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This study seeks to explore what motivates undergraduate student employees in academic libraries. The literature contains many anecdotal accounts of motivation programs and incentives employed in academic libraries but very few empirical studies concerning these employees. This study explored student employee motivation within the framework of self-determination theory: measuring levels of intrinsic motivation, internalized regulation, introjected regulation, and external regulation. A questionnaire was distributed to student employees at seven ARL member libraries. The questionnaire gathered demographic data and used the Motivation at Work Scale (MAWS) to measure their motivation. The study found that students showed higher levels of intrinsic motivation and external regulation, and while students' majors do not have a notable effect on their motivation, the task they perform at work does impact their motivation. The results of this study can be applied to design and implement more effective motivators and incentives for student employees in academic libraries.

Headings:

      Student assistants/College and university libraries

      Student assistants/Research libraries

      Surveys/Student assistants

      Surveys/Intrinsic motivation

      Surveys/Personnel

MOTIVATION OF UNDERGRADUATE STUDENT EMPLOYEES IN ACADEMIC
LIBRARIES

by
Elizabeth S. Dorner

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of the School of Information and Library Science
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Approved by

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Barbara B. Moran

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Introduction

Undergraduate student employees have been a fixture in academic libraries since the early 1900s (White, 1985). The scope of duties these student employees perform has expanded over the last century and now many academic libraries employ large numbers of undergraduate student workers to staff circulation desks, shelve or retrieve books and journals, assist patrons, answer phones, and perform other routine but necessary tasks (Tolppanen & Derr, 2009). The question remains, however, as to how to better motivate these employees to increase productivity and performance. Motivation theory, according to the Gale Encyclopedia of Psychology, "is concerned with the influences that govern the initiation, direction, intensity, and persistence of behavior" (p. 440). For decades researchers have applied motivation theories to work settings in an effort to explain the work habits, performance, levels of satisfaction, and efficiency of employees. This research seeks to apply motivation theory to undergraduate student employees in academic libraries.

Although a great deal of literature has been devoted to the motivation of librarians and paraprofessional library workers, far less has been produced concerning the question of student employees' motivation. Of the few articles that do address this unique group, most are anecdotal accounts of incentive programs or other management techniques (e.g., Alder, 2007; Chouteau & Heinzman, 2007; Burkey-Wade, 2007). Only one empirical study has thus far been conducted on student motivation, specifically on the effects of certain motivators on shelving performance (cf. Banks, 1991). Besides this study, there

appears to be no empirical research that has explored what motivates student workers and the effects of incentives on their motivation and/or performance in tasks other than shelving. Therefore, the following research questions are posed:

1. What motivates student employees? To what degree are they intrinsically or extrinsically motivated?

2. Are student workers' academic interests (i.e. academic majors) related to their motivation to do library work?

3. How is the task a student is performing (e.g. shelving, checking out books, scanning) related to a student's level of motivation?

Literature Review

The goal of this literature review is to examine trends in work motivation theory and how student employee motivation efforts have developed in relation to these theories. The first section will trace the development of work motivation theory from its origins in behaviorism to its current state. The second section will examine literature concerned with motivation of student employees and other staff. The third and final section will examine one of the emerging theories of motivation, self-determination theory, and how it is being applied in organizational motivation research.

Overview of Selected Work Motivation Theories

Motivation is an extremely large area of study that spans numerous fields including management, psychology, education, and sociology. The number and variety of motivational theories is overwhelming, even when limited to theories of work motivation, so only the most basic theories and the theories with the greatest influence on studies in library settings will be addressed in this review.

One early theory often applied to work settings was Maslow's Needs Theory (1943). Maslow posited that humans have a variety of needs, some of which must be satisfied before others may be satisfied. Basic physiological needs, such as for food, and water, must be guaranteed before people can worry about the need for safety, which must be guaranteed before people can address higher-level needs such as needs for love, esteem, and self-actualization (Maslow, 1943). Although some argue that Maslow's

theory has been oversimplified and misused in practice (cf. Pinder, 2008), elements of this theory still persist in modern work motivation theories.

Behaviorism, made famous by the work of researchers such as Skinner (Pinder, 2008), is a theory of motivation that focuses on peoples' behaviors and their capacity to learn desired behaviors based on environmental responses to various behaviors (Pinder, 2008, p. 428). Work motivation in a behaviorist model would include providing employees with reward and recognition for desired behaviors and punishing them for undesired behaviors. Elements of behaviorism still exist in modern organizations in various forms (Pinder, 2008, pp. 426, 437). Enthusiasm for behaviorism gradually waned, to be replaced by theories that hearkened back to Maslow and considered the worker's whole being: thoughts, feelings, and perceptions, rather than just his behavioral reactions to external stimuli.

In 1959, Hertzberg presented the motivation hygiene theory, based on his study of 200 engineers and accountants (Hertzberg, 1993). This theory proposes that various "hygiene factors" in the environment, such as work conditions, salary and benefits, company policies, and the interpersonal environment contribute to job dissatisfaction if the worker perceives unfairness in these areas. Removal of these hygiene factors would only serve to reduce job dissatisfaction, not induce job satisfaction and motivation, as had previously been thought (Hertzberg et al., 1993, p. 113). Instead, Hertzberg identified five separate concepts that lead to motivated, satisfied workers: recognition, achievement, advancement, responsibility, and the characteristics of the work (Pinder, 2008, p. 34). These conclusions formed the basis of concepts of intrinsic and extrinsic motivation

(Pinder, 2008, p. 82), since employees were affected by internal (intrinsic) feelings and perceptions as well as by external (extrinsic) factors in the environment.

Many different theories and approaches came out of this initial discussion of intrinsic and extrinsic motivation (Pinder, 2008, p. 83ff). Among them is cognitive evaluation theory (CET), which states that when people are intrinsically motivated to do a task, the application of some types of extrinsic rewards can actually decrease their level of intrinsic motivation to perform the task. Additionally, in order to feel intrinsically motivated in the first place, people must feel both competent and autonomous in the performance of the particular task (Gagné & Deci, 2005). CET's assertions about the effects of extrinsic rewards proved to be highly controversial since it failed to take individual differences and context into account (Pinder, 2008, p. 86). Numerous laboratory and field studies eventually cast enough doubt on some aspects of CET that it was abandoned as a stand-alone theory (Gagné & Deci, 2005; Pinder, 2008). The ideas presented in CET eventually gave rise to the more nuanced self-determination theory, which is discussed later in this paper.

While CET has fallen out of favor in the scientific community, it is still evidence of the continuing trend of focusing on the importance of workers' thoughts, feelings, and needs as well as the work context, rather than simply focusing on punishments, rewards, and behavior.

Motivation of Student Employees

White (1985) provides the most comprehensive history to date of student employment in academic libraries. Employing student workers was not a common practice until the early 1900s, when university enrollments began to expand rapidly.

Librarians reacted differently to the hiring of more student employees: some viewed them simply as cogs in the library machine, some valued and appreciated students as colleagues, and some simply created a new category for student employees, somewhere in between a cog and a coworker (White, 1985, p. 94). This unique group is now a permanent fixture in most academic libraries, constituting an average of 21% of ARL libraries' workforces (Association of Research Libraries [ARL], 2009, p. 64). In a recent study, Tolppanen and Derr (2009) conducted a survey of 94 college and university libraries to ascertain the types of tasks their student employees perform. Based on their responses, the researchers identified 19 core activities that student workers perform, from checking out materials, shelving, and shelf-reading to answering phones, assisting patrons, and maintaining equipment (cf. Tolppanen & Derr, 2009, p. 321 for a full list).

While librarians may have differing opinions with regards to student workers, the fact remains that student workers are a unique group within the library's workforce. Oltmanns (1995) points out that undergraduate student employees have the added burden of balancing work, studies, and social lives while simultaneously transitioning into adulthood (p. 75). Unlike graduate students or interns who are actively pursuing a job in a library-related field, undergraduate employees may not be interested in libraries or the profession (Margalotti, 2004). Not only that, most student employees are part-time workers, while many librarians and staff work full-time. Add to this the significant age difference between student employees and the rest of the library staff, and it becomes clear that student employees constitute a distinctive group within academic libraries (Oltmanns, 1995).

Given that student employees make up a unique, substantial portion of academic library workforces and complaints are often voiced about student worker dependability and motivation (Oltmanns, 1995), it is surprising that almost no empirical research has been performed on student employee motivation. Banks (1991) provides the only example of an empirical study that deals with motivating students in academic libraries. In her study, Banks explored the effects of several different incentive programs on the shelving rates of student workers employed in five academic libraries in Texas. Offers of raises, extended loan periods, and early release time failed to produce a significant effect on shelving rates (Banks, 1991, p. 144). The incentives Banks offered in these experiments were based on the suggestion of a single student and research on workers in general, not student workers (pp. 135-6), suggesting that there is a lack of understanding of what motivates student employees.

Far more common than empirical research about student employees are anecdotal accounts of motivation efforts in academic libraries. In many cases, libraries do not have enough resources to provide the rewards associated with a full-scale motivation program (Clark, 1995; Burkey-Wade, 2007), so they may improvise with intermittent, low-cost motivation techniques. Burkey-Wade (2007) conducted an informal survey of interlibrary loan departments in academic, public, and special libraries to ascertain what types of motivational activities were being implemented. The results indicated that supervisors employ many different motivational techniques ranging from the traditional to the absurd: from giving time off, taking time for adequate training, allowing for schedule flexibility, and encouraging involvement in the larger organization to dancing, bringing in interesting newspaper articles, taking field trips, and having salsa-making competitions

(Burkey-Wade, 2007, p. 143-144). Articles like these, which simply list tips for motivating employees without any apparent order, organization, or evaluation, are evidence that supervisors do care about employee motivation, but do not necessarily consider the concepts and principles underlying these motivators.

