

# 1996 Abstracts

- **An Inquiry into the Dynamics of Artistic Groups as Revealed Through a Comparison of the Pleiade Poets and the Lost Generation in France**

Katherine M. Allen/ (Dr. Gregg Siewert)

Despite numerous studies of group and individual aesthetics over France's impressive literary history, comparative studies of literary groups based in France for the purpose of learning about the dynamics of artistic groups have not been fully explored. This research compares the cluster of several French poets from the mid-sixteenth century known as the Pleiade and the constituent members of the Lost Generation from the twentieth century, in an effort to learn how the dynamics of artistic groups evolve. Four questions are asked for each group in relation to group dynamics and then comparative content analysis is completed regarding the commonalities and differences of the answers.

- **The Effect of Ethnically Heterogeneous and Homogeneous Groups on Levels of Cooperation and Competition**

Shirley S. Arteaga/ (Dr. Terry Palmer)

The present study examined the cultural influences of college-aged African-Americans, Anglo-Americans, Asians and Hispanics on cooperative and competitive decision making. Previous literature suggests that African-Americans, Asians, and Hispanics have roots in collectivist traditions, whereas Anglo-Americans are individualistic (Hofstede, 1980; Triandis, 1989). Individuals strive to maximize personal gains, unlike collectivists who emphasize group goals often at the expense of individual benefits. Issues of collectivism-individualism are pertinent considerations when creating a cooperative classroom in an ethnically diverse environment. Based on existing literature, we hypothesized that ethnic minorities, especially Hispanics would be more cooperative than Anglo-Americans. It was also speculated that Anglo-Americans would be most cooperative when placed among Hispanics as opposed to other ethnic groups. Previous literature suggests that Hispanics take a leadership role in ethnically diverse situations thus asserting their collectivist background (Espinoza & Garza, 1985). Cooperativeness was measured using a two-part Prisoner's dilemma to assess both individual and group rewards. Results confirm that Hispanics were the most cooperative ethnic group. The results also suggest that the mere presence of Hispanics in a group elicits cooperation among Anglo-Americans. The Asian dyad type was significantly less cooperative than the other three ethnic groups. This contradicts previous literature suggesting that Asians are cooperative. Cooperation was not significantly different between the African-American and Anglo-American dyad types.

- **The Effect on Conception Rate of Mating Ewes with a Vasectomized Male After Vaginal Insemination with Frozen Raw Semen**

Tammy J. Benson/ (Dr. Thomas Marshall)

Artificial Insemination (AI) introduces spermatozoa into the female reproductive tract without contact between a male and female. AI with frozen semen, which can be stored much longer than fresh semen, has proven profitable in larger species of livestock. For sheep, however, no insemination techniques, that are practical for the majority of sheep breeders, have been developed. This project tested a new technique that would be inexpensive and easily performed by sheep breeders. It involved placing thawed semen into the ewe's vagina then mating her vasectomized males. The males did not contribute sperm but did contribute the accessory fluids that normally accompany copulation. These accessory fluids contain buffers and nutrients, that should help thawed spermatozoa survive in the vagina, and prostaglandins which stimulate uterine contractions. Uterine contractions should aid in sperm transport, pushing thawed semen through the reproductive tract of the female. According to the estrus detection and ultrasound methods employed in the study, mating ewes with vasectomized males after vaginal insemination did not increase conception rates. Avenues do exist, however, for future study.

- **Isolation of DNA repair mutants in the slime mold, *Dictyostelium discoideum***

Naomi Caldwell/ (Dr. Michael Lockhart)

Using the Restriction Endonuclease Mediated Integration technique (REMI), the slime mould strain Xp55 was transformed to produce "possible" DNA repair mutants. Three different transformation protocols were tested in a separate trial. Selection by impinging cells on a membrane was found to be superior on the basis of a shorter selection time and ability to determine the absolute number of transformation events that occurred. Over 100 potential mutant strains were isolated from a pool of over 100,000 cells. These strains will be tested for radiation sensitivity at a later date.

The 16 candidates isolated in experiments that occurred previous to this report were irradiated with UV light and survival curves were performed on each. The irradiation was done in order to test whether the "possible" candidates were sensitive to the UV light. Sensitive mutants were looked at as possible DNA repair mutants and will undergo various Microbiological techniques in order to isolate the DNA repair gene. After isolation the gene will be incorporated into *Escherichia coli* to study and compare the function of of *Dictyostelium*. Because *Dictyostelium* is Eukaryotic, by finding out the functions of this organism, it can easily be compared to humans. *Dictyostelium* could also lead to a breakthrough in Cancer Research.

- **A Comparative Light and Electron Microscopical study of Pollen and Anther Structure of the Aquatic Plant Family Callitrichaceae**

Ranessa L. Cooper/ (Dr. Jeff Osborn)

The Callitrichaceae, a family commonly known as water starwts, includes the single genus *Callitriche*. *Callitriche* consists of 50 terrestrial, amphibious, and obligately submersed species, and it is the only genus in the plant kingdom with co-occurring aerial, water surface, and subsurface pollination systems. Positive correlations are known to exist between the type of pollination system and the structure of pollen grains. Pollen generally has two well-defined wall layers; the outer layer is the exine and the less dense, inner layer is the intine. The current research involved a detailed study of 11 species of *Callitriche*, including representatives of all growth forms. The project examined pollen structure using scanning electron and transmission electron microscopy, as well as used light microscopy to study overall anatomy of the pollen-producing organs, or anthers. The pollen of the aerial flowering species, *C. brutia*, *C. cophocarpa*, *C. cophocarpa-stagnalis* hybrid, *C. cribosea*, *C. hamulata*, *C. heterophylla*, and *C. peplodes* had well-developed exines with elaborate surface ornamentations. By contrast, the pollen of the underwater flowering species, *C. lusitanica* and *C. truncata*, lacked an exine layer. Anthers from the various species ranged from being 2- to 4-locular, but exhibited similar external morphologies.

