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Ready or not: Career readiness informed by the career thoughts inventory

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Abstract

There is a growing concern that recent graduates of colleges and universities are not performing up to par with employers' standards. Research studies in career readiness have not clearly established definition nor measure of career readiness. In order to equip students with the skills needed to succeed in the work force, it is becoming increasingly important to understand the factors that hinder their career readiness. This study used the *Career Thoughts Inventory (CTI)* assessment as a standard measure to inform negative career thoughts or hindrances to senior students' career readiness. Fifty-seven senior students were administered the *CTI* assessment and scores were analyzed comparing students on gender, ethnicity and area of study. Results suggested that senior students as a whole have higher negative career thoughts than other college students. However, there is no statistical significance between differences among the negative thoughts of seniors based on gender, ethnicity, or area of study. Career services centers must create programming and events designed to help seniors challenge and overcome their negative career thinking.

Keywords: Career Readiness, *Career Thoughts Inventory (CTI)*, *negative thoughts*

Ready or Not: Career Readiness Informed by the Career Thoughts Inventory

Despite its costs, an increasing number of individuals are going to college. The National Center of Education Statistics (2014) affirms that in the past decade enrollment in institutions of higher learning has rising over 32%. Exceedingly strong value is placed on higher education. The end goal of higher education is finding a career and contributing to the work force. However, there is a growing concern that college students are graduating with an inadequate skill set to be successful in their respective careers (Freudenberg, Brimble, & Cameron, 2009; as cited in Nielson, 2000; and Precision Consultancy, 2007). The college students of today are the professionals of tomorrow. Clear understanding of factors that contribute to career readiness among college students is necessary to create opportunities for students to exercise professional career skills.

Southern Adventist University's Career Services Center has been looking for ways to promote career readiness among its students, particularly students in senior standing. Career Services has established a strong and flourishing first year experience program designed to help freshman and transfer students be better acclimated to life on campus. The first year experience also engages them in career focused activities and programs. However, the impact of these programs loses momentum as students' progress in class standing. The following objectives were identified to help achieve Southern Adventist University's Career Services dilemma:

1. Identify relevant research articles regarding career readiness and disseminate the research into accessible information for students
2. Understand the career concerns of seniors

3. Implement marketing strategies to engage seniors in programs and make available to them resources that meet their needs and create awareness about relevant information pertaining to career readiness.

Literature Review

The first objective required the consultation of literature and studies that have already explored the topic of career readiness. The literature review informed a variety of variables against career readiness that focused on the type of student (gender and background) and their level of career readiness.

Gender differences have been present in the workplace for centuries. In past decades, the role of gender has transformed in the working world. There has been a stronger female presence in higher management positions (O'Neil, Hopkins, & Bilimoria, 2008). This presence may be connected to growing number of women pursuing higher education. The academic achievements of women have increased more rapidly than the scores of men (Beerkens, Magi, & Lill, 2010). The literature revealed various differences between male and female student workers that may influence career readiness. Female students tend to work more than male students. Based on previous studies, female students were more efficient in their balance of school and work. Men are more likely to fall behind in their studies due to issues of work time and study time management than are women (Beerkens et al., 2010).

Regardless of the strides women have made in the world of academia and the work force, the literature is divided in regards to who is better prepared for their respective careers after college.

Socioeconomic status was another variable examined in the literature review. Several studies suggest that students of lower socioeconomic status are projected to be less prepared to

enter the workplace upon graduation. In Turner and Ziebell's (2011) study, students of low socioeconomic status were disadvantaged in the transition into and out of higher education. Studies reveal that students of low socioeconomic status "have less opportunity to engage in career exploration, less information regarding those career options... and less opportunities to understand the links between working and successfully reaching their goals" (Turner & Ziebell, 2011). Low socioeconomic students were lacking in knowledge of career planning activities such as the value of internships and building job skills (Doyle, 2011). Collectively, ethnic background often appeared in the search linked to the discussion of socioeconomic status and proved to be a relevant and important factor in which to assess career readiness in university students. For this reasons, ethnicity was noted to be an important variable to consider when pursuing future research opportunities.

The most notable weakness of the literature as a whole was the lack of standardization in career readiness. The researchers varied in their definition of career readiness. The researchers as a whole also provided no general consensus regarding methods used to indicate various levels of career readiness.