Formal motivation programs have also been documented in the literature. As part of an issue of *The Journal of Library Administration* dedicated to student employees, Clark (1995) provided a summary of several motivation programs in place at university libraries across the country. She describes recognition programs that include recognizing students with bookplates, employee of the month programs, displays, and news releases (Clark, 1995, p. 89). Other libraries focus on "career-oriented" incentives, rewarding senior students by allowing them to supervise and train newer recruits, raising their pay, promoting them, widening their responsibilities, or awarding scholarships (Clark, 1995, p. 89-90).

Other libraries have adopted specific models from the business world, such as the FISH! business model implemented at St Ambrose University Library in Ames, Iowa. The FISH! model consists of four principles--*Play, Make their Day, Be There,* and *Choose Your Attitude* (Chouteau & Heinzman, 2007). The Play principle involves motivation strategies similar to other libraries' methods, namely creating a fun work environment by providing students with food, prizes, and recognition as Students of the Month (Chouteau & Heinzman, 2007). The FISH! model also incorporates elements of behaviorism by giving rewards based on students' shelving accuracy and productivity (Chouteau & Heinzman, 2007).

Librarians at Brigham Young University in Utah have taken yet a different approach to student motivation, explicitly using Maslow's needs theory to develop a program of motivation that addresses social needs, self-esteem needs, and self-actualization needs (Alder, 2007). Activities such as team projects, public recognition, and providing opportunities for promotion and acquisition of new skills were selected by soliciting student opinions about what motivates them and aligning these opinions with Maslow's theory (Alder, 2007, p. 95). Some of these motivational techniques move beyond simple extrinsic rewards and motivators and provide opportunities for employees to use skills and perform tasks that are outside of their job description. For instance, students with computer expertise may be recruited to design presentations or run database reports, while artistic students are recruited to produce some of the library's graphic design work (Alder, 2007, p.98).

The ideas for these motivation programs have been drawn from a variety of sources, including the corporate world, popular literature, informal surveys, and in some cases, simply the imagination of the supervisor. Only in a few instances have supervisors explicitly applied elements of motivation theory when dealing with their students. Recent research on motivation of librarians and paraprofessional staff in academic libraries is being formed around cognitive theories of motivation such as job satisfaction and commitment (e.g. Tella et al., 2007); even informal motivation programs now include elements such as intrinsic needs, recognition, and rewards, that reference theories of Maslow (1943), Hertzberg (1993), and others (e.g. Burkey-Wade, 2007; Green et al., 2000; Kisby & Kilman, 2007). Clearly, then, the need exists for student employees' motivation to be considered with the same care.

Self-Determination Theory and Work Motivation

Self-determination theory (SDT) is a theory of motivation that describes people's motivation as being on a continuum from being amotivated (having no motivation at all) to being extrinsically motivated (motivated by an external force) to being intrinsically motivated (doing a task because they find it inherently interesting) (Gagné & Deci, 2005). The theory also posits that there are different types of extrinsic motivation, some types that exert control over the individual (such as rewards and punishments) and some types that allow for more autonomy (people responding to extrinsic motivators because of their personal thoughts, beliefs, and personality) (Gagné & Deci, 2005, p. 336). This theory is also derived partially from Maslow's Hierarchy of Needs (1943) in that it states that peoples' basic needs for competency, autonomy, and relatedness must be satisfied before they can experience intrinsic or autonomous extrinsic motivation (Gagné & Deci, 2005, p. 336-337).

As many have suggested (e.g., Latham & Pinder, 2005; Gagné & Deci, 2005), SDT is still in its infancy and will require much more testing before it can be accepted into the work motivation canon. So far SDT and principles of SDT have been studied in many contexts, including in sports, medicine, and education, as illustrated by the following study. Deci, Koester, & Ryan (1999) performed a meta-analysis of 128 studies that examined the effects of extrinsic rewards on intrinsic motivation. Deci et al. concluded that in most of these situations the hypothesis held true, namely that the application of extrinsic motivators detracts from people's motivation to perform certain tasks. Because extrinsic motivators, in the form of praise, monetary rewards, and other prizes are often used in the management of student employees (Banks, 1991; Chouteau &

Heinzman, 2007; Burkey-Wade, 2007), it is important to determine if extrinsic motivation has the same negative effect in the academic library context.

SDT is also increasingly being applied to work settings (Gagné & Deci, 2005; Sheldon et al., 2003). In one such study, Kuvaas (2009) explored the relationship between intrinsic motivation and employees' job performance using principles of SDT. In his study he selected a sample of employees from three municipalities in Norway and distributed a survey with questions related to motivators distilled from SDT, i.e. job autonomy, task interdependence, and supervisor support. Respondents were also asked questions that measured their self-reported job performance and intrinsic motivation. Kuvaas found that the presence of autonomy, competence, and relatedness in a work environment increases intrinsic motivation, which is in turn linked to better job performance (Kuvaas, 2009, p. 46). Studies like these have great implications for SDT's validity in work environments.

Although SDT is a relatively new theory of motivation, a few of its characteristics make it particularly suited to the context of student employees in libraries. Sheldon et al. (2003), coming from a human resources management perspective, argue that SDT is particularly effective in studying how individual characteristics of trainers and learners effect motivation (p. 377), which is directly applicable to academic library settings, where student employees must be trained for various tasks. Another facet of SDT that makes it particularly interesting in this context is the fact that it accounts for people with a variety of different levels and reasons for motivation. Student employees in academic libraries come from a range of backgrounds, so it is likely that some employees may be intrinsically motivated because they wish to pursue librarianship or a related field as a

career, while others may have no interest in the job besides their paycheck. Finally, SDT is appropriate because it addresses different kinds of extrinsic motivators and their effects on workers. Since extrinsic motivators of all kinds are used in student employee motivation (e.g. Banks, 1991; Chouteau & Heinzman, 2007; Burkey-Wade, 2007), and many supervisors even use the term "extrinsic rewards" and "intrinsic motivation" when describing their programs, it seems apt to use a theoretical framework, such as SDT, that also employs these concepts.

Summary of the Literature

The role of undergraduate student employees in academic libraries has been expanding over the past century and it is likely that student employees' roles will continue to grow as libraries' budgets tighten. Until now, nearly all of the research conducted on library employee motivation has centered on librarians and paraprofessional staff, despite the fact that students perform so many different tasks in academic libraries (Tolppanen & Derr, 2009) and have a fundamentally different outlook than librarians and staff (Oltmanns, 1995). While many libraries have implemented student employee motivation programs, very few of them rely on motivational theory. Theories of work motivation have evolved rapidly over the past century, beginning with a focus on rewards, punishment, and behavior, transitioning to considerations of the workers' internal needs, and finally developing into current theories such as self-determination theory which address external and internal needs. Most documented student employee motivation programs to date have focused on extrinsic rewards (e.g. Banks, 1991; Chouteau & Heinzman, 2007; Clark, 1995). In conducting this literature review it has become apparent that the progress in work motivation theory has far

outpaced the progress in addressing student employee motivation and that there is a clear

need for empirical consideration of what motivates student employees using modern

theories of motivation such as self-determination theory.

Methodology

The following section will describe the methods, population, sample, procedure, and plans for analysis for this study, which took place from February through March 2011.

Selection of Method

This study employs survey methodology to gather data. Survey methodology is often used when soliciting "beliefs, opinions, attributes, and behaviors of respondents" (Wildemuth, 2009, p. 256), which is the basic aim of this study. Survey methodology is designed so that only a small proportion of the population is required to draw conclusions about the larger population (Wildemuth, 2009), which means that less time and fewer resources are required to gather data. The use of a self-administered web survey instrument also minimizes the resources involved by eliminating paper and mailing costs and allowing the survey to be administered to a wide geographic audience without travel expenses (Wildemuth, 2009). Survey methods are also efficient because they allow for the examination of multiple variables at once and can supply very detailed information about each of these variables (Babbie, 1990, p. 42). Analysis of these responses is even easier when only closed-ended questions are used (Wildemuth, 2009).

Survey methodology is appropriate for this research for a number of reasons. Survey methods can also be used to describe subsamples within the sample (Babbie, 1990, p. 52), which is appropriate for analyzing groups of student workers with a certain

trait in common. Using a self-administered web questionnaire was appropriate for this study because the questions are simple, closed-ended, and the population of interest is generally comfortable with computers. Additionally, the web-based format allowed the questionnaire to be distributed to student employees at academic institutions throughout the country, which facilitated more diversity in the sample and allowed a variety of different institutions and workplaces to be represented.

Population

The population of interest in this study consists of undergraduate students employed in academic libraries. For the purposes of this study the population has been narrowed further to students employed in academic libraries belonging to the Association of Research Libraries (ARL) because a wide variety of academic libraries are represented within this group and their employment statistics are readily available. As of 2008, there were 7,293 full-time equivalent student workers employed in ARL libraries (ARL, 2009, p. 62). For the purposes of this study it is assumed that these part-time workers are employed on average ten hours per week, as was found by Tolppanen and Derr's (2009) survey of student employees in access services (p. 315). Based on this estimate, the population in question consists of approximately 29,172 individuals.

Sample and Sampling Method

Because student employees are so closely associated with their parent institutions, the sample was selected using a single-stage cluster sampling technique. In single-stage cluster sampling, individual clusters (groups of people or subjects such as classrooms, churches, libraries, or other organizations) are selected out of the larger population; once

a cluster is selected, all of its members become part of the sample (Wildemuth, 2009, p. 119).

In this study, the clusters consist of ARL member libraries. Ten percent of ARL libraries (n=12) were chosen systematically from a list of ARL libraries ordered from least number of student employees to greatest number of student employees. Every 10th institution on the list was selected, beginning with a randomly generated number. Once the libraries were selected, on February 9, 2011, the director of each institution was contacted to seek permission to complete the study and to distribute the survey to the student employees (see Appendix A). Either the director or a contact person she/he designated then forwarded the link to the questionnaire to the student employees at their institution (see Appendix B).

In order to encourage participation, respondents were offered the chance to enter a drawing for eight $25 gift cards in exchange for participating in the study. Funding for this incentive was provided by a Carnegie Grant through the School of Information and Library Science at UNC. After respondents completed the questionnaire, they had the option of following a link to a second questionnaire where they could submit their email address. These gift cards were distributed in late March, 2011.

