

EXAMPLE

1

[REDACTED] [REDACTED]

Social Facilitation of Little Blue Penguin Breeding Behavior: Impacts on Female Mate Choice and Male-Male Competition

[REDACTED]

Abstract

I recently received a Fordham Faculty Fellowship to investigate the socially-facilitated breeding behavior of Little Blue Penguins (*Eudyptula minor*) in New Zealand. Through socially-facilitated behaviors, populations can increase reproductive success by better synchronizing breeding. I will conduct a series of playback experiments to explore the interrelationship between social facilitation and both female mate choice and male-male competition. I will be hosted by and collaborating with Dr. Joseph Waas of the University of Waikato in Hamilton, New Zealand. I am requesting a Fordham Faculty Research Grant (FRG) to complement the University of Waikato's contribution to my Faculty Fellowship research project—specifically, to travel to the field research site and hire a research assistant—as the Faculty Fellowship does not provide funding for these research costs. The University of Waikato will provide me with office space and access to all institutional facilities necessary. My lab has substantial video/audio equipment, and Dr. Waas' lab has an extensive array of audio/video gear, boats if necessary, excellent technical support, and a network of local expertise. Dr. Waas' extensive experience will facilitate the acquisition of necessary permits for this research.

With FRG support, I will arrive in New Zealand May 2011 and begin field work at penguin populations as soon as I arrive. New Zealand has more penguin species than any other country, and my collaborator, Dr. Waas, laid the foundation for much of our current understanding of penguin behavioral ecology, particularly vocalizations and their role in social facilitation. Potential field sites are convenient: Tiritiri Matangi Island is two hours from the University of Waikato and has research facilities and accommodations, and the City of Tauranga is only an hour away. My proposed research is compact enough to be completed by the end of the Fellowship period and the Fordham 2011 Fall Semester. I plan to submit two peer-reviewed articles for publication and an external grant proposal to the National Science Foundation the subsequent year.

Background

This project is a direct extension of my Ph.D. dissertation research, which focused on the vocalizations of Magellanic Penguins (*Spheniscus magellanicus*), particularly their role in individual recognition, female mate choice, and social facilitation of breeding activity, primarily through observation, call analysis, and playback experiments (Clark 2006). My research with Magellanic Penguins showed reduced sexual activity in less densely populated areas of the colony and that playing prerecorded vocalizations increased both calling rates and sexual activity (Clark & Boersma, in revision). Recently, I and my undergraduate students conducted playback experiments at the Bronx Zoo to determine whether we could use social facilitation techniques to increase the breeding success of the Zoo's populations of endangered Northern Bald Ibis (Clark et al., in prep.), as well as both American and Chilean Flamingos (Clark et al. in review). All three studies were successful in increasing breeding behaviors. I have conducted playbacks experiments of the type proposed here on nine bird species. My collaborator in New Zealand, Dr. Waas, has studied and published extensively on the behavioral ecology of both penguins and other avian species. Dr. Waas and I are the two leading researchers in the field of social facilitation of breeding behavior in penguins. Our hope is that this research project will lead to substantial future collaborative research.

More specifically, "social facilitation" is the increase in a behavior's intensity or frequency resulting when individuals of the same species perform the same behavior (Darling 1938). For example, in seabirds and other animals, vocalizations and sexual activity are often socially-facilitated: when one bird vocalizes, neighbors may vocalize in response (Gochfield 1980). In humans, yawning is sometimes considered a socially-facilitated behavior. Socially-facilitated behavior is an important component of nesting colonially (Waas et al. 2005). Benefits of social facilitation include increased foraging success, improved defense of nests and young, and reproductive synchrony (Clayton 1978).

Social facilitation via vocalizations has been documented in several penguin species (Waas 1988, 1995, 2000; Clark 2006). Major hypotheses for why calling in penguins might be socially-facilitated

include intra-sexual competition for mates and nest defense (Waas 1995). These two hypotheses are not mutually exclusive. Single males often produce display calls in the presence of potential mates, and consequently, neighboring males may perceive the display calls of other males as an indication that an available female is present. The neighbor's subsequent calls may then be an attempt both to attract the female to their nest and warn neighbors away (Waas 1995). Male calls also contain individually-specific vocal signatures that have the potential to code information on identity and male quality (Clark 2006). Females may use the information coded in these vocalizations during mate choice (Clark & Boersma, in revision).