Standardizing career readiness with the Career Thoughts Inventory

In order to address the opportunities for future research and achieve the second objective of Southern Adventist University's (SAU) Career Services center (understanding the career concerns of seniors) it was necessary to find a way to standardize a definition and method to indicate levels of career readiness. The Career Thoughts Inventory assessment was identified as a valid measure to standardize career readiness.

The Career Thoughts Inventory (CTI) is designed to assist individuals in learning about the way one thinks about career options (Sampson et al., 1996). By administering this test to seniors and

understanding the tendencies of their negative career thoughts, SAU 's Career Services center can isolate the concerns and offer resources and educational programming to equip students with the tools they need to bypass these concerns.

Since its inception in the late 1996, the CTI assessment has been validated as a strong indicator of career readiness in college students. A 2014 study examined perfectionisms effect on career development used the CTI scores to inform career development levels (Andrews, Bullock-Yowell, Dahlen, & Nicholson, 2014). In 2007 the CTI was used in conjunction with a career development course looking at tendencies in ethnically diverse college freshman's dysfunctional career thinking (Osborn, Howard, & Leierer). The study suggested that career thinking differences were not indicative of students' gender or race/ethnicity. In 2002 the CTI was used by its developers to examine the relationship between sense of coherence and career thought (Lustig & Strauser). No recent studies have examined senior students' CTI scores.

The purpose of this study is to administer the Career Thoughts Inventory to seniors in order to determine if there are any negative thought tendencies or patterns for senior students of different gender, area of study, and ethnic background/race.

Method

Participants

A total of 57 students voluntarily participated in this study. Of the sample size, 34 were women and 27 were men. The participant sample was represented by students of a variety of ethnic backgrounds and areas of study. The following charts represent the breakdown of students represented for each of the three variables: gender, ethnic background, and area of study. All participants were treated in accordance with the Ethical Principles of Psychologist and Code of Conduct (American Psychological Association, 2010).

Materials

Southern Adventist University offers well over 100 academic majors. In order to categorize these majors into manageable data, the Educational Opportunities Finder was used to categorize the type of major (Rosen, Holmberg, & Holland, 1989). The Educational Opportunities Finder categorizes area of study into six different categories; realistic, investigative, artistic, social, enterprising, and conventional.

The Career Thoughts Inventory Test Booklet was used to quantify negative career thoughts and the nature of those thoughts. This test booklet was ultimately the method of standardizing career readiness. The Career Thoughts Inventory Test Booklet is a 48 question, 4-point Likert scale questionnaire. The assessment takes approximately 7-15 minutes to complete (Sampson et al., 1996). The CTI assessment provides four scores. The first is the Career Thoughts Inventory Total Score. The CTI Total scores is “a single global indicator of dysfunctional thinking in career problem solving and decision making” (Sampson et al., 1996, p. 2). The CTI Total scores can range from 0 – 144. The assessment also provides three other scores that inform the nature of the negative career thought. The first is the Decision Making Confusion (DMC) score which “reflects an inability to initiate or sustain the decision making process as a result of disabling emotions and/or a lack of understanding about the decision making process itself” (Sampson et al., 1996 , p.2). The DMC score can range from 0-42. The Commitment Anxiety (CA) score “reflects an inability to make a commitment to a specific career choice, accompanied by generalize anxiety about the outcome of the decision making process, with the anxiety perpetuating the indecision” (Sampson et al., 1996, p. 2). The CA score can range from 0 –30. Finally, the External Conflict (EC) “reflects an inability to balance the importance of one’s own self-perceptions with the importance of input from significant

others, resulting in a reluctance to assume responsibility for decision making” (Sampson et al., 1996, p. 2). The EC score can range from 0-15. The higher the scores of these respective scales, the larger volume of negative career thoughts students possessed.

A simple five-question informational survey was used to collect the information from participants that informed the variables examined in this study: major, gender, and ethnicity.

For data analysis, two different SPSS tests were used. To determine the difference in CTI total score, DMC, CA, and EC scores between genders, an independent samples t-test was used. To examine the differences in CTI total score, DMC, CA, and EC scores between ethnic groups and area of study, the one-way ANOVA test was used.