Additional Sampling. Because an insufficient number of responses was received after the initial sample received the questionnaire, a second round of sampling was performed in the same manner as the first: an additional ten percent of ARL institutions were systematically selected and contacted on February 20, 2011.

Survey Administration

Once approval was gained from the directors of selected libraries, an email containing the link to a Qualtrics™ survey was sent to these contacts at each of the participating libraries. The contacts then forwarded the email to student employees.

The survey was open for a four week period between February 9 and March 7, 2011, during which respondents could click on the link and submit their responses. The questionnaire itself took approximately ten minutes to complete; Qualtrics™ does, however, allowed for respondents to stop in the middle of the questionnaire and return later, should they desire to do so.

While simply describing the motivation types and levels of these student employees is part of the aim of this study, it was also necessary to do further analysis to achieve the other goal of this study, namely to determine whether any characteristics of student workers are related to their motivation. In order to perform these analyses, once the data was collected it was exported to the statistical program SPSS for analysis. Analysis of variance (ANOVA) is a statistical method often used when comparing differences between groups to determine if the differences in the groups' averages are statistically significant (Babbie, 1990). Because this study seeks to understand if different characteristics of student employees are related to motivation (for example, how the motivation of those who are in library-related majors compares to those in other majors) ANOVA was performed on the data to determine if these differences were significant or just due to chance. The Scheffé Test is another statistical tool that is used in conjunction with ANOVA. If ANOVA showed that there is a significant difference between groups,

the Scheffé Test was used to determine between which groups, if any, there was a significant difference (Walsh & Ollenburger, 2001, p.130).

Instrument and Materials

The survey was constructed using Qualtrics™ survey software, which allows respondents to respond online using a web browser. Results were automatically collected and stored by Qualtrics™.

The survey instrument itself (Appendix D) consists of two sections. The first section contains basic demographic questions that measure the independent variables of age, sex, year in school, academic major, number of hours worked and the types of activities performed on the job. The responses to these questions were analyzed to determine whether any relationship existed between them and students' motivation. The second section consists of the Motivation at Work Scale (MAWS). The MAWS is a twelve-question Likert-type scale developed by Gagné et al. (2010) to measure the four variables derived from self-determination theory: intrinsic motivation, identified regulation, introjected regulation, and external regulation. Intrinsic motivation is motivation people feel because they enjoy the task they are doing. Identified regulation is a type of extrinsic motivation where people do not inherently enjoy a task but are motivated to do it because they have internalized certain values or identities that require this task to be completed. Introjected regulation is another type of extrinsic motivation where people internalize outside influences and feel pressured to perform tasks. The final type of extrinsic motivation is external regulation, where motivation stems entirely from external forces such as rewards or punishments (Gagné & Deci, 2005).

Participants were asked to consider the degree to which each of the twelve statements correspond to the reasons they are doing their jobs; responses are on a seven-point scale ranging from 1 (not at all) to 7 (very strongly). The first three questions are designed specifically to measure intrinsic motivation, questions four through six measure identified regulation, questions seven through nine measure introjected regulation, and the final three questions measure external regulation (Gagné et al., 2010, p. 641-642).

In order to test the validity of MAWS, Gagné et al. (2010) conducted a survey of 1,644 Canadian workers in several fields. These workers were given the MAWS along with scales measuring related concepts such as need satisfaction, perceived organizational support, work satisfaction, and organizational commitment. Once the data was collected, statistical tests such as confirmatory factor analysis, invariance analysis, and analysis of variance (ANOVA) were performed in order to test its validity (cf. Gagné et al., 2010, pp. 634-641). The researchers found that results from MAWS corresponded with the results gained from the other scales; in other words, MAWS's validity was confirmed in this case. Because MAWS is such a new instrument, however, the researchers stress the need for it to be tested and applied in different situations with different samples and variables (Gagné et al., 2010), which this study has attempted to do. Permission to use the MAWS scale for this study was obtained from two of the creators of the scale, Dr. Marylène Gagné and Dr. Jacques Forest.

Ethical Issues

Any study dealing with human subjects must pay special attention to ethical issues that may arise over the course of the study. Survey methods are generally low-risk in that they will not cause physical harm and do not generally cause psychological harm,

although asking sensitive information may raise this possibility (Babbie, 1990). While employment is sometimes a sensitive issue, the questions on the survey instrument deal only with the students' opinions and facts about their employment, not with their performance. Any additional concerns students have about providing employment information were minimized by guaranteeing anonymity. The main ethical considerations for this study, then, revolve around the voluntary nature of the study and the assurance of privacy and anonymity. In order to ensure the privacy of the respondents, no identifying information was retained. The only personal information that was gathered were the email addresses of respondents wishing to be entered to win one of the inducement prizes; these email addresses were not associated with survey results and were deleted immediately after the study was completed.

Because this study dealt with human subjects it was submitted to the University of North Carolina's Institutional Review Board (IRB) for review. All study methods, procedures, and materials were examined and approved by the IRB before beginning any of the study procedures.

Results

Response Rate

The survey was initially sent to 12 ARL libraries in early February 2011. Of these

12 libraries, five agreed to participate, two declined to participate, and three did not

respond. One library was interested in participating but was ultimately excluded because

their internal IRB process would have delayed their responses past the end date of this

study; another library was interested in participating but no longer employed any

undergraduate assistants. After a week only 89 responses had been gathered, so a second

round of sampling was completed in late February 2011. Of this second group of 11

libraries, two agreed to participate and nine did not respond. In total, seven libraries,

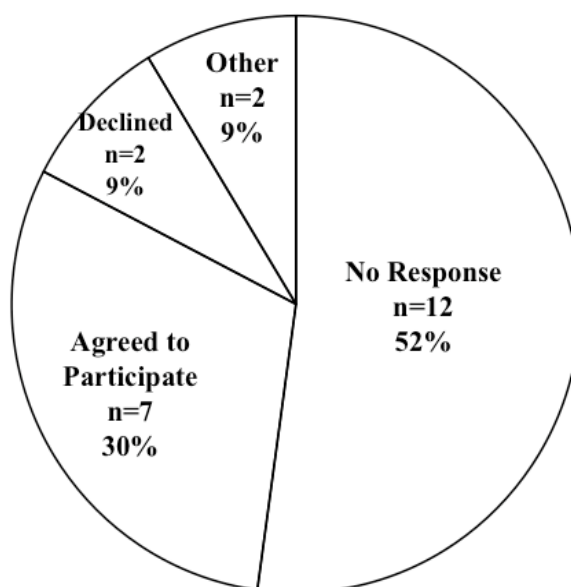representing 5.6% of ARL libraries, participated in the study.

Figure 1 Library Responses; n=23

Overall 429 student responses were acquired, 359 of which were used in analysis. Forty-four responses were excluded because the respondent was ineligible (i.e. because respondents were graduate students) and 26 responses were excluded because the survey was left blank. According to the 2007-2008 ARL statistics, the seven participating libraries employ 481 FTEs of student employees (ARL, 2009, pp. 56-62). If we assume that student employees work on average 10 hours per week, then these seven libraries had 1,924 student employees in 2007-2008, making the individual response rate of this survey 22.3%. This number should be viewed with caution, however, as it is based on slightly dated statistics. In the wake of budget cuts it is very likely that these libraries no longer employ so many student assistants and that the individual response rate is somewhat higher than this estimate.

Demographic Profile

Demographic characteristics of the 359 valid responses were analyzed to create a profile of the student assistant workforce (see Figures 1-4). The sex distribution of respondents was unequal, with 70% female and 30% male. All class ranks were represented in the sample, with 42% seniors, 26% juniors, 15% sophomores, and 17% first-years. The majority of respondents (85%) were in the "traditional" 18-22 age range for undergraduate students, although student employees in their late twenties, thirties, and even fifties were represented. Respondents worked an average of 13.5 hours a week, ranging from just 3 hours a week to over 40. While at work these employees were most often engaged in checking out/renewing/discharging materials (29%), shelving (11%), pulling materials for interlibrary loan/document delivery (10%), or answering

directional/informational questions for patrons (10%). Almost twenty percent of

respondents specified that they most often performed a task other than the nineteen most-

common tasks as identified by Tolppanen and Derr (2009). These undergraduate

students were engaged in a wide variety of tasks ranging in difficulty and responsibility,

including cataloging, developing and teaching instruction sessions, web and database

programming, book repair, scanning, and research assistance.
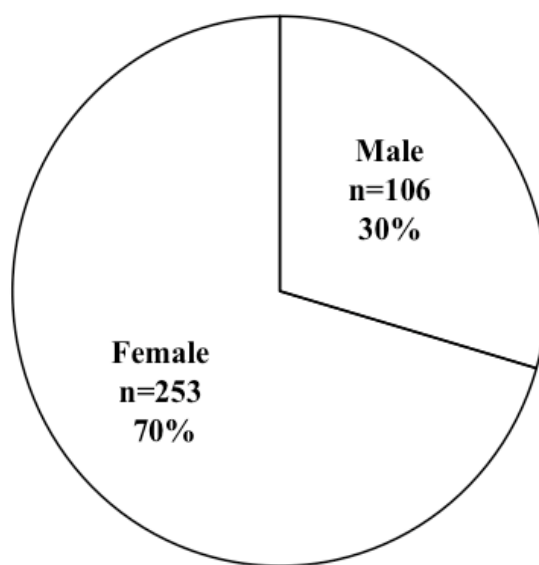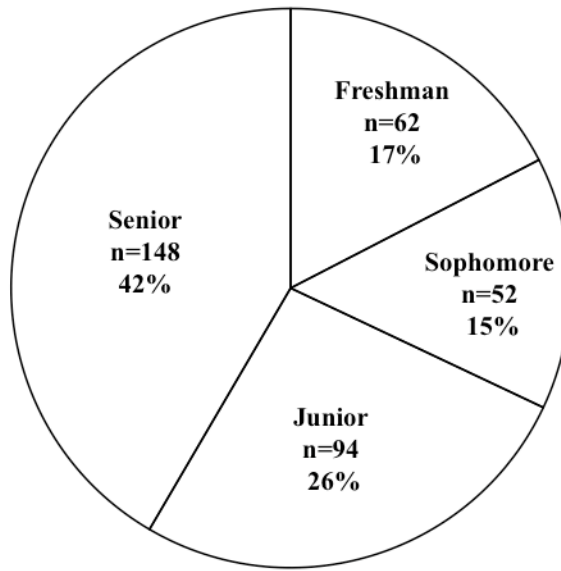