I propose to test how social facilitation effects influence both male-male competition and female mate choice. In particular, I am interested in how the rate of male solo calling—given that calling is likely to be energetically expensive—may be accepted as an “honest signal”: one that not only demonstrates superior strength to neighboring males, but also demonstrates the male's true condition to females.

Contribution

A surge of recent research by entomologists has escalated focus and attention on the study of social facilitation. The research I propose extends this recent research, and I will draw connections and overarching principles from social facilitation research on both vertebrates and invertebrates. In addition, the role of vocalizations in facilitating breeding behavior has substantial conservation relevance, particularly for recovery and reintroduction efforts for endangered species. Worldwide, nearly all penguin and many other colonial species are in serious decline. The basic applied research I propose will add significantly to our understanding of the role of vocalizations in facilitation of breeding behavior and how the use of acoustic enrichment and stimulation can help recover, maintain, and establish populations of declining, threatened, and endangered species.

To make these contributions, I will test how social facilitation impacts both male-male competition and female mate choice by undertaking a series of playback experiments. Initially, I will conduct several simple playback experiments to determine if females are more likely to be attracted to a

speaker producing high call rates than to speakers producing average and low call rates. I will then test whether call rates influence the likelihood of male approach. Finally, I will alter call rate during playback, i.e., treatments where call rate is increased during the sequence versus treatments where call rate is decreased. I will use traditional playback equipment, including field speakers, digital recorders, and digital music players.

Furthermore, the results of this research and its commensurate collaboration with Dr. Waas will go beyond mere academic interest. Dr. Waas and I plan to build upon our efforts this summer to jointly develop a lecture series and media program to increase public awareness of the underappreciated plight of mainland Little Blue Penguins in New Zealand, most of which have disappeared because of habitat loss and introduced mammalian predators. I also plan to use my background and experience in endangered species law and policy to give several lectures/workshops for the Department of Conservation, University of Waikato, and Auckland Law School outlining lessons learned from North American approaches to endangered species protection and recovery.

Costs

As noted above, my New Zealand collaborator, Dr. Waas, has generously offered to provide me with office space at the University of Waikato and all equipment necessary for this proposed research, including boats, recording equipment, playback equipment, etc. The purpose of this FRG application is to request the following:

Budget Item	Rationale/Role
B. Graduate Research Assistant (RA)	Stipend of \$500.00 – representing approximately 20 hours/week for two weeks at \$12.50/hour. The graduate student (who will already be in New Zealand) will help with experimental setup and implementation and will greatly increase the feasibility of portions of this proposed research.
D. Foreign Travel	Flight from New York to Auckland, New Zealand is required to access research project study sites.
D. Lodging & Expenses	Lodging is needed near the study sites, and funding will facilitate rental of housing during the first three months of the research period.

Conclusion

A Fordham FRG will facilitate implementation of my Fordham Faculty Fellowship research. The goal of the Fellowship and this FRG request is to establish a new line of collaborative research that will be used as the foundation for an application for funding from the National Science Foundation. Because the Little Blue Penguin breeding season in New Zealand occurs during the northern summer, new opportunities for undergraduate and graduate student research will become available. My research on South American penguins proved problematic for continuing research, as those penguins breed during the austral summer, when I and my students are teaching and/or taking classes.

I have worked directly with the Wildlife Conservation Society/Bronx Zoo to apply my background in social facilitation theory to improve the breeding success of several colonial bird species at the Zoo through acoustic stimulation. These acoustic stimulation projects were highly successful, leading to significant public press and invitations for assistance from other zoos and from managers of endangered populations of colonial birds to participate in additional research projects. Building an even better understanding of social facilitation and acoustic enrichment will not only provide advances in the academic field of behavioral ecology, but it will (1) provide a foundation for increasing the success of captive breeding and reintroduction programs for endangered species, and (2) contribute to the further expansion of Fordham's collaborative relationship with the Wildlife Conservation Society through the development and implementation of new behavioral techniques to benefit captive populations.

I expect to produce two peer-reviewed publications based on this research by January 2012 and to submit a grant application to the National Science Foundation to expand on this research in July 2012. These publications and any successful grant applications will help further establish me as an expert in behavioral ecology and animal conservation. Finally, the research I propose builds on my past and present research, allows me to tighter integrate my conservation and ecology research goals, advances the fields of behavioral ecology and conservation, furthers my academic credentials, extends the reach of Fordham University's reputation, and provides the foundation for a long-term collaborative research program with potential benefits to both myself as well as Fordham's undergraduate and graduate students.