Procedure

Senior students were informed about this study through a variety of means. Students of senior class standing were reached through on campus flyers, emails, and encouragement from upper-division professors. Professors were sent a copy of the flyer and details about the importance and relevance of the study via email. Professors were then asked to encourage their students to participate in this study. Several of these emails led to invitations to make a brief in-class announcement. Students who expressed interest set up a time to participate in the study. Upon arrival, students were given their printed copy of informed consent. Students were to sign this document outlining the minimal risks associated with the study, the benefits, significance and confidentiality of the study. Informed consent forms and surveys were stored separately of assessments once information was coded for input in SPSS. All assessments and raw data were stored in a secure location.

Results

The analyses focus on the 57 Southern Adventist University senior participants and their scores on the *CTI* assessment. The developers of the *CTI* established benchmark percentiles which segment the negative thought scores into categories (see table 1). Table 1 displays benchmark percentiles established by the developers of the *CTI* which segment the negative thought scores. The percentiles of 16, 50, 84, and 98 were determined by the developers to be indicators of course of action to take with participants who score within those ranges. For example, individuals who score in the 84th percentile are recommended to meet with a career service professional, as their total volume of negative thoughts may be overpowering positive, constructive thoughts. This second chart reflects the scores within the career thoughts standard percentile. Students who score in the 84th and 98th percentile have higher overall scores in the *CTI* total score and the EC score. As a whole, senior students at SAU score higher in a majority of the percentile ranges.

Of the 57 students who participated in the study, 23 were men and 34 were women. Table 2.1 illustrates the means and standard deviations of SAU senior men and women's scores on the *CTI* assessment. The standard deviation for the Career Thoughts Inventory Total score was markedly high in the case of all variables (*SD* for men 19.69 and for women 20.03). This is because the range of career thoughts inventory scores ranges on a scale of 0-144. This large range yields the possibility of outlying scores; which may deviate greatly from the mean. Considering the sub-scores that inform the nature of the career thoughts, the largest difference between male and female senior scores exists in the external conflict (mean difference of .61). However, the means reveal that the averages between male and female scores differ on a minute level.

The independent samples t-test conducted through SPSS for gender differences in career thoughts inventory scores confirms the minute variance in mean scores. The significance values reflect there is no statistical significance between male and female students' external conflict scores ($T_{(55)}=.84$; $p=.40$). Overall, there was no statistical significance between gender and the negative career thought scores (See Table 2.2).

In terms of ethnic group break down, 15 white students, 16 black students, 14 Hispanic students, 8 Asian students, and 4 students of mixed ethnic background participated in the study. Because of the low representation in the mixed ethnic background, or "other" category, this category was not included in the one-way ANOVA test run with SPSS.

The variances between the means and standard deviations of the scores were relatively subtle between the various ethnic groups. Overall, white students appeared to have the lowest scores CTI Total scores out of all ethnic groups represented in this study as indicated by their low CTI Thoughts Mean. While Asian students had the highest CTI scores, Commitment Anxiety scores and external conflict scores (see Table 3.1). The One-Way ANOVA analysis run with SPSS reveals that the results are inconclusive; there is no statistical significance between the scores of the CTI and ethnic groups. It is notable however that the External Conflict scores for Asian students were approaching significance with a p value of .07.

In areas of study, the Educational Opportunities Finder was used to categorize the type of major (Rosen, Holmberg, & Holland, 1989). The Educational Opportunities Finder categorizes area of study into six different categories; realistic, investigative, artistic, social, enterprising, and conventional. Of these categories, the majors of the participants were categorized into these six areas of study the realistic category was composed of 14 participants, the Investigative had 9 students, artistic 3, solcial 6, enterprising 9, and conventional had 6 students (see Figure 1).

Overall, the means and standard deviations between the areas of study revealed very subtle differences among the composition of scores. The conventional area of study reflects relatively low scores in each negative thoughts score category (CTI total score mean 53.78) while the realistic category exhibited the highest scores (CTI total score mean 38.33). As a whole, there was little variance between the group's scores. The One-Way ANOVA analysis reveals that the results are inconclusive; there is no statistical significance between the scores of the CTI and students of different areas of study (see Table 4.2).

Discussion

The purpose of this study was to determine the differences in CTI scores in senior students and identify trends in scores based on differences in gender, ethnicity, and area of study. An analysis of the current study as a whole reveals that there is no statistical significance in gender, ethnic groups, and areas of study regarding negative career thoughts. However, a comparison of the standard percentile scores created by the developers of the CTI and the scores of senior students from Southern Adventist University suggests that senior students may have a higher volume of negative thoughts than other college students. Also, scores of Asian/ Pacific Island students suggests that their External Conflict negative thoughts scores neared statistical significance. In other words, Asian/ Pacific Islander students may tend to have more external conflict natured negative thoughts than students of other ethnic backgrounds. This data supports literature and previous studies about the emphasis Asian culture places on students for academic and career success (Thrift, Ulloa-Heath, Reardon, and Peterson, 2012).