Figure 2 Respondents by Sex; n=359
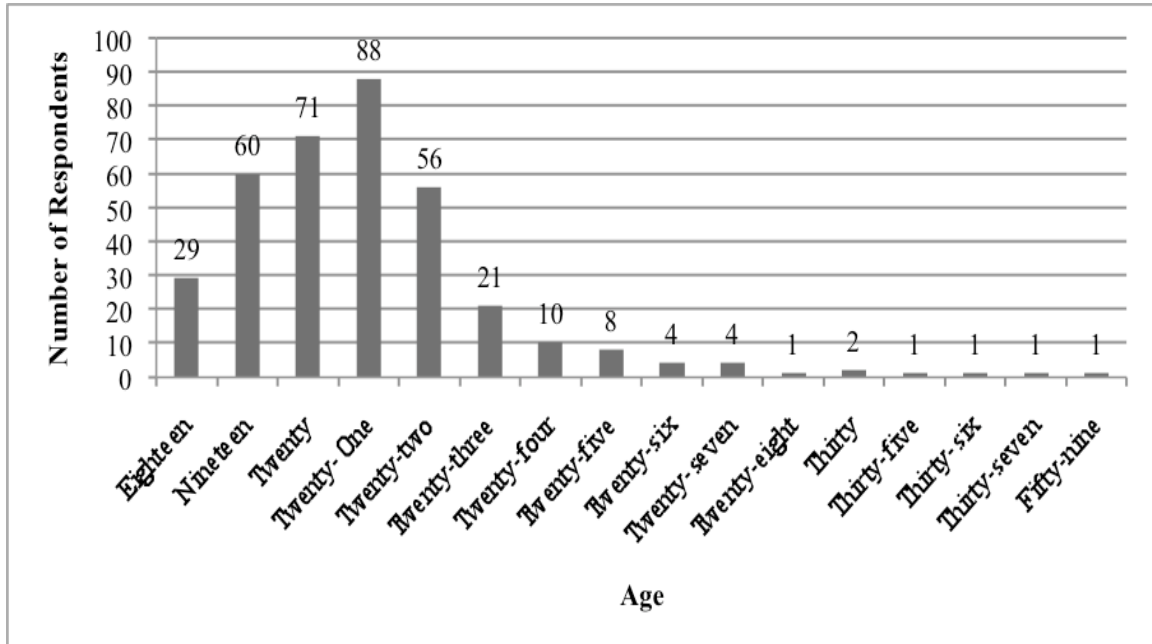
Figure 3 Respondents by Class; n=356

Figure 4 Respondents by Age; n=358

General Motivation Trends

Respondents were asked to indicate their agreement with each statement of the MAWS instrument on a scale of 1 (not at all) to 7 (exactly). Averages were calculated for each statement and each three-statement subscale. The statements with the three highest averages were "Because I enjoy this work very much" ($\overline{x}$ =4.24), "Because I have fun doing my job" ($\overline{x}$ =4.25) and "I do this job for the paycheck" ($\overline{x}$ =4.54), indicating that both intrinsic motivation and the extrinsic motivator of money were important factors for the group as a whole (See Figure 5). Responses spanned the entire range of 1 to 7 on all questions (See Appendix F for boxplot representations of the survey results).
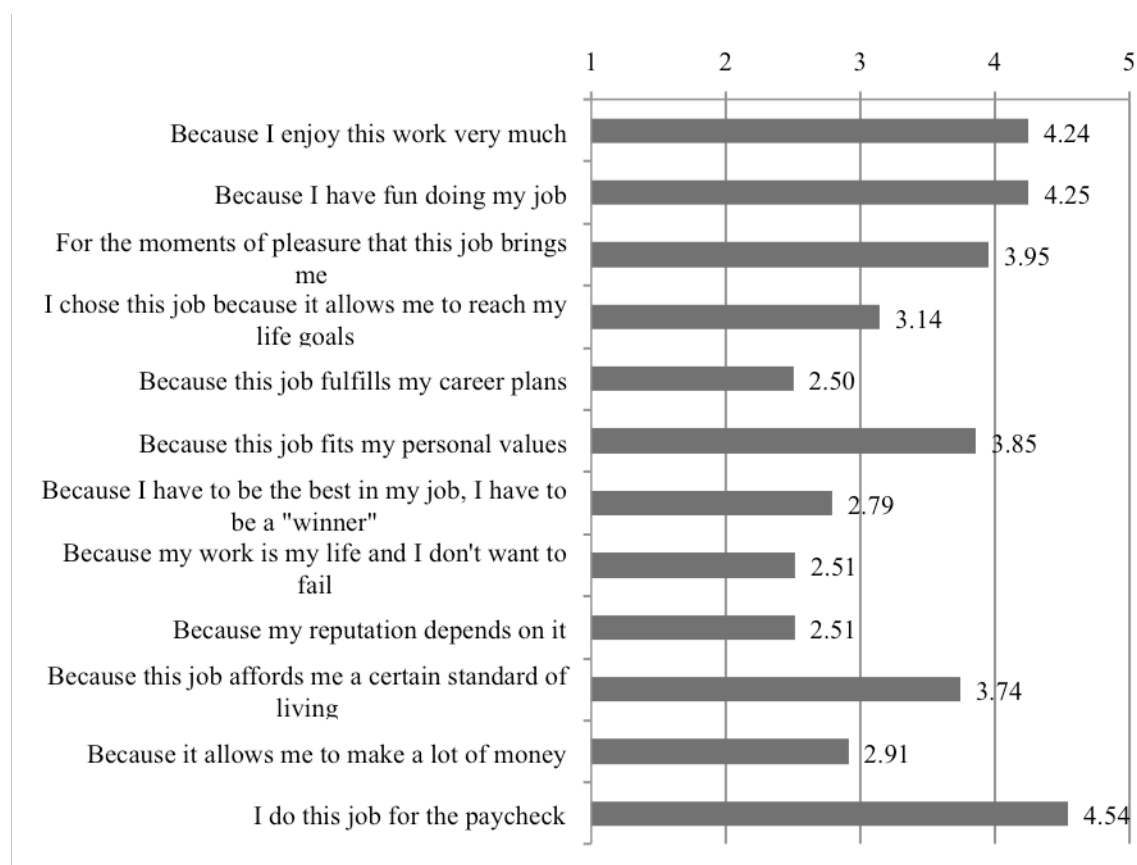
Figure 5 Average Response per Question; 1=not at all, 2=very little, 3=a little, 4=moderately, 5=strongly, 6=very strongly. 7=exactly

Averages of the four subscales, each composed of three questions and relating to intrinsic motivation, identified regulation, introjected regulation, or external regulation,

were also calculated (See Figure 6). The first three questions, the intrinsic motivation

subscale, averaged the highest agreement ($\bar{x}$ =4.15), indicating that student workers, on

average, enjoy their experience at work. Levels of identified regulation were low ($\bar{x}$

=3.17), meaning student workers do not generally internalize the goals and values of their

place of employment. Scores on the introjected regulation subscale were the lowest ($\bar{x}$

=2.6), meaning students were not highly motivated by controlling forms of motivation

such as peer pressure, guilt, and maintaining reputation. The external regulation

subscale, consisting of the final three statements of the scale, had the second-highest

average agreement ($\bar{x}$ =3.73). These statements measure how extrinsically motivated

students are, how much they "act with the intention of obtaining a desired consequence or