EXAMPLE

2

The Structural Modification of 6,8-Diprenylaromadendrin, An Approach to Improve the Anti-HIV Properties of this Natural Product

Abstract

The human immunodeficiency virus (HIV), the causative agent for Acquired Immunodeficiency Syndrome (AIDS), has been a target for therapeutic intervention for more than twenty years. Great strides have been made in the treatment of AIDS¹, but drug resistance is still prevalent, warranting further investigation into new therapies.² Moreover, though the pharmaceutical industry once had a keen interest in developing drugs for treating HIV infection, in recent years, their research efforts have been concentrated in areas such as oncology, inflammation, diabetes, neuroscience, cardiovascular disease, and obesity. Unfortunately, for a variety of reasons, major pharmaceutical companies have markedly reduced their commitment to infectious disease research.³ New therapies with novel mechanisms of action are still very much needed to ensure AIDS does not re-establish itself as the scourge it once was.

The immediate, near-term goal of this research is to establish the chemistry required to optimize the known anti-HIV activity of the natural product, 6,8-diprenylaromadendrin (6,8-DAD; see Figure 1 below).⁴ Defining the antiviral mechanism of 6,8-DAD potentially can offer an innovative means for controlling the viral replication of HIV.⁵

This research project, to be initiated in the very near future, will rely upon traditional medicinal chemistry for structure optimization, and the use of external collaborations for evaluating the biological activity of novel compounds.⁶ The short- and long-term goals of this project will be able to answer the following questions⁷:

- a) Can more potent analogs of the original natural product be prepared?
- b) Can we use these new analogs to identify the molecular target of the drug and therefore identify its mechanism of action?

c) If the target of this antiviral agent is novel, is it “druggable”?⁸

Additionally, this project will serve as an excellent pedagogical device for undergraduate science majors⁹ and as the foundation of a broader application for external funding.

On the basis of the conclusions drawn from this research and the extent to which the aforementioned questions are answered, at the very least, one or more publications in well-respected, high-impact journals such as the *Journal of Medicinal Chemistry*, *Bioorganic and Medicinal Chemistry*, and the *Journal of Virology* can be expected.¹⁰ Moreover, and equally important, if tangible evidence of improved biological and drug-like properties are established, patent protection for the new analogs would be sought promptly. Lastly, this project will serve as the basis for external grant proposals to such prestigious institutions as the National Institutes of Health and the National Science Foundation.

Background

Prior to returning to Fordham University in July 2010, I spent the past sixteen years working as a medicinal chemist in the pharmaceutical industry, where I contributed to, and have lead research teams in the areas of inflammation^{11a}, cancer^{11c}, and antiviral^{11b,d} research. I am the coauthor of twenty research papers and a co-inventor of more than twenty patent applications. Previous to this, I spent two years at Memorial Sloan-Kettering Cancer Center, working on the total synthesis of the anticancer agent Taxol,[®] where I honed my skills as a synthetic organic chemist.¹² I obtained my BS from Fordham University (Chemistry, FCRH, '84), my MS and PhD from New York University (Chemistry, 1986, and 1990).

Contribution

As mentioned in the abstract, the 3-hydroxyflavanone, 6,8-diprenylaromadendrin (6,8-DAD; Figure 1) is reported to possess anti-HIV activity.⁴ However, little is known about the viral target of this compound or the structural requirements for its potency. This core is quite common and several related, less-substituted analogs possessing similar biological activity have been disclosed. Potential sites within

the 6,8-DAD framework for structural modification are highlighted in color in Figure 1. This program will prepare structural analogs of this natural product with the intent of defining how these alterations impact potency. The correlation of molecular structure with biological activity is known as a structure-activity relationship (SAR) and is an essential part of any medicinal chemistry program. To harness the power of SARs, an iterative paradigm¹³ will be implemented to allow for the refinement of the subtle molecular properties for potency.^{14,15}

