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Georgia Public School Board Members Beliefs Concerning the Inclusion of

Creationism in the Science Curriculum

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KEYWORDS

Beliefs, Creationism, Young Earth Creationism, Old Earth Creationism, Evolution, School Board Members, Administrators

ABSTRACT

This study investigated the beliefs of Georgia Public School board members regarding Young Earth Creationism (YEC) and Old Earth Creationism (OEC) and the association of these beliefs with the inclusion or exclusion of creationism in the district science curriculum of Georgia public schools. A random sampling (144) of 1,034 local school board members were invited to participate in the survey.

Data analysis indicated that School Board Members' beliefs regarding school board members in YEC had a positive correlation and beliefs in OEC had a negative correlation with the **permitted** inclusion of creationism in the district science curriculum. However, no correlation was found between school board member beliefs in YEC/OEC and the **required** inclusion of creationism.

The results of this study provide insight into connections between beliefs of board members and the science/creationism issue which may translate into enlightened voting decisions.

INTRODUCTION

Correlational aspects of the attitudes and beliefs of local school board members and their actions connected to the inclusion of creationism in the district science curricula of Georgia public schools were investigated. The school board answers to the voting public; because the inclusion of creationism in science curricula is very controversial and emotionally charged.

Several public opinion polls were reported in the Polling Report web site. In a New York Times Poll (Nov. 2004), the following question was asked: Would you generally favor or oppose teaching creation along with evolution in public schools? The results were: 65% favored; 29% opposed; and, 6% unsure. In the same poll, another question was asked: Would you generally favor or oppose teaching creationism instead of evolution in public schools" The results of were: 37% in favored; 51% opposed; and 12% unsure. These results differed slightly from a July, 2006 Pew study by Schulman, Ronca & Bucuvalas of 996 adults nationwide. In this study, 58% said they favored creationism being taught along with evolution, 35% opposed this, and 7% were unsure (Science and Nature, 2006).

According to the results of a 1999 Gallup Poll using a random sampling of 1,000 adults, on the question of teaching creationism along with evolution in public schools, 68% favored, 29% opposed, and 3% no opinion. These poll results indicate a strong public interest in the inclusion of creationism in the science curriculum. These polls indirectly address the specific issues researched in this study.

Problem Statement

The aim of this study was to identify possible relationships between beliefs of Georgia public school board members in Young Earth Creationism or Old Earth Creationism and the district's **permitted** or **required** inclusion of creationism in science classrooms.

Research Questions and Hypotheses

Research Question 1

 What is the relationship between school board members' personally held beliefs in YEC and OEC regarding creationism and the inclusion of creationism in the school district science curriculum?

The following null hypotheses were created based on the first research question:

- H_01 : There is no significant relationship between school board members' personally held beliefs regarding Young Earth Creationism and the **permitted** inclusion of creationism in the school district science curriculum.
- H_02 : There is no significant relationship between school board members' personally held beliefs regarding Old Earth Creationism and the **permitted** inclusion of creationism in the school district science curriculum.
- H_03 : There is no significant relationship between school board members' personally held beliefs regarding Young Earth Creationism and the **required** inclusion of creationism in the school district science curriculum.
- H_04 : There is no significant relationship between school board members' personally held beliefs regarding Old Earth Creationism and the **required** inclusion of creationism in the school district science curriculum.

REVIEW OF THE LITERATURE

This review examines the role of school board members throughout the United

States and their district decisions relating to the inclusion or exclusion of creationism from the science curriculum.

Board Members Initiate Efforts to Include or Exclude Creationism

We draw from two examples in Georgia. Cobb County, Georgia has been in the national spotlight as a result of the creationism/evolution issue. After receiving a petition in 1996 (with over 2,300 signatures from citizens) supporting the removal of a chapter in a fourth-grade text on evolution, the board approved a disclaimer sticker for biology textbooks. The ACLU argued that the sticker was unconstitutional and a "fundamentalist Christian expression." (Georgia school board, 2002, p. 1) At a September, 2002 board meeting, Rule IBD: Theories of Evolution were approved. According to the board, a "discussion of disputed views of academic subjects" including creationism were permitted to encourage critical thinking, tolerance, and religious neutrality (Rule IDBD, 2002, p. 1). In January of 2005, a federal judge ordered the disclaimer stickers removed from Cobb County science texts because they could be interpreted as supporting a particular religious belief (Associated, 2005; Judge, Jan. 13, 2005; Marus, R., Jan. 21, 2005; Matzke, N., 2006; Selman, 2005). The evolution-sticker issue affected the school board elections in the summer of 2006. Kathie Johnstone, one-term incumbent and former board chairman, lost her bid for reelection to John Crook, a Baptist minister, in the Republican primary (Stepp, 2006). In addition, the Hall County School Board in Gainesville, Georgia adopted a policy in 1996 which called for teachers to include creationism along with evolution in science class. (Applebome, 1996).