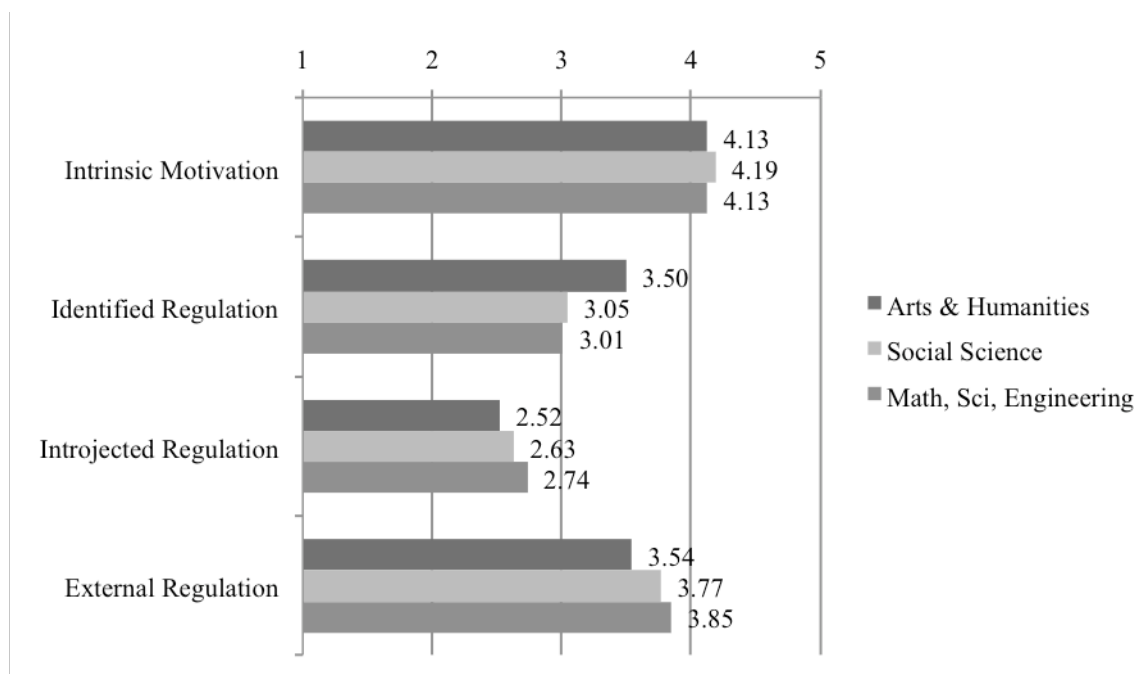avoiding an undesired one" (Gagné & Deci, 2005, p. 334).
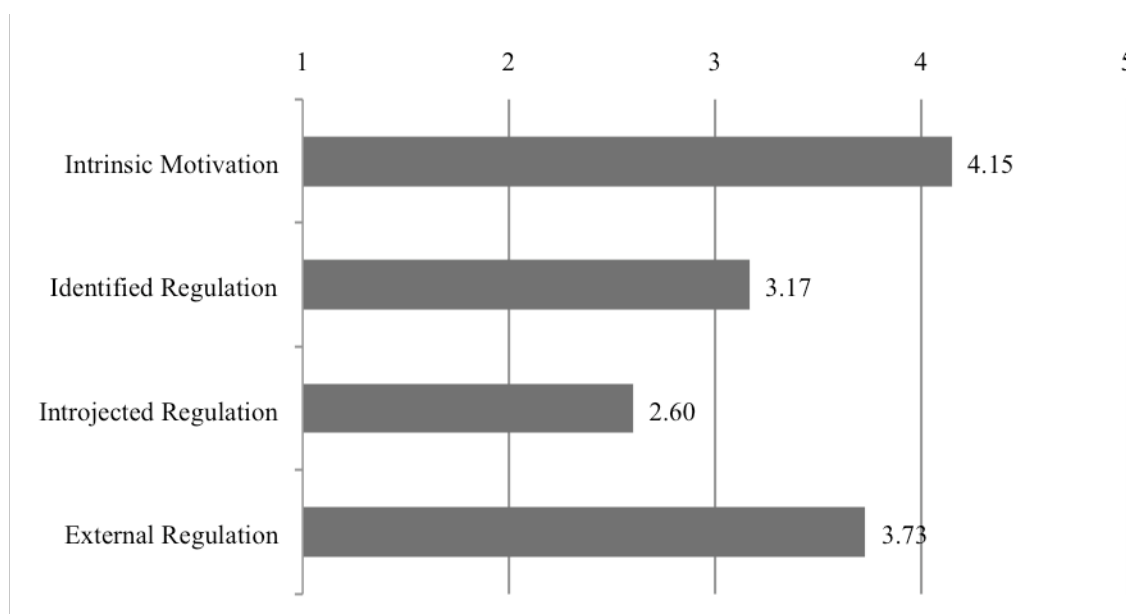
Figure 6 Average Subscale Scores; 1=not at all, 2=very little, 3=a little, 4=moderately, 5=strongly, 6=very strongly. 7=exactly

Motivation and Major

Respondents represented almost 200 unique academic majors or programs, making it difficult to analyze motivation trends of employees of specific majors. Instead, students' majors and responses were coded as belonging to one of three categories: Arts and Humanities, Social Science, or Math, Science, and Engineering. (Respondents with undecided or undeclared majors were excluded from this particular analysis.) These categories were selected after examining the reported majors of students and grouping them according to similar fields. Including a fourth category of Health Sciences majors was briefly considered but the number of respondents with Health Science majors was so small as to prevent proper statistical analysis; these respondents were included in the Math, Science and Engineering group. Examples of Arts and Humanities majors included Art, English, Philosophy, and various language and cultural studies; examples of Social Science majors included Education, Psychology, and Sociology; and examples of Math, Science, and Engineering included Biology, Chemistry, Statistics, Speech Pathology, and the health sciences.

The average response for each of these categories is shown in the figure below. Social Science majors had slightly higher scores of intrinsic motivation than the other two groups, while Math, Science, and Engineering majors had slightly higher scores on the external regulation subscale.

Figure 7 Average Subscale Scores for the Three Academic Major Categories; 1=not at all, 2=very little, 3=a little, 4=moderately, 5=strongly, 6=very strongly. 7=exactly

Analysis of variance (ANOVA) was then performed on the responses to determine whether there were any significant motivational differences between the three types of majors. The ANOVA revealed that there was a statistically-significant difference ($p<.05$) between majors in the level of identified regulation. No significant difference was found in levels of intrinsic motivation, introjected regulation, or external regulation, meaning that responses were fairly similar across these subscales and any differences likely due to chance.

Table 1 Results of ANOVA for Major and Motivation Level

ANOVA Table

			Mean Square	F	Sig.
Intrinsic_Motivation * Major	Between Groups	(Combined)	1.287	.077	.925
	Within Groups		16.607		
	Total				
Identified_Regulation * Major	Between Groups	(Combined)	70.746	4.322	.014
	Within Groups		16.370		
	Total				
Introjected_Regulation * Major	Between Groups	(Combined)	11.252	.634	.531
	Within Groups		17.747		
	Total				
External_Regulation * Major	Between Groups	(Combined)	23.860	1.957	.143
	Within Groups		12.190		
	Total				

A Scheffé test was then performed on the data to determine between which groups these significant differences occurred. As the ANOVA indicated, significant differences were found between the three major groups' levels of identified regulation, specifically between the Arts and Humanities group and the Math, Science, and Engineering group (labeled Majors 1 and 3, respectively, in the following tables). The effect size for this Scheffé test was small (η^2=.026), but comparable to the effect size of significant results found by Gagné et al.'s (2010) use of the MAWS scale (p. 639).

Table 2 Results for Scheffé Test for Major and Identified Regulation

Identified_Regulation
Scheffe

(I) Major	(J) Major	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.352	.556	.053	-.02	2.72
	3	1.465 *	.549	.029	.12	2.81
2	1	-1.352	.556	.053	-2.72	.02
	3	.113	.543	.979	-1.22	1.45
3	1	-1.465 *	.549	.029	-2.81	-.12
	2	-.113	.543	.979	-1.45	1.22

*. The mean difference is significant at the 0.05 level.

Table 3 Effect sizes (η^2) of Scheffé Statistics for Major and Motvation Level

Measures of Association

	Eta	Eta Squared
Intrinsic_Motivation * Major	.022	.000
Identified_Regulation * Major	.161	.026
Introjected_Regulation * Major	.063	.004
External_Regulation * Major	.109	.012

Motivation and Task

As was the case with respondents' reported majors, respondents' reported tasks varied widely. For this analysis, responses were separated into three categories based on the respondent's primary job task: Manual/Repetitive, User Services/Education, and Technological/Skilled. These categories were created after examining both Tolppanen and Derr's (2009) nineteen tasks as well as the "other" tasks as reported by student

employees and grouping them by similar job functions, roles, and/or skills.

Manual/Repetitive tasks included checking materials out, shelving materials, scanning,

and filing paperwork. User Services/Education tasks included tutoring, instruction,

staffing service desks, and answering patron questions. The Technological/Skilled

category included tasks such as cataloging, programming, book repair, and website

management.

The average subscale score for each of these categories is shown in the figure

below. Students who engaged in User Services/ Education tasks had the highest levels of

intrinsic motivation and external regulation, while students in the Technological/Skilled

group had the highest levels of both identified regulation and introjected regulation.
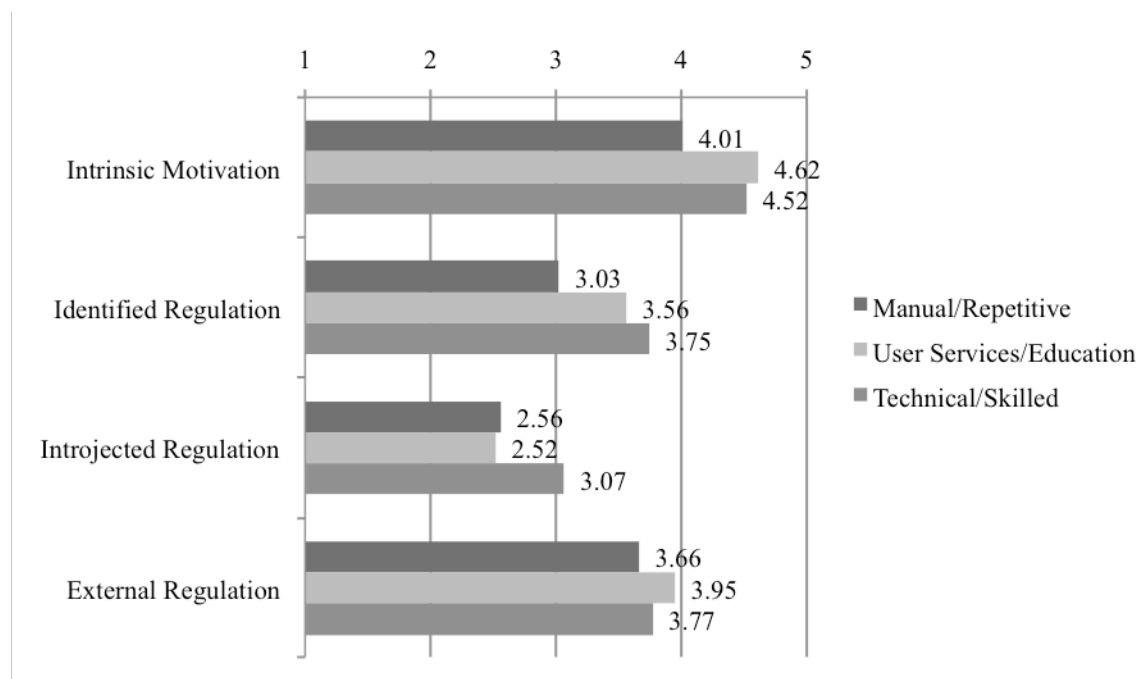
Figure 8 Average Subscale Scores for the Three Task Categories; 1=not at all, 2=very little, 3=a little, 4=moderately, 5=strongly, 6=very strongly. 7=exactly

ANOVA was also performed to study the relationship between tasks performed on the job and levels of motivation. The ANOVA revealed highly statistically-significant differences (p<.01) in levels of intrinsic motivation and identified regulation.