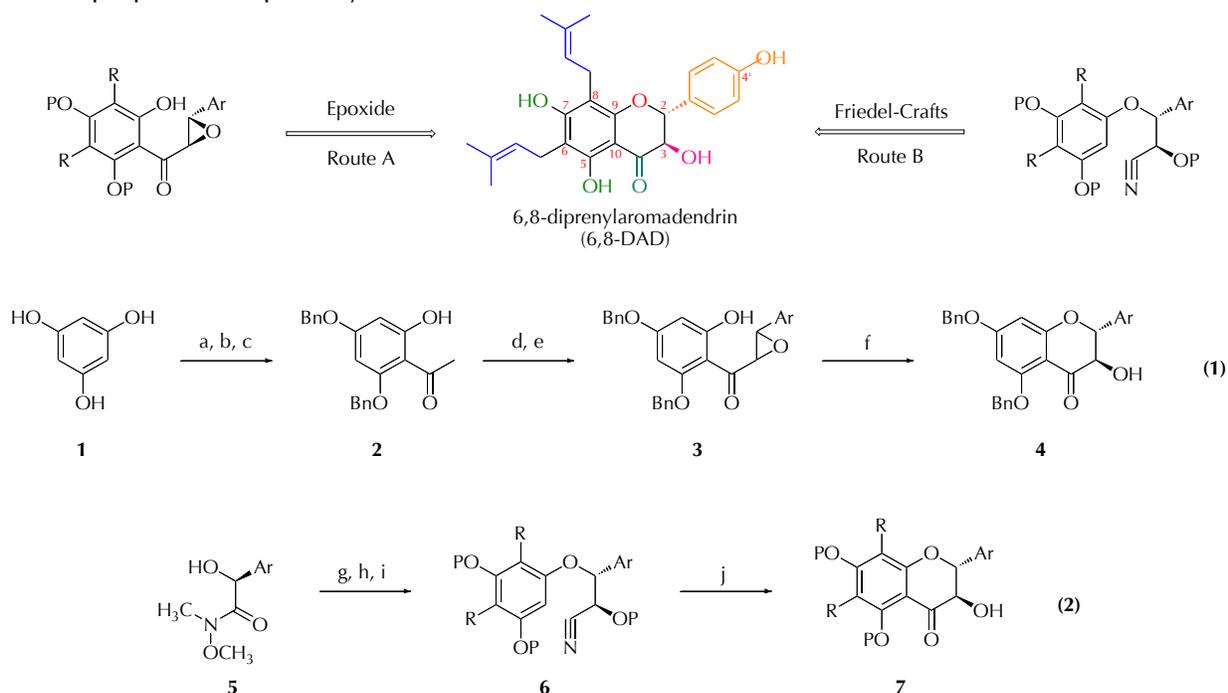


Figure 1: The Structure of 6,8-diprenylaromadendrin and proposed synthetic routes.

Reagents: (a) K_2CO_3 , $BnBr$; (b) $AcOH$, $(CF_3CO)_2O$; (c) $TiCl_4$; (d) $ArCHO$, KOH ; (e) $DMDO$; (f) $0.12\ M\ HCl$, $aq\ EtOH$; (g) $phenol$, $DEAD$, Ph_3P ; (h) $LiAlH_4$; (i) $TMSCN$; (j) $ZnCl_2$, HCl .

Numerous syntheses of the 3-hydroxyflavanone skeleton have been reported¹⁶ and this program will build on these published results. The use of literature precedent should minimize some of the risk associated with research (ie, the published routes are likely to permit the preparation of analogs without requiring extensive modification), allowing focus to be maintained on answering the aforementioned questions. As to the benefit to undergraduate researchers, by applying the tenets learned in their introductory organic chemistry course, they would gain valuable laboratory experience through the use of published strategies, learn to make use of primary references to support their work, and explore the

synthetic chemistry of new related analogs in order to ascertain the structural requirements for activity against HIV. Additionally, this will build confidence and self-reliance, foster critical thinking, and serve as a strong foundation for a career as an independent researcher.

With respect to the proposed chemistry, the described routes would allow the variation of the substituents on the core structure rather easily. In particular, the routes would allow (a) the optimization of the hydrocarbon chains at C(6) and C(8) and one or both of the phenols at C(5) and C(7); (b) an analysis of the stereochemical requirements at C(2) and C(3); (c) the determination of the C(3) substituent requirements; and (d) the assessment of the C(2) and C(4) functional group requirements. In addition, the use of isosteres¹⁷ will be explored to address potential liabilities in the lead compound.