In the vast majority of the cases reviewed, board members took the lead in curricular decision-making concerning the creationism/evolution issue. Local school

boards frequently view the management of routine county business as their primary responsibility. School boards tend to be conservative in worldviews as well as beliefs and attitudes. While conservatives are more likely to support a place for creationism in the curriculum, the school boards are also somewhat sensitive to political pressure because they are answerable to the voting public. Therefore, the role of school board members regarding the inclusion of creationism in the science curriculum warrants further investigation. Additionally, twenty-three cases were reviewed in which the school board initiated the move to include or exclude creationism or Christian principles in the curriculum. The review suggests that school board members may be likely to initiate decisions on the inclusion of creationism in the districts' science curricula (Applebome, 1996; Bennett, 1999; Creationism, 2004; Heuvel, 2004; Lawrence, 2005; McCoy, 2005; Parlow, 2005; Price, 2004; Renick, 2004; Schneder, 2003; School board, 1996; Scott, 1997; Sidoti, 2002; Time for new blood, 2006; Town's schools, 2002; WV, 2000; Williams, Dec. 30, 2004; Wyatt, 2000).

Factors Affecting Curricular Decisions Concerning the Creationism/Evolution Issue

When school board members set curriculum for Georgia public schools, they must adhere to state objectives. These objectives set minimum skill levels. Districts may include additional objectives or skills in the curriculum in addition to the state standards (Science standards, n.d.). These additional objectives must not violate any state or federal regulation or court order (Deckman, 1999, 2002).

Since the 1987 Supreme Court ruling that banned creationism in public school science instruction, critics of evolution have asserted that scientific controversies concerning evolution should be included in the curriculum (Holden, 2002; Toland, Jan. 9,

2005). Lawsuits (or threats of lawsuits) by the opposition have resulted in the removal of creationism from many district science curriculums (Associated, 2005; Judge, Jan.13, 2005; Kitzmiller, 2006; Lawrence, 2005; Marus, R., Jan. 21, 2005; Matzke, N., 2006; Renick, 2004; Selman, 2005; Teaching, 2004; Toland, Jan. 9, 2005; Town's schools, 2002).

While state, federal, and district curricular mandates and court decisions are important considerations, politics (local, state, and national) and beliefs concerning creationism are important considerations when discussing the role board members relating to the inclusion of creationism in the district science curriculum. Districts can include supplemental materials and objectives to the state standards. Therefore, creationism may be included as long as this inclusion does not violate any other regulation or court ruling (Hutton, 2003; Kitzmiller, 2006; Selman, 2005; Science standards, n.d.; Tenneson, 2001).

Politics and the creationism/evolution issue have resulted in dramatic turnover in school board memberships as the voting public alternately elects or replaces school boards that support or oppose the inclusion of creationism (Toland, 2005; Stepp, 2006; Williams, May 29, Dec. 30, 2004).

Georgia Curriculum Science Standards

In the Biology section of the Georgia standards, creationism is omitted.

Addressing the origins of life, the Georgia standards mention building "a knowledge base of biodiversity" (Science standards, n.d., p. 4) in grades K-8. In grades 9-12, the Georgia standards state that present-day species developed from earlier ones as clearly separate species and that natural selection has provided species with heritable characteristics. The

standards also state that life on earth is thought to have started from one-celled organisms 4 billion years ago (Standards, n.d.).

While the Georgia science standards are in direct conflict with creationism, this does not mean that no district in Georgia permits or requires the inclusion of creationism in the curriculum. Because curriculum includes all of a child's experiences at school (Marsh, C. & Willis, G., 2003), other experiences planned by a school or district may include creationism. For this reason, the attitudes of school board and superintendents members toward the inclusion of creationism in the curriculum are important.

Deckman (1999, 2002) in a study of school board candidates survey found that conservative Christians are more likely than mainstream Protestants to take actions supporting creationism or become a school board candidate.

Summary

School boards tend to make most decisions regarding the inclusion or exclusion of creationism in the district science curriculum. In Georgia, locally elected school boards select the district superintendent which may affect the superintendent's power to include a highly controversial topic like creationism. Yet, superintendents generally take the lead in curriculum decisions. Including creationism in district science curricula often results in lawsuits against the district. When making such decisions, the school boards and superintendents must take into consideration public attitudes toward creationism, court decisions, state and federal law, and state school board guidelines/regulations. Georgia State Standards include evolution but make no mention of creationism. Because school districts can expand the district curricula beyond the minimum Standards, some Georgia districts may decide to add creationism to the science curriculum.