Table 4 Results of ANOVA for Task and Motivation Level

ANOVA Table

			Mean Square	F	Sig.
Intrinsic_Motivation * Task	Between Groups	(Combined)	87.849	5.621	.004
	Within Groups		15.628		
	Total				
Identified_Regulation * Task	Between Groups	(Combined)	95.764	5.936	.003
	Within Groups		16.133		
	Total				
Introjected_Regulation * Task	Between Groups	(Combined)	27.263	1.575	.209
	Within Groups		17.310		
	Total				
External_Regulation * Task	Between Groups	(Combined)	14.646	1.183	.308
	Within Groups		12.379		
	Total				

Again, Scheffé Tests were performed to identify which groups differed most from one another. Significant differences in intrinsic motivation occurred between those students engaged in Manual/Repetitive tasks and those involved primarily in User Services/Education (Tasks 1 and 2, respectively, in the following tables). Significant differences were also found between levels of identified regulation between Manual/Repetitive and User Services/Education as well as between Manual/Repetitive and Technological/Skilled. No significant differences were found in either introjected regulation or external regulation.

Table 5 Results of Scheffé Test for Task and Intrinsic Motivation

Intrinsic_Motivation
Scheffe

(I) Task	(J) Task	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-1.807	.601	.012	-3.28	-.33
	3	-1.521	.828	.187	-3.56	.51
2	1	1.807	.601	.012	.33	3.28
	3	.286	.962	.957	-2.08	2.65
3	1	1.521	.828	.187	-.51	3.56
	2	-.286	.962	.957	-2.65	2.08

*. The mean difference is significant at the 0.05 level.

Table 6 Results for Scheffé Test for Task and Identified Regulation

Identified_Regulation
Scheffe

(I) Task	(J) Task	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-1.595	.611	.034	-3.10	-.09
	3	-2.143	.841	.040	-4.21	-.07
2	1	1.595	.611	.034	.09	3.10
	3	-.548	.978	.855	-2.95	1.86
3	1	2.143	.841	.040	.07	4.21
	2	.548	.978	.855	-1.86	2.95

*. The mean difference is significant at the 0.05 level.

Table 7 Effect sizes (η^2) for Scheffé Tests for Task and Motivation Level

Measures of Association

	Eta	Eta Squared
Intrinsic_Motivation * Task	.181	.033
Identified_Regulation * Task	.186	.035
Introjected_Regulation * Task	.097	.009
External_Regulation * Task	.084	.007

Discussion

Analysis of these general trends, ANOVA, and Scheffé Tests can be applied to answer the research questions set out at the beginning of the study.

Question 1: What motivates these student employees? To what degree are they intrinsically or extrinsically motivated? Based on the aggregated results of all respondents, it appears that student assistants have high levels intrinsic motivation, motivation stemming from enjoyment of the task at hand, and external regulation, motivation stemming from seeking rewards or avoiding punishments. Although these two types of motivation are on opposite ends of the intrinsic/extrinsic motivation spectrum, this pattern makes sense in the context of student employees. Even those students who find intrinsic motivation in their jobs might also be dependent on their paycheck for tuition and/or living expenses. As Oltmanns (1995) pointed out, student employees have different priorities; many undergraduate students work simply to support themselves while their first priority is school. Low levels of identified regulation also make sense in the context of student workers. Very few of these students view their current job as an important part of their career plans (only four students answered 7=exactly for the career plan statement), and part-time workers may have different priorities and attitudes towards their jobs than full-time workers (Banks, 1991, p.137).

Question 2: Are student workers' academic interests (i.e. academic majors) related to their motivation to do library work? Based on the ANOVA analysis and subsequent Scheffé Tests, it appears that students' academic majors play little role in how

motivated they are to perform library jobs. The Scheffé Test did reveal a slight difference between Arts and Humanities majors and Math, Science and Engineering majors in terms of their identified regulation, the motivation to do a task because it fits with one's personal values or beliefs. This difference could be due to the fact that Arts and Humanities majors may be more interested in a future career in libraries or feel more connected to libraries than Math, Science, and Engineering majors. However, the effect size of this test was small ($\eta^2=.026$), meaning that although the difference is statistically significant, the actual difference in motivation is not very large.

Question 3: How is the task a student is performing (e.g. shelving, checking out books, scanning) related to a student's level of motivation? Although it was not possible to perform analysis of the motivation levels associated with each particular task, ANOVA and Scheffé analyses did allow for the examination of significant differences in motivation between students in different categories of tasks. These tests revealed that the tasks student employees perform do have a significant impact on their motivation. Students primarily engaged in Repetitive/Manual tasks (including the most commonly-performed tasks of shelving and checking out materials) responded on average 1.6-2 points lower than students performing User Services/Education or Technological/Skilled tasks (See Tables 5 and 6).

Gagné et al. (2010) similarly compared the motivation levels of workers employed in four categories of jobs, each with increasing levels of autonomy: Technical/manual, Sales/service, Health/education, and Management/Professional (p. 639). They found that workers with less autonomy (Technical/manual workers) "were less identified. . .and intrinsically motivated . . .than health/education workers [and]

managerial/professional workers." (p. 639). These results are consistent with the current study's findings that students employed in Repetitive/manual tasks had lower levels of intrinsic motivation and identified regulation than either the User Services/Education or Technological/Skilled group.

Both the results of this study and those of Gagné et al. (2010) are consistent with the hypotheses of self-determination theory. According to self-determination theory, tasks that allow for little autonomy, competence, and relatedness (such as Manual/Repetitive tasks) will be less motivating than tasks that allow people to feel independent, capable, and engaged (Gagné & Deci, 2005). User Services/Education and Technological/Skilled tasks seem to provide "satisfaction of basic psychological needs," which function as "the nutriments for intrinsic motivation and internalization" (Gagné & Deci, 2005, p. 336). Given the positive relationship between advanced, autonomous tasks and student motivation, supervisors may want to consider varying or expanding the roles of their student workers to challenge and motivate them.

Limitations

While the results of this study are telling and some differences proved to be statistically-significant, there are several limitations of this study. One of the limitations of this study is the sampling method. Cluster-sampling, although the most appropriate method of sampling for this study, "almost inevitably involves a loss of accuracy" (Babbie, 1990, p. 90) because of similarity within clusters and the restriction of sample population, among other factors. The respondents of this study came from only seven different institutions which may have very similar student bodies or management styles that could have an impact on responses. The nature of cluster-sampling also dictates that

some students were excluded because their institution was not selected or declined to participate. The sample would then be further restricted to only those students who both received the survey and elected to complete it.

Compounding this loss of accuracy is a loss of confidence. It is impossible to know the exact size of the population of interest, the number of undergraduate student employees working in academic libraries that are members of ARL. The size of the population was estimated from the most recently-published employment statistics, making it difficult to be confident that the sample size is adequate for inferring characteristics of the larger population. Due to the nature of online surveys and the sampling method, it was also impossible to determine the exact response rate.

Finally, although the MAWS has been shown to be valid in certain contexts (Gagné et al., 2010), it is a relatively new measure that has not been evaluated in many different contexts and situations. The results in this study proved to be similar to the results found by Gagné et al.'s (2010) own study using MAWS; however, further studies that examine the relationship of motivation levels of student employees with job performance or with levels of identification, etc., would be needed to further test the validity of the MAWS scale in this context.

Summary and Conclusion

This study examines what motivates undergraduate students employed in academic libraries. From the literature review it was concluded that the subject of student employee motivation, and even the subject of student employees themselves, have been neglected in LIS literature. Of the many work motivation theories that have developed since the early days of Skinner's Behaviorism, self-determination theory was chosen as a lens through which to study the subject of student employee motivation. According to self-determination theory, people need to feel adequate levels of autonomy, competence, and relatedness to feel intrinsically motivated and identified with the task at hand (Gagné & Deci, 2005).

Based on a survey of 359 undergraduate students employed in academic libraries, it was concluded that student employees in general show high levels of intrinsic motivation as well as external regulation; many students who intrinsically enjoy library work are still dependent on a paycheck to fulfill their primary roles as students. Although academic major did not appear to have a significant effect upon students' motivation levels, the nature of the tasks that students perform on the job did affect levels of motivation. Students employed in User Services/Education or Technological/Skilled tasks appeared to be both more intrinsically motivated and more identified than those students performing Manual/Repetitive tasks.

Implications for Supervisors

These results have several implications for library supervisors and managers who are interested in the motivation of their undergraduate student employees.

First, supervisors should recognize the inherent enjoyment of library work. This study reveals that, on the whole, student employees intrinsically enjoy their library jobs; if student employees appear unhappy or unproductive, supervisors may wish to consider that perhaps it is the work environment that is the real problem, not a lack of motivation. Offering extra training, paying attention to the employee as a person, allowing for self-direction are some techniques that may allow for feelings of autonomy, competence, and relatedness that SDT says will allow for a healthy, motivating work environment (Gagné & Deci, 2005, p. 355).

Secondly, supervisors should strive to provide variety and challenge in day-to-day tasks. While Manual/Repetitive tasks such as checking out books, shelving books, or scanning are linked to lower levels of intrinsic motivation and identification, these tasks must still be completed. Supervisors should experiment with techniques to cope with these tasks, such as job rotation, extrinsic rewards, or assigning these tasks to a student employee who does intrinsically enjoy performing them. Even simply acknowledging that these tasks are boring has been shown to improve motivation (Gagné & Deci, 2005, p. 355). This study has also shown that student employees are performing a wide range of functions within some academic libraries. As suggested by Alder (2007), supervisors should capitalize on the special talents of their students and consider giving students challenging projects or tasks that may be outside of the traditional set of tasks usually performed by student employees.