Limitations and Opportunities for Future Research

The key limitation of the current study was the small sample size. As a result of the small sample size, there was also weak representation within some of the groups. Despite the low

sample size and inconclusive results some demographic groups' data began to approach statistical significance. In the ethnic background variable, future research should explore the scores of Asian Students to determine if the results of this study are consistent with other research findings. Another limitation of this study is that the data can only make inferences on the students at SAU. Future research should replicate this study in different types of universities; public, private, large and small alike.

Conclusion

As employers communicate dissatisfaction with graduates' performance it grows increasingly important to understand what hinders senior student's career readiness. While the data suggested there was no statistically significance between the negative career thoughts and the gender, ethnicity, area of study of students, the current study provided thought provoking information that informed the objectives of Southern Adventist University's Career Service Center.

Recall the three objectives of SAU's Career Services Center:

1. Identify relevant research articles regarding career readiness and disseminate the research into accessible information for students
2. Understand the career concerns of seniors
3. Employ marketing strategies to engage seniors in programs and make available to them resources that meet their needs and create awareness about relevant information pertaining to career readiness.

The first objective was addressed through the preparation of the literature review: The information gathered to inform this project and other articles and journals found along the way was created into handouts and student newspaper articles for the student body.

The second objective was address through the administering of the career thoughts inventory assessment. Students were invited to set up subsequent appointments to review their scores and learn about resources available at career services to help overcome their negative career thoughts.

The third objective is a fluid and progressive change. Even though the results of this study were inconclusive, the current study made the Career Service Center at SAU more cognizant of the career concerns of senior students. It opened a dialogue between students and the career services workers at SAU. As a result, seminars, events, and handouts/ Career Services materials are being revamped in order to better address these concerns and negative thoughts.

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Table 1

Standard Career Thought Inventory scores vs. SAU senior Career Thought Inventory scores

Career Thoughts Inventory standard percentile		Percentile informed by Southern Adventist University study	
16 th percentile		16 th percentile	
CTI	26-27	CTI	28
DMC	3	DMC	2
CA	8	CA	10
EC	1	EC	2
50 th percentile		50 th percentile	
CTI	46-48	CTI	45
DMC	11	DMC	7
CA	14	CA	14
EC	3	EC	4
84 th percentile		84 th percentile	
CTI	67-68	CTI	70
DMC	18	DMC	17
CA	19	CA	20
EC	6	EC	8
98 th percentile		98 th percentile	
CTI	88-89	CTI	92
DMC	26	DMC	25
CA	24	CA	25
EC	8	EC	11

Note: The developers of the CTI assessment categorized scores into percentiles based on certain demographic criteria of the participant. The CTI categorize these criteria based on whether the participant is in high school student, college student or a professional or employed person. The above chart presents the CTI developer’s standard percentile for college students and on the other presents the percentile of Southern Adventist University seniors.

Table 2.1

Independent Samples T-Test Gender Mean and (Standard Deviation)

	Men	Women
Career Thoughts Inventory (CTI)	47.57 (19.69)	48.79 (20.03)
Decision Making Confusion (DMC)	8.65 (6.90)	9.62 (7.19)
Commitment Anxiety (CA)	14.87 (5.01)	14.15 (5.44)
External Conflict (EC)	5.17 (3.30)	4.56 (2.33)

Table 2.1 shows the means and standard deviations of SAU senior men and women's scores on the CTI assessment. The standard deviation for the Career Thoughts Inventory Total score was markedly high in the case of all variables. This is because the range of career thoughts inventory scores ranges on a scale of 0-144. This large range yields the possibility of outlying scores; which may deviate greatly from the mean. Considering the sub-scores that inform the nature of the career thoughts, the largest difference between male and female senior scores exists in the external conflict (Mean for male student. However, the means reveal that the averages between male and female scores differ on a minute level.

