

For More Information

I found DDIP to be an amazing experience and a unique supplement to my undergraduate career. I would encourage anyone interested in working with people with developmental disabilities and participating in an exceptional classroom setting to apply.

Each spring DDIP accepts approximately a score of students to participate in the program during the following winter and spring quarters. Undergraduate sophomores, juniors, and seniors of any major who have an interest in working with persons with developmental disabilities are encouraged to apply. For more information about the Developmental Disabilities Immersion Program please contact the DDIP Coordinator at OID: Center for Experiential Education and Service Learning, 160 Powell Library Building, (310) 825-7867, www.oid.ucla.edu/cees/.