Thirdly, supervisors should ensure that student employees are being compensated fairly. According to the results, student employees show a high degree of external regulation. Many students are performing their jobs just for their paychecks, so supervisors should ensure, if possible, that students are being paid a wage that is comparable to the wages of other jobs available to undergraduates. Rewarding students with raises or other extrinsic rewards seems likely to increase motivation and improve performance, as Banks (1991) found.

Finally, supervisors should encourage students to understand the role of libraries and librarians. Respondents tended to report low levels of identified regulation, motivation based on internalizing the values of the task at hand. Making sure that students know how vital their work is to the library's functioning, and how vital the library's functioning is to the larger institution, could help these students better appreciate the importance and values of their work. Additionally, very few respondents in this study seemed to consider working in libraries as a career prospect. Encouraging students who show particular interest or aptitude in library functions to consider librarianship as a career is an excellent way to promote employee identification and recruit talent to the field.

Further Research Directions

This research has raised several issues that warrant further investigation. Although this research suggests that students feel motivated by their paychecks, this study does not investigate the link between pay and productivity as investigated by Banks (1991). Technology has changed the library environment dramatically in the two decades

since Banks's study and current research about the relationship between monetary incentives, motivation, and job performance is sorely needed.

Many of the "other" tasks specified by respondents fell outside of both Tolppanen and Derr's (2009) 19 most-common tasks as well as the overall list of 85 tasks employed in their survey (pp. 317-320). Advanced tasks such as website maintenance, programming, and even cataloging are now being performed by undergraduate students in some academic libraries. The exact reason for this expansion of roles and skills is unclear but warrants further investigation, especially since several scholars have pointed out the "underutilization of student employees" (Kathman & Kathman, 1978, cited in Banks, 1991) in the past.

While this research has shown that many menial tasks in libraries have a negative association with motivation, the fact remains that these tasks must be performed. Further research should be done to determine whether management techniques such as job rotation, pay raises, training programs, etc. could help increase motivation and enjoyment while performing these tasks.

Finally, although this study focused on undergraduate student employees, many academic libraries employ a significant number of graduate students, many of whom are enrolled in library or information science programs. Investigating the types of tasks performed by graduate students and the motivation of LIS versus non-LIS graduate students is another research issue that could add much to this conversation.

Conclusion

Although student employees constitute a large portion of most academic library workforces and perform a great deal of the tasks that make these libraries function, these

employees have been overlooked in the literature and the field of library and information science. This research provides much-needed empirical evidence about this ignored group: insight into the characteristics, tasks, and motivation of the workers that do some of the most mundane--but essential--work in academic libraries. Understanding what motivates student employees will hopefully assist supervisors design motivation programs and offer incentives that these employees actually respond to. This research should be of great interest to library supervisors, library administrators, and patrons of academic libraries, since these groups all stand to benefit from the cost and time-savings that motivated employees can generate. Hopefully in the future, improving the experience of student employees with proper management and motivation will become an important consideration for all library professionals.

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Appendices

Appendix A: Contact Email to Selected Libraries

[Date]
Dear Dr./Mr./Ms. [Director],

I am conducting a research study focused on what motivates undergraduate students working in academic libraries. Your institution was randomly selected from a list of the ARL member libraries to possibly participate in this study.

To participate in the study student employees would complete an online questionnaire (to be distributed by email). This questionnaire is composed of questions addressing students' motivation, the tasks they perform while working at the library, and some demographic questions that will be used to describe the respondents in this study. Completing the questionnaire should take no longer than 10 minutes. Students who wish to may submit their email address for a drawing for one of eight $25 gift cards as thanks for their participation.

If you are interested in your students participating in this study, I will send an email with a link to the survey to you (or someone you designate), which can then be forwarded on to your students. I will then send a reminder email approximately 7 days after the initial email is sent, which I will ask you to again forward to your student employees.

Thank you for considering assisting with this study. After the completion of the study I would be happy to share a copy my report with you, should you request one. Please note that this final report will contain only aggregate data.

Please let me know if you are willing or unwilling to forward information about the survey to your students by replying to edorner@email.unc.edu. Please feel free to contact me or my adviser, Dr. Barbara Moran (bmoran@email.unc.edu), with any questions.

Sincerely,
Betsy Dorner
Masters Student, School of Information & Library Science
University of North Carolina, Chapel Hill
email: edorner@email.unc.edu

Adviser:
Barbara B. Moran, Louis Round Wilson Distinguished Professor
School of Information and Library Science 211 Manning Hall, CB 3360
University of North Carolina at Chapel Hill
Chapel Hill, NC, 27599-3360
Tel: 919 962-8067   Fax: 919 962-8071
email: moran@ils.unc.edu

Appendix B: Contact Email with Link

Hello,

I am conducting a study about student workers in academic libraries. If you are an undergraduate student at least 18 years of age and employed in an academic library you are eligible to participate. You will have the chance to enter your email for a raffle for one of eight $25 gift cards to thank you for participating.

Please click on the link below if you would be willing to take this 10-minute questionnaire about your library job. Your participation is completely voluntary.

<QUALTRICS LINK>

If you have any questions, feel free to contact me at edorner@email.unc.edu

Thank you,

Betsy Dorner
Master's Student in Information and Library Science, UNC-Chapel Hill

Appendix C: Reminder Email with Link

Hello,

If you have already completed this questionnaire, please disregard this message.
This is a reminder to please consider taking this online survey about your library job. It should take only 10 minutes to complete. Your participation is completely voluntary.

<QUALTRICS LINK>

At the end of the survey you will have a chance to enter your email to win one of eight $25 gift cards.

Thank you,
Betsy Dorner
Master's Student in Information and Library Science, UNC-Chapel Hill

Appendix D: Survey Instrument

Motivation of Undergraduate Student Employees in Academic Libraries, IRB Study #11-0171

Principal Investigator: Betsy Dorner (edorner@email.unc.edu)
Adviser: Dr. Barbara Moran (moran@ils.unc.edu)

Thank you for taking time to participate in this survey. The purpose of this study is to examine what motivates undergraduate student employees in academic libraries to perform their jobs. We are very interested in your answers!

This questionnaire is composed of questions related to your library job. Your participation is anonymous. You will not be asked to submit any identifying information in the questionnaire. All data obtained in this study will be reported as group data. No individual can be or will be identified. The only person who will have access to these data is the investigator. A copy of the final report (containing only aggregate data) will be made available to you or your library's administrators, if a copy is requested by emailing the investigator at edorner@email.unc.edu.

You are free to answer or not answer any particular question and have no obligation to complete answering the questions once you begin. Completing this questionnaire connotes your consent to be a participant in this study. Completion of the questionnaire should take no longer than 10 minutes.

You may choose not to be in the study or to stop being in the study before it is over at any time. This will not affect your class standing or grades at your institution. You will not be offered or receive any special consideration if you take part in this research. To thank you for your participation, at the end of this questionnaire you will have the opportunity to submit your email to enter into a drawing for one of eight $25 gift cards.

Clicking on the button below implies your consent to participate in this research.
[BUTTON]

What is your: Age: ___   Sex: ___   Major/concentration: _____

Year in School (Check One):   __Freshman   __Sophomore   __Junior __Senior   __Graduate

How many hours per week do you work in your library job during a typical week? ____

Please indicate the 3 activities you perform most often in your library job. Drag the activity you perform most often into the top box, the activity you perform second-most often into the middle box, and the activity you perform third-most often into the bottom box. *Please place only one choice in each box.*

Check out/renew/discharge library materials	Tidy the building (push in chairs, dust, etc.)
Shelve books and/or journals	Help patrons find items on shelves
Sort and preshelve materials for shelving	Maintain equipment (refill paper, printers, etc.)
Shelve other materials (media, unbound periodicals, reserves)	Pull books and other items for interlibrary loan, document delivery, etc.

Answer directional/informational questions for patrons   Search for books and other items (lost, missing, etc.)

Answer telephones at a service desk   Assist patrons with photocopiers

Tidy/straighten stacks or other collections   Pick up materials from other buildings
Shelf-read   Oversee library detection gates and respond to alarms
Assist staff with opening/closing building   Other (please specify): _____
Check out/discharge interlibrary loan material   Other (please specify): _____
Retrieve items from book drop   Other (please specify): _____

[BOX 1]   [BOX 2]   [BOX 3]

Using the scale below, please indicate for each of the following statements to what degree they presently correspond to one of the reasons for which you are doing this specific job.

	not at all	very little	a little	moderately	strongly	very strongly	exactly
Because I enjoy this work very much	1	2	3	4	5	6	7
Because I have fun doing my job	1	2	3	4	5	6	7
For the moments of pleasure that this job brings me	1	2	3	4	5	6	7
I chose this job because it allows me to reach my life goals	1	2	3	4	5	6	7
Because this job fulfills my career plans	1	2	3	4	5	6	7
Because this job fits my personal values	1	2	3	4	5	6	7
Because I have to be the best in my job, I have to be a "winner"	1	2	3	4	5	6	7
Because my work is my life and I don't want to fail	1	2	3	4	5	6	7
Because my reputation depends on it	1	2	3	4	5	6	7
Because this job affords me a certain standard of living	1	2	3	4	5	6	7
Because it allows me to make a lot of money	1	2	3	4	5	6	7
I do this job for the paycheck	1	2	3	4	5	6	7

We thank you for your time spent taking this survey. Your response has been recorded.

To thank you for your participation, we would like to offer you the chance to enter into a

drawing for one of eight $25 gift cards. If you would like to enter the drawing, please

follow the link below. Your email address will not be associated with your responses to

the questionnaire in any way or be used for any purpose except to notify you in the event

that you have won one of the gift cards. If you do not wish to submit your email address,

simply close this window.