Table 2.2

Gender differences in CTI scores independent samples t-test

	Men	Women
Career Thoughts Inventory	$T_{(55)} = -.23$	$p=.82, ns$
Decision Making Confusion	$T_{(55)} = -.51$	$p=.62, ns$
Commitment Anxiety	$T_{(55)} = .51$	$p=.61, ns$
External Conflict	$T_{(55)} = .84$	$p=.40, ns$

Note: Higher scores indicated elevated levels of negative career thinking. The p value represents the significance value. It tells us the percentage chance of whether or not we can reject the null hypotheses (there is no difference between negative career thoughts and gender) a p -value of .05 suggests that the data is statistically significant revealing there may be a tendency between the negative career thoughts and a respective variable. * $p < .10$ approaching statistical significance, ** $p < .05$ statistical significance

Table 3.1

Ethnic group differences mean and standard deviation

	White	Hispanic	Black	Asian/ Pacific Islander
CTI				
Mean	44.20	50.79	44.81	54.38
SD	18.37	19.82	19.16	23.61
DMC				
Mean	7.67	10.79	7.38	12.00
SD	5.59	7.93	6.63	8.21
CA				
Mean	13.80	15.21	13.81	14.75
SD	5.16	5.07	6.04	4.83
EC				
Mean	4.47	5.00	4.31	6.75
SD	2.26	2.11	2.85	4.03

Like the gender scores, the variances between the means and standard deviations of the scores were relatively subtle, between the various ethnic groups. Overall, white students appeared to have the lowest scores CTI Total scores out of all ethnic groups represented in this study as indicated by their low CTI Thoughts Mean. While Asian students had the highest CTI scores, Commitment Anxiety scores and external conflict scores.

Table 3.2

Ethnic groups' differences in CTI scores with One-Way ANOVA

	White	Hispanic	Black	Asian
Career Thoughts Inventory (CTI)	F= .72 <i>p</i> =.95, ns	F= .25 <i>p</i> =.36, ns	F= .26 <i>p</i> =.94, ns	F= .80 <i>p</i> =.20, ns
Decision Making Confusion	F= 2.62 <i>p</i> = .82, ns	F= .58 <i>p</i> = .21, ns	F= .56 <i>p</i> = .64, ns	F= .19 <i>p</i> = .13, ns
Commitment Anxiety	F= .95 <i>p</i> =.88, ns	F= .02 <i>p</i> =.75, ns	F= .00 <i>p</i> =.51, ns	F= 2.17 <i>p</i> =.21, ns
External Conflict	F= .43 <i>p</i> =.71, ns	F= 2.16 <i>p</i> =.80, ns	F= .28 <i>p</i> =.75, ns	F= .31 <i>p</i>=.07, ns*

Note: Higher scores indicated elevated levels of negative career thinking. The *p* value represents the significance value. It tells us the percentage chance of whether or not we can reject the null hypotheses (there is no difference between negative career thoughts and ethnic groups) a *p*-value of .05 suggests that the data is statistically significant revealing there may be a tendency between the negative career thoughts and a respective variable. **p*<.10 approaching statistical significance, ***p*<.05 statistical significance

Table 4.1:

Areas of study differences mean and standard deviation

	Realistic	Investigative	Artistic	Social	Enterprising	Conventional
CTI						
Mean	53.78	51.89	41.00	45.5	51.5	38.33
SD	20.19	24.90	9.16	21.68	16.10	17.76
DMC						
Mean	12.00	10.89	2.00	8.69	10.07	5.67
SD	6.91	8.64	2.00	6.95	6.82	4.59
CA						
Mean	15.33	15.44	17.33	13.88	14.71	11.00
SD	5.45	5.15	0.58	5.73	5.61	3.69
EC						
Mean	4.67	4.56	5.33	4.38	5.64	4.33
SD	2.60	2.88	2.31	3.38	2.10	2.58

Overall, the means and standard deviations between the areas of study revealed very subtle differences among the composition of scores. The conventional area of study reflects relatively low scores in each negative thoughts score category. However, the conventional area of study also has the lowest representation of all the groups. Relative to the other groups there was little representation in the conventional group.