Cost

The cost associated with this research project is estimated below:

Category	Description	Expense
Personnel	2 Undergraduate Research Assistants	\$1820.00
Other Services	SRI ⁶ – Screening of compounds	\$2150.00
Supplies	Chemicals and glassware	\$2500.00
Total Proposed Expenses		\$6470.00

The expenses were proposed based on the following plan of action. Two undergraduate researchers would be hired at a rate of \$14/h and expected to work at least 5 h/week over the course of a semester (13 weeks). These students are very likely going to be juniors or seniors and thus the rate was assigned based on the suggested rate given in the supporting documentation for this grant application.

As mentioned in earlier, I have worked in the past with the SRI as a contract organization for screening compounds in cells for activity against HIV.⁶ At this stage, I plan to use them once again and I assigned a budget of \$2150 for this purpose. Other screening services will also be explored.

The last item included in the expenses for this project is for chemicals and glassware. Presently, my laboratory is devoid of both and as such, I will be starting from scratch. Chemicals and glassware are unfortunately expensive and therefore I have assigned \$2500 for their purchase. Although I would

have difficulty specifying my exact needs for each, I can offer the following estimate as to what would be required.

Glassware needs:

- a) A complete set of round bottom flasks in assorted sizes for running reactions;
- b) Test tubes for collecting fractions during purification;
- c) Separatory funnels, reflux condensers, Erlenmeyer flasks, all of assorted sizes (these are general purpose glassware);

Chemical needs:

- a) Reagents and catalysts for the preparation of new analogs;
- b) Various solvents to use in reactions as well as purification of new products;
- c) Inert gases for instrumentation and reactions which cannot be run in the presence of oxygen

Conclusion

Through the use of synthesis, structural modifications of the natural product, 6,8-DAD, will be realized. Screening of these analogs for biological activity will hopefully identify more potent analogs against HIV and define SARs for this series. Undergraduates will be well trained in art of medicinal chemistry, while applying their acquired interdisciplinary science knowledge toward problem solving. Moreover, the science will continually stimulate them and they will acquire confidence as an independent thinker and researcher. The results established in this early stage of the project, made possible by a Faculty Research Grant, would serve as the basis for a much larger, more encompassing external research grant proposal.

EXAMPLE

3

[REDACTED]

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**The Personality Traits of
School Psychologists, School Counselors, and Community Counselors**

[REDACTED]

Abstract

One of the challenges for education-related psychology has been predicting how individual differences affect academic and vocational success. The performance of graduate students has been of special interest. Most researchers have evaluated the role of cognitive differences as predictors of graduate student success, but few have examined personality differences as predictors or correlates of success in graduate school. If awarded, a “1st Year at Fordham” Faculty Research Grant (FRG) would support my study designed to explore whether and to what degree the academic and vocational success of graduate students in school psychology (SP), school counseling (SC), and community counseling (CC) programs can be correlated with general personality traits (e.g., extraversion, conscientiousness, and openness to experiences); and/or specific vocational personality differences (e.g., interests and values).

The research proposal is well developed and preliminary data have been collected on approximately 100 graduate student participants at The University of Toledo. Since bringing my research agenda to Fordham University, I have received approval for this study from Fordham’s Institutional Review Board. Part of this expanded protocol is to collect additional data on at least 200 graduate-level participants at both sites during the FRG’s funding period. Outcomes of this study will be disseminated at national conferences; submitted for publication in such peer-reviewed journals as the *European Journal of Personality*; used to generate preliminary data for future research, for which I would seek external support from the Society for the Study of School Psychology in the form of an Early Career Award; and used to provide educators and administrators with user-friendly psychological assessment tools for the benefit of their graduate programs and the students they serve.

Background

Previous studies have supported the idea that a relationship exists between aptitude—a cognitive variable—and graduate school achievement; for example, undergraduate grade point averages (GPAs) and standardized aptitude tests such as the Graduate Record of Examinations (GRE) have both been found to be strong predictors of graduate school success (Anastasi, 1988). However, predicting academic achievement with personality variables is more contentious. Although individual differences in personality have been hypothesized to be related to academic

achievement (Willingham, 1974), the testing of this hypothesis has been largely limited to motivational variables.

However, there are other general personality factors playing important roles in scholastic success, such as perseverance and conscientiousness (Hirschberg & Itkin, 1978). More recently, personality differences among business graduate students were found to be a better predictor of classroom performance than written performance (Rothstein, Paunonen, Rusch, & King, 1994). However, even this expansion to include such traits as extraversion and openness to experiences fails to incorporate vocational personality differences such as interests and values, which would appear integral to understanding the career fitness and consequent achievement of graduate students in SP, SC, and CC programs. Indeed, an extensive literature review reveals only one study (Toomey, Levinson, & Morrison, 2008) centering on the vocational personality of US school psychologists.