<QUALTRICS LINK>

Appendix E: Email Survey

Motivation of Undergraduate Student Employees in Academic Libraries,
IRB Study #11-0171

Principal Investigator: Betsy Dorner (edorner@email.unc.edu)
Adviser: Dr. Barbara Moran (moran@ils.unc.edu)

If you would like to enter into a drawing for one of eight $25 gift cards, please enter your

email address below. Your email address will not be associated with your responses to

the previous questionnaire in any way or be used for any purpose except to notify you in

the event that you have won one of the gift cards.
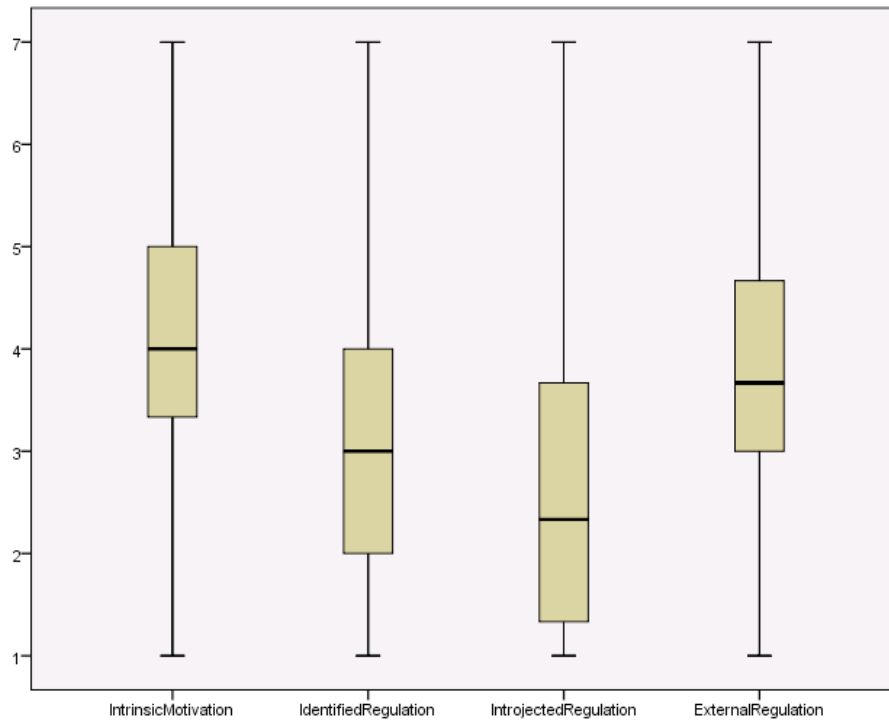
[TEXT ENTRY BOX]

 We thank you for your time spent taking this survey. Your response has been recorded.

Appendix F: Boxplot Representations of Survey Responses
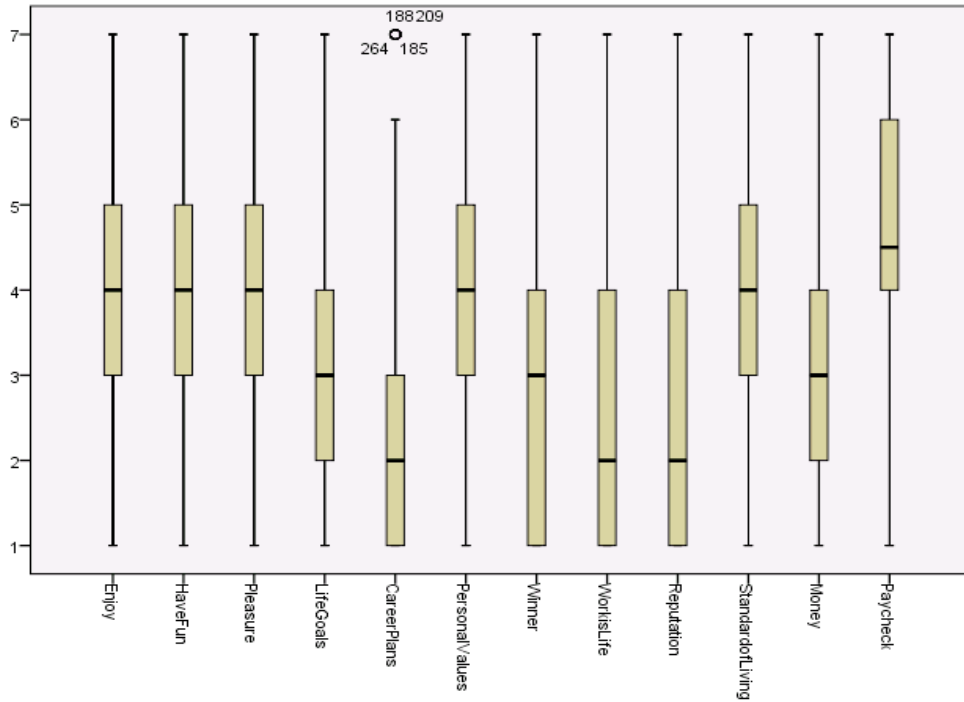
Figure 9 Boxplot Representation of Responses by Question

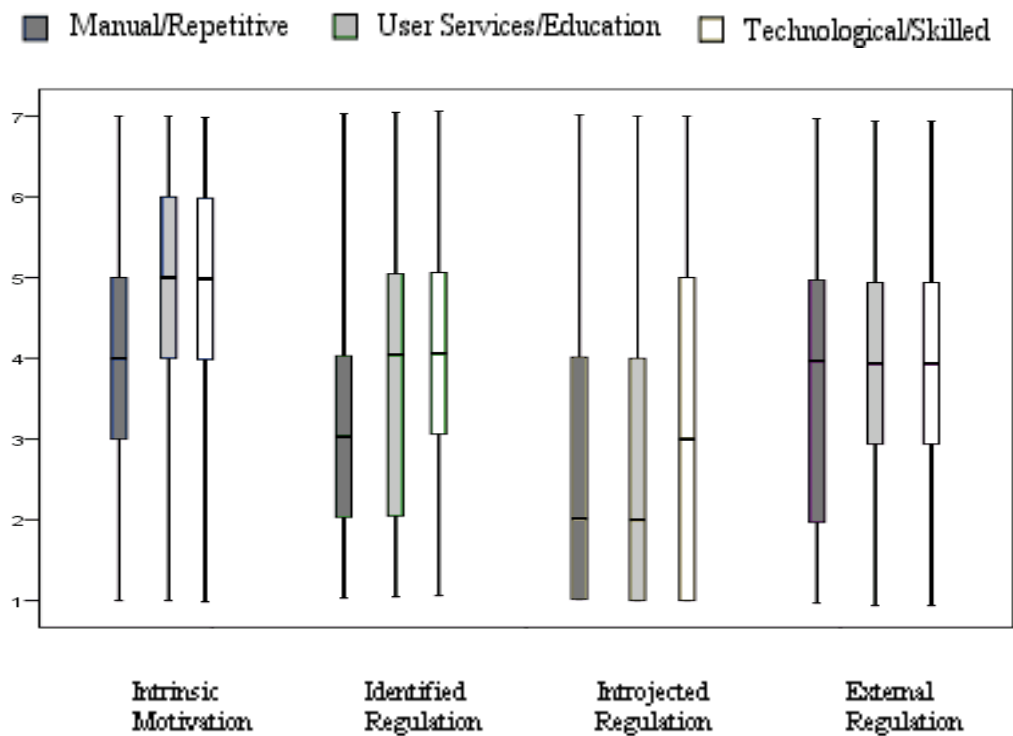**Figure 10 Boxplot Representation of Responses by Subscale**

Figure 11 Boxplot Representation of subscale Responses by Academic Major
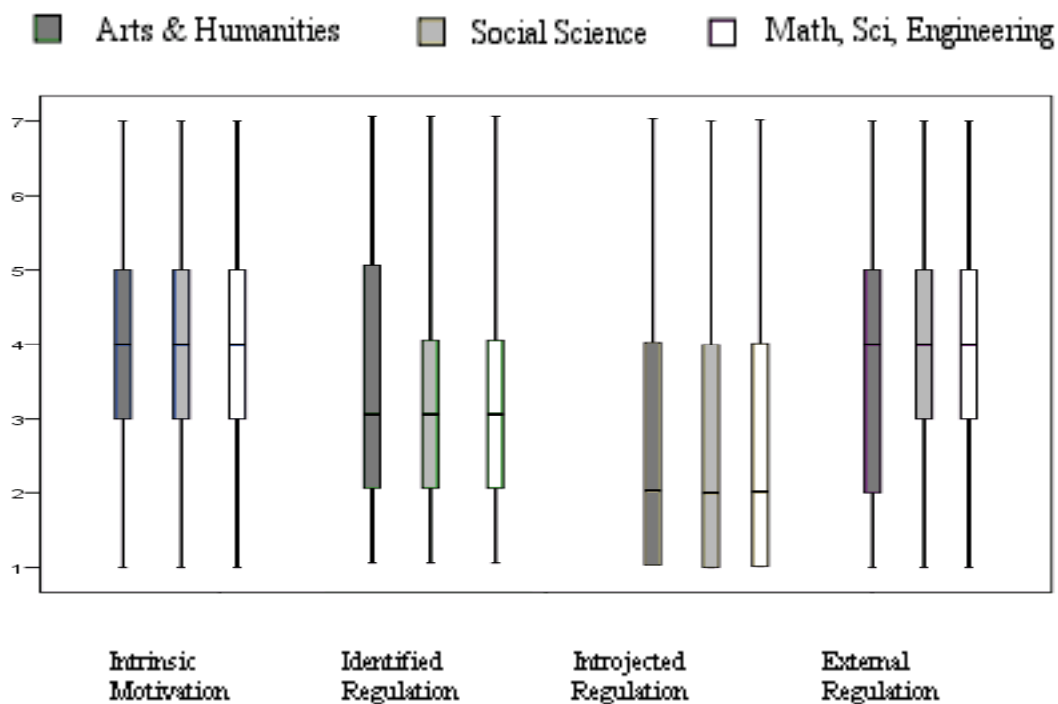
Figure 12 Boxplot Representation of Subscale Responses by Task Category