METHODOLOGY

SUBJECTS

One thousand thirty-four Georgia local school board members were identified and a randomized sample of 144 was surveyed (see Table 1). The entire population of the 1,034 board members was located either from district websites or by phoning districts directly for the information. Board members were selected at random from this list. Of the 144 board members surveyed, 66 responded which is 45.83% of the board members surveyed.

INSTRUMENT

A survey was created (Appendix A) to measure the beliefs regarding the inclusion or exclusion of creationism. The survey was field tested for reliability, readability, and consistency. The field test was conducted October 10, 2006 by five testers. Because some board members have an education background while others do not, individuals were selected from both backgrounds. The varied background and specific expertise of testers were helpful in identifying needed corrections. Field testers reviewed survey format, item clarity and definitions, and wording issues. Appropriate modifications were made based on the field test results.

DATA ANALYSIS

The data collected from these surveys were analyzed using the Chi Square Test of Independence by means of the statistical package SPSS 11.0 for Windows. An alpha level of .05 was used in the Chi Square Test of Independence. This test was conducted for the purpose of examining the degree of relationship between subjects' beliefs and the inclusion of creationism in the school science curricula. Tables include expected values

in parentheses. The expected values were calculated by SPSS and reflect the values in each cell which could be expected to be determined by chance.

FINDINGS

The population of one thousand thirty-four board members was located either from district websites or by phoning districts directly for the information. Of the total population, 144 board members were surveyed. Sixty-six of these 144 responded to the survey which is 45.83% of the board members surveyed. However, not all respondents answered the questions concerning YEC or OEC or the mandatory or permitted inclusion of creationism in the science curriculum. For this reason statistics in this study will only include the results of the board members who responded. Therefore, the number of respondents varied in each hypothesis.

Hypothesis One

There is no significant relationship between school board members' personally held beliefs regarding Young Earth Creationism and the permitted inclusion of creationism in the school district science curriculum.

Table 1

Elective Inclusion of Creationism in the School District Science Curriculum and School

Board Members' Beliefs in Young Earth Creationism

		Belief in Young Earth Creationism		-
		YES	No	Total
Permit the inclusion of Y creationism in science curriculum	Yes	13 (9.5)	23 (26.5)	36
N	No	2 (5.5)	19 (15.5)	21

Total 15 42 57

Note. Numbers in parentheses are expected values.

Thirty-six of the respondents reported that their districts permit the inclusion of creationism (see Table One). Thirteen of the 36 reported a belief in YEC. The Chi-Square (4.835) and Phi (.291) have significance values of (.028) which are significant (p < .05). Therefore the null is rejected.

Hypothesis Two

There is no significant relationship between school board members' personally held beliefs regarding Old Earth Creationism and the permitted inclusion of creationism in the school district science curriculum.

Table 2

Elective Inclusion of Creationism in the School District Science Curriculum and School

Board Members' Beliefs in Old Earth Creationism

	-	Belief in Old Earth Creationism		_
		Yes	No	Total
Permit the inclusion of creationism in science curriculum	Yes	24 (27.9)	21 (17.1)	45
	No	12 (8.1)	1 (4.9)	13
	Total	36	22	58

Note. Numbers in parentheses are expected values.

Forty-five of the respondents reported that their districts permit the inclusion of creationism (see Table Two). Twenty-four of the 45 reported a belief in OEC. The Chi-Square (6.508) and Phi (-.335) values both have significance values of (.011) and are therefore found to be significant (p < .05). Therefore the null is rejected. However, it is noted that the numbers in the "yes" cells for both belief in OEC and inclusion of creationism were small which limits the conclusions which can be drawn from the data. Hypothesis Three:

There is no significant relationship between school board members' personally held beliefs regarding Young Earth Creationism and the required inclusion of creationism in the school district science curriculum.

Table 3

Mandatory Inclusion of Creationism in the School District Science Curriculum and School Board Members' Beliefs in Young Earth Creationism

		Belief in Young Earth Creationism		_	
		Yes	No	Total	
Require the inclusion of creationism in science curriculum	Yes	2 (1.1)	2 (2.9)	4	
	No	14 (14.9)	42 (41.1)	56	
	Total	16	44	60	

Note. Numbers in parentheses are expected values.

Four of the respondents reported that their districts require the inclusion of creationism (see Table Three). Two of the 4 reported a belief in YEC. The Chi-Square (1.193). Significance of .275 is not significant (p< .05). Therefore the null is retained.

Hypothesis Four:

There is no significant relationship between school board members' personally held beliefs regarding Old Earth Creationism and the required inclusion of creationism in the school district science curriculum.