The findings of this single study suggests that US school psychologists are predominantly social types, but also indicate their diversity as a group (i.e., the variability of personality types among US school psychologists fell in the second and third positions of codes using John Holland's (1997) Theory of Vocational Personalities and Work Environments). The finding of Social (S) as the dominant personality type among US school psychologists concurs with the fact that US school psychology is a helping profession that requires frequent contact with students. The sub-dominant position of two other personality types—Enterprising (E) and Investigative (I)—could also be perceived as congruent with US school psychologists being required to persuade and influence others to investigate, adopt and use effective strategies and being guided by science-based practices. Therefore, from Toomey, it can be inferred that specific mental health professions might require specific personality traits in order for their adherents to be satisfied and successful in that profession's study and practice. As a consequence of this inference, I have undertaken the present study to (i) complement those focused on aptitude assessment in guiding students' educational and vocational pursuits (Benbow, 1992; Benbow & Lubinski, 1997); and (ii) expand nascent interest in personality assessment in guiding students' educational and vocational pursuits (Achter, Benbow, & Lubinski, 1996; Achter, Lubinski, & Benbow, 1997) through a focus on the specific professions of school psychologist, school counselor, and community counselor.

Prior study, practice, and research experiences in multiple large research institutes have equipped me with a solid foundation to work in a wide range of educational, clinical, and cultural settings and to successfully conduct

research as a sole investigator or as a member of a multi-disciplinary research team. In the past few years, I have completed two book translations, published 10 journal articles, and presented 21 peer-reviewed conference papers at national or international conferences. I became interested in supervision and training issues through my work since 2008 as a trainer of school psychologists. I have worked with my colleagues on projects pertaining to training in school psychology and one of my recent papers was published in *Trainer's Forum*. It is expected that research outcomes from the present study will enhance my expertise in training, supervision, and personnel selection of school psychologists within the field of higher education. Meanwhile, my prior research experiences have laid a strong foundation for me to successfully implement this study.

Contribution

My study will be the first empirical test and comparative study of the general and vocational personality of graduate students in school psychology, school counseling, and community counseling in the United States. My hypotheses are that: (i) the Big Five NEO general personality traits (i.e., Neuroticism, Extraversion, Openness to Experiences, Agreeableness, and Conscientiousness, Costa & McCrae, 1992) can be correlated with academic achievement in each of these graduate programs; (ii) certain of these NEO traits (such as those related to work orientation, achievement striving, openness to experiences, and conscientiousness) will surface as significant predictors or correlates of such achievement, after taking account of the effects of cognitive-related factors (i.e., GRE, undergraduate GPAs); and (iii) some similarity and unique variability of vocational personality based on Holland's theory (1997) will be identified among three groups. For example, the Social type might be a salient type in all three programs because all three professions require face-to-face interaction with clients in need of help. Whereas, in comparison to the SC and CC groups, there might be relatively more Investigative types in the SP group because school psychologists routinely explore, detect, and diagnose psychological disorders through psychometric assessment that requires knowledge of statistics and measurement. If my hypotheses prove true, this study's findings will add to the growing support for teaming personality and preference assessments with aptitude assessments in order to consult and guide mental health graduate students' educational and vocational planning. Replication of the findings is needed in larger samples of subjects across institutes if the findings will be used as the basis for consultation. The potential benefits of the outcomes will be multi-faceted. First, prospective students will be able to consider whether their

EXAMPLE

4

Beyond the Media Capital: Flexible Specialization and De-agglomeration in the U.S. Film Industry

Abstract: Since the mid-1970s, firms throughout the economy have been moving from a system of standardized mass production to a “flexible specialization” model involving new work arrangements within spatially integrated production complexes or “agglomerations.” The film industry is often cited as a paradigmatic case of this change, due to its highly specialized and agglomerated workforce. Recent evidence, however, suggests that current forces may be reversing the pattern of agglomeration and undermining the flexible model in this strategic case. Production complexes like Los Angeles and New York have seen drastic losses or a seesawing of employment, while cities in New Mexico, Louisiana, Michigan, and elsewhere have lowered production costs through tax incentives and rebates. This ethnographic study examines these patterns of agglomeration in the industry, focusing on their effects on “below-the-line” production workers, their unions, and the institutional governance of the labor process. The analysis will contribute to debates on the prospects for the industry and its workforce, the future of labor market regulation in film and other sectors, and theories of flexible specialization more generally.

The initial stages of this project are complete, including the establishment of interview contacts, an archive of print and online material, and a literature review. I am presently on leave for the academic year and conducting participant observation on a film set in New York until early Spring. In 2011, my co-author and I will conduct interviews with approximately 100 subjects in core industrial complexes (Los Angeles and New York) and key incentive states (New Mexico, Louisiana, and Michigan). A Faculty Research Grant (FRG) will support the travel and transcription requirements for these interviews, a vital part of the project. Our research is already garnering industry and academic interest, and completion of this portion of data collection will provide promising external funding and publication opportunities:

- Preliminary findings have been accepted for presentation in March 2011 at both the annual Urban Affairs Conference and the Association for Labor Education Conference; paper submission pending for the American Sociological Association (ASA) annual meeting in August 2011.

- Application pending for external support from the ASA Fund for the Advancement of the Discipline;
- Further grant proposal to the Russell Sage Foundation by January 2012;
- Targeted journals include the American Sociological Review, Sociological Methodology, and Labor Studies Journal, which will provide a platform to ultimately publish a book from our findings.

Background: *Beyond the Media Capital* draws and builds upon my and my co-author's extensive methodological and topical experience. My work on the World Social Forum (Gautney, 2009a) involved eight years of ethnographic research, including interviews and participant observation, that yielded several book chapters, journal articles, edited volumes, and a single-authored book. I have also published in the field of labor studies. I served as a consultant to the Local 1199 Hospital Workers union on two of their workforce development programs, which resulted in a peer-reviewed article (Ducey, Gautney and Wetzel, 2003). More recently, I authored a peer-reviewed article in WorkingUSA: The Journal of Labor and Society that discusses flexible specialization (Gautney, 2009b). In the fields of geography and social construction of space, I published an edited volume (Gautney et al., 2009) and am a reviewer for Environment and Planning D: Society and Space. Finally, my research experience and large contact base in the film industry provides me with a unique opportunity to conduct in-depth interviews and discuss workforce dynamics from a perspective sorely lacking in the literature.

My co-author on this project is Chris Rhomberg, a visiting associate professor in my department at Fordham and an expert in urban and labor studies. Dr. Rhomberg is the author of No There There: Race, Class and Political Community in Oakland, recipient of the ASA's 2006 Robert E. Park award for best book in urban and community sociology, and has published in the American Journal of Sociology, Theory and Society and Labor Studies Journal. His forthcoming book on the Detroit newspaper strike was supported by the ASA's Fund for the Advancement of the Discipline and the Russell Sage Foundation.

Our current collaboration focuses on the film industry as an exemplary case of broader changes in labor market regulation and workforce organization in the American economy. Since the mid-1970s, firms throughout the economy have moved from a Fordist organizational model of large, vertically

integrated, standardized mass production to a post-Fordist model of “flexible specialization” oriented to new technologies and more volatile markets (Amin 1994; Tonkiss 2005). In the “high road” version of this model, these new arrangements often involve smaller firms, craft-style or “batch” production, cooperative inter-firm and social networks among producers, and geographic concentration within horizontally-integrated production complexes or “agglomerations” (Malmberg 2003; Rosenthal and Strange 2003). The ready availability of skilled labor, service and technical inputs, and entrepreneurial opportunities within these agglomerations is said to enhance productivity and innovation, fostering the growth of industrial districts like Italy’s Emilia-Romagna, Baden-Wurtemberg in Germany, and Silicon Valley in the United States.

The American film industry, with its highly specialized and agglomerated workforce, is often cited as an early and paradigmatic case of flexible specialization (Storper 1994; Christopherson 1996). The collapse of the studio system in the 1950s and 60s led to the break up of a factory-like production process and vertical disintegration of the industry. The results did not lead to spatial dispersal, however, but to renewed agglomeration. Hired for short term spells on a project-by-project basis, “below-the-line” craft workers have clustered in the film industry’s traditional centers of Los Angeles and New York, filled with a multiplicity of employers, sound stages, supply companies, and technical schools. Production firms minimize risk through the “day labor” structure of most below-the-line positions, and by renting much of their equipment (cameras, lighting, props), thereby reducing capital investment.

In many industries the rise of flexible specialization production methods has coincided with a broader deinstitutionalization and “low road” development of the labor market. For many workers, the results are degraded conditions like reduced job security, lower pay and less stable benefits, increasing part-time employment, and sharp declines in trade unionism (Gautney 2009a; Harvey 1994; Peck 1996; Thomas 2009). Similarly, the diffusion of workplace authority and reliance on informal networks can deflect employer accountability and exacerbate gender and racial exclusion (Stone 2004; Christopherson 2009; Cieply 2009). Far from a revival of craft production, flexible specialization can become a way for corporations to downsize their labor forces, reduce their obligations, and externalize risk.

Yet, despite trends in other sectors, the film industry remains highly institutionalized with strong unions and established patterns of collective bargaining (Gray and Seeber 1996; Gray et al. 2009). A range of guild and craft unions codify job categories and guarantee access to qualified labor, bringing order to what might otherwise be a chaotic production process (Christopherson 1996; Scott 2005:127). Many below-the-line occupations are organized by local affiliates of a single union, the International Alliance of Theatrical Stage Employees (IATSE). Indeed, Amman (2002) argues that entertainment unions like IATSE offer a model for the unionization of workers in a variety of high tech and new media sectors, not unlike the post-industrial “occupational unionism” proposed by Cobble (1991, 2001).

We believe that a high road model of flexible production is possible; however, current forces may be reversing the pattern of agglomeration in the film industry and undermining its forms of institutional regulation that support a high road. De-agglomeration has emerged rapidly *within* the U.S.: In less than a decade, the central production complexes of Los Angeles and New York have seen drastic job losses or a seesawing of employment, while competing locations in New Mexico, Louisiana, and Michigan, among others, have lowered production costs through tax incentives and rebates. The American film industry has reached an historic crossroads, which raises a set of important analytic questions: Can state policies foster new sites of agglomeration, or will intensified competition between states simply disorganize the labor market? What conditions are necessary for film production to become a motor of local economic development? Can a high road path of development survive and can the film industry continue to serve as its model?

Contribution: *Beyond the Media Capital* will make a critical contribution to understanding recent empirical trends toward de-agglomeration and their implications for the film industry and its workers, the future of labor market regulation in this and other sectors, and theories of flexible specialization more generally. My co-author and I will study the tensions and conflicts underlying these trends, with a focus on: (a) institutional regulation by states, including tax incentives, right-to-work laws, and local political institutions; and (b) the cultural and organizational forms of labor reproduction within distinct localities—

the social networks, craft culture, and union organization that make up the key industrial centers of film production. Much of the existing literature draws on cost-benefit analyses of tax incentives, but does not look at the effects of hyper-mobile production on the workers and their unions. Nor do most studies employ methods like participant observation or open-ended interviews to gather in-depth data on film workers in their everyday settings. Ethnographic methods are vital to this project as we plan to query producers directly about the effects of state regulation on their location choices, while observing the formation of social networks and craft culture in the production process, and asking workers and their union reps about their work practices under conditions of de-agglomeration and increasing job mobility.

Cost: We have applied for funding from the American Sociological Association to cover costs associated with the Louisiana and Michigan portions of our interview agenda. If awarded, an FRG would enable us to round out the picture with interviews in Los Angeles and New Mexico,¹ which will significantly enhance our ability to publish this work in top journals, submit a large-scale (\$35,000) grant proposal to the Russell Sage Foundation, and eventually publish a book.

Conclusion: *Beyond the Media Capital* challenges the prevailing paradigm regarding agglomeration and so represents a novel contribution to the literature on flexible specialization.. The project will contribute to existing research on the film industry, and provide broader insights on the future of flexible methods and trade unionism in other sectors. The findings will also have practical application for policymaking on state tax incentive programs and their relationship to workforce development and collective bargaining. An FRG will enable us to collect the data necessary to support the dissemination of those findings in top sociology journals, and expand our research agenda through applications for external support.

¹ Personnel costs include hiring a junior/senior level undergraduate student from Fordham University (at \$13 per hour) to transcribe data from approximately 40 interviews, which will afford my co-author and I time to conduct interviews and analyze data. Site travel to New Mexico and Los Angeles is required for this research. (i) New Mexico is a popular incentive state and the third largest film production center in the U.S. (ii) Los Angeles is the largest film production center in the U.S., but has lost a vital share of production activity due to tax incentives offered by states like New Mexico, Louisiana, and Michigan, among others. I have completed pilot work in both states and established extensive interview contacts there.