- **Characterization of the *umuDC*-Independent Sector of *recA*-Dependent Mutagenesis in *Escherichia coli***  
 TuShun Powers/ (Dr. Neil Sargentini)  
 The focus of this study was methyl methanesulfonate (MMS) mutagenesis (*argE3*→*Arg*<sup>+</sup>) and survival in *Escherichia coli* strains carrying deletion mutations of the *recA*, *umuD* and *umuC* genes. Strains carrying the *recA* mutation were extremely sensitive to killing by MMS treatment. MMS mutability of the *umuDC* and *recA* mutant strains and of the *umuDC recA* triple-mutant strain all approached the level of the wild-type strain. While MMS mutagenesis has previously been believed to rely only on a misrepair mutagenic mechanism, the present findings indicate that a miscoding mutagenic mechanism also plays a role. It was concluded that MMS (and possibly gamma radiation and streptozotocin) is the first example of an agent that causes "mixed mutagenesis."
- **Effects of Gender Stereotypes on Toy Choice of Preschoolers**  
 Catherine Hougham/ (Dr. Michele Breault)  
 The strength of gender stereotypes in 31 preschool-aged children, between the ages of 2 and 5, was measured by a sorting task; participants were also read stories about children whose interests were either consistent or inconsistent with their gender, and asked to choose a toy for each child. Consistent with the hypothesis, children sorted masculine items more accurately than feminine ones. Contrary to the hypothesis, male children did not have stronger stereotypes, nor did children with weaker stereotypes choose a toy for a target child based on interest. The lack of significant findings may be due to the difficulty of the task for children this young, and a small sample size.
- **A Critique of the Supreme Court's Arguments in the *McClesky v. Kemp* Case**  
 Shahzad Naseem/ (Dr. David Gruber)  
 Given the enormity of the death penalty, its application and administration to criminals is closely scrutinized. In the United States, the capital punishment procedure and application has been criticized as being racially biased, particularly against individuals of African-American descent. Professor David Baldus of the University of Iowa conducted a study in 1987 on racial discrimination in the application of capital punishment in the state of Georgia. Baldus' work provides an important empirical base on which philosophical and legal arguments regarding the legitimacy of capital punishment can be built, within the context of discrimination and the moral relevance of discrimination in the legal system. This paper examines the Supreme Court's reasoning in the case of *McClesky v. Kemp* and finds various fallacies and discrepancies in their argumentation in light of the empirical evidence provided to the court by Dr. Baldus.
- **The Spiritual as a Basis for Improvisational Composition**  
 Christina A. Rogers/ (Dr. David Nichols)  
 This project focuses equally on two aspects of African-American spiritualists (historically called Negro Spirituals). The first part consists of a study of the various theories of their origins and character. This explores the influence spirituals have had in the African-American culture and factors that have shaped their development. Secondly, based on thirteen selected spirituals, duets for melodic instruments are presented which have been composed using an improvisational style of composition. This approach extends research on the Negro spiritual into practical applications and also contributes to an expansion of the spiritual-based musical repertoire. With this in mind, thirteen duets were composed for melodic instruments. The duets that were composed became an addition to the living, or continuously growing interpretations of the spiritual. Based on these two components of research--one traditional and one creative in nature--conclusions concerning the original influences of Negro spirituals are presented at the end of the study, as are the spiritual-based compositions. This study is in tribute to the rich musical heritage stemming from America's African slaves.
- **The Effects of Ethnicity, Name Complexity, and Gender on Perceptions of Success**  
 Donna Stewart/ (Dr. Judi Misale)  
 Research suggests social perceivers often judge target people on dimensions such as personality and social acceptability solely on the basis of the person's first name. Two experiments examined the impact of first names on participants' perceptions of a target person when evaluating that person based on information in a resume. Target first names varied in ethnicity (Caucasian/African-American), complexity (one syllable/three syllables), and gender (male/female). After reading the resumes, subjects rated the applicants on several personality and behavioral variables, including intelligence, creativity and competence. Ratings in the first experiment favored females, and more specifically, African-American females on these three variables. However, the second study failed to replicate these findings. Reasons for this discrepancy are discussed.
- **An Assessment of the Membership of Hispanic Chambers of Commerce in Atlanta, Chicago, and Denver and their Perception of the Efficiency of HCC: Business Education, Employment and Entrepreneurship Programs**  
 Caroline Hernandez/ (Dr. Seymour Patterson)  
 In the Hispanic community the issues of economic disparity, high rates of unemployment and minimal development of entrepreneurship are causes for concern. Therefore, the Hispanic leadership has enlisted the assistance of the Hispanic Chambers of Commerce (HCC) to deal with these issues in ways that will resolve them. Consequently, the HCCs in Atlanta, Chicago, and Denver have embraced as their "mission" the resolution of the economic problems that beset the Hispanic community. The objective of this study is to assess how HCC members perceived the effectiveness of HCC programs designed to address the problems confronting the Hispanic community. HCC members were surveyed in order to determine the importance of the programs (i.e. education, entrepreneurship, and employment) they receive from their chamber of commerce. In addition, respondents' questionnaires were aimed at assessing, from memberships' point of view, how effective HCCs were in addressing the economic problems in the Hispanic community. The results of the present study indicate that the HCC membership has perceived differences in HCC programs across locations. These differences are explained in terms of the frequency with which programs are offered. For example, employment programs were offered less frequently than education and entrepreneurial programs. Furthermore, the difference between business education and location is explained by the extent of government funding and minority business development grants.