Mandatory Inclusion of in the School District Science Curriculum and School Board Members' Beliefs in Old Earth Creationism

Table 4

	_	Belief in Old Earth Creationism		_
		Yes	No	Total
Require the inclusion of creationism in science curriculum	Yes	3 (3.1)	1 (.9)	4
	No	44 (43.9)	12 (12.)	56
	Total	47	13	60

Note. Numbers in parentheses are expected values.

Four of the respondents reported that their districts require the inclusion of creationism (see Table Four). Three of the 4 reported a belief in OEC. The Chi-Square (.028) and significance (.867) is not significant (.05). However, there is a lack of sufficient cell numbers to make a valid decision for this hypothesis.

DISCUSSION

A relationship between school board members who report a belief in YEC and the districts' permitted inclusion of creationism in the science curriculum was noted. Fifteen out of 57 respondents (26.3%) indicated a belief in Young Earth Creationism, thus YEC is not the most commonly held belief in terms of the Christian view of creation. This study has established the likelihood that the permitted inclusion of creationism in the science curriculum is greater when the school board members report a belief in YEC.

A significant relationship between school board members' belief in OEC and the districts' permission to include creationism in the science curriculum was also found. A larger number, twenty-four out of fifty-eight respondents (41.3%), showed belief in OEC compared to thirteen out of fifty-nine respondents (22%) who indicated a belief in YEC (Tables One and Two). A positive relationship was found between board member's beliefs in YEC and the inclusion of creationism. This study also established a negative relationship between a board member's belief in OEC and the inclusion of creationism in the curriculum. This suggests that a belief by board members in OEC is less likely to result in the inclusion of creationism in the science curriculum. However, because cell numbers were small and a response by only 66 subjects limits the conclusions which can be drawn. Thus the belief in one or the other (YEC/OEC) can not be considered a definitive indicator of **permitted** inclusion of creationism in the science curriculum as a result of this study.

In contrast, the **requiring** of the inclusion of creationism in science curriculum is not associated a school board member's corresponding belief in either YEC or OEC.

School board members' perceptions of legalities may play a role in the decision to

require the inclusion of creationism in the science curriculum as opposed to **permitting** it. Further study on this issue is needed.

RECOMMENDATION FOR FURTHER STUDY

This study excluded subjects who did not identify beliefs in either YEC or OEC; other beliefs were not studied. Because of the limitations of this study, a cause and effect relationship between subjects' beliefs in YEC or OEC and the inclusion of creationism in science curricula could not be ascertained. Therefore, future research should center on a cause and effect relationship between school board members' and beliefs in either YEC or OEC and the **permitted** or **required** inclusion of creationism in the science curriculum. Determining a cause and effect relationship would necessitate the use of appropriate research methodology.

Only 66 of the 144 board members surveyed responded. Because of the loss of data from these potential subjects, conclusions which can be drawn from this study are limited. Therefore, it is recommended that this study be replicated with a larger sample size.

In addition, it is recommended that this research be replicated in other states.

Differences in results between "Bible-belt" states and "non-Bible-belt" states may be compared. Since board members are elected, political issues should be considered.

Differences in results between states tending to vote Republican vs. states tending to vote Democratic (red vs. blue states) may be addressed.

. REFERENCES

- Applebome, P. (1996, March 10). Creationism fight returns to nation's classrooms.

 Retrieved March 19, 2005, from Bergtraum School System website:

 http://mbhs.bergtraum.k12.ny.us/cybereng/nyt/teach-ev.htm.
- Associated Press. (2005, Jan. 13). Judge nixes evolution textbook stickers.

 Retrieved April 9, 2005, from MSNBC News website:

 http://msnbc.msn.com/ID/682208/.
- Bennett, G. (1999). Religion to mix with science in Idaho school district. *Secular Humanist Bulletin*, 15, Article 3. Retrieved March 19, 2005 from, http://www.secularhunamism.org/library/shb/world_15_3.htm.
- Creationism. (n.d.). Retrieved May 8, 2007, from the Merriam-Webster Online website: http://www.m-w.com/cgi-bin/dictionary?va=creationism.
- Deckman, M. (1999). Christian soldiers on local battlefields: Campaigning for control of America's school boards. (Doctoral dissertation, American University). *Proquest Information and Learning*. (UMI No. 9943744)
- Deckman, M. (2002). Holy ABCs! The impact of religion on attitudes about education policies. [Electronic version]. *Social Studies Quarterly*, 83(2), 472-487.
- Georgia school board ponders creationism. (2002, Sept. 12). Retrieved March 19, 2005, from Concerned Women for America website:

 http://www.cwfa.org/articles/2059/CWA/education/.
- Heuvel, K. (2004, Nov. 20). Creeping creationism. *The