Table 4.2

Areas of study differences using One-Way ANOVA

	F value between groups	<i>p</i> value between groups
Career Thoughts Inventory (CTI)	F= .62	<i>p</i> =.65, ns
Decision Making Confusion (DMC)	F= .67	<i>p</i> = .62, ns
Commitment Anxiety (CA)	F= .68	<i>p</i> =.61, ns
External Conflict (EC)	F= .39	<i>p</i> =.81, ns

Note: Higher scores indicated elevated levels of negative career thinking. The *p* value represents the significance value. It tells us the percentage chance of whether or not we can reject the null hypotheses (there is no difference between negative career thoughts and areas of study) a *p*-value of .05 suggests that the data is statistically significant revealing there may be a tendency between the negative career thoughts and a respective variable. **p*<.10 approaching statistical significance, ***p*<.05 statistical significance

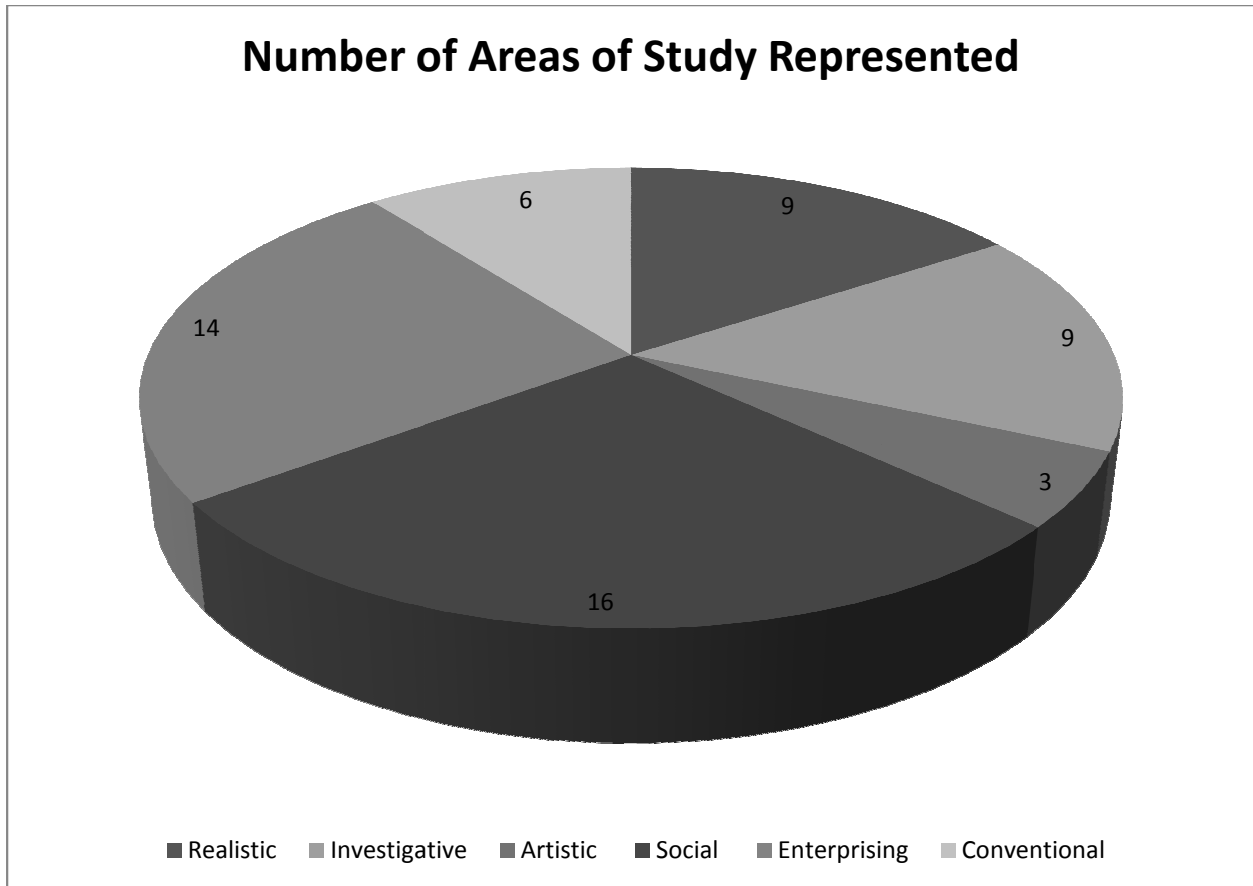


Figure 1. Note that the artistic category only had three representatives participate in this study.

In order for the One-way ANOVA test to analyze the data, each group must have at least five representatives. Because the artistic category only has three, the other category in the area of study groups represented will not be included in ANOVA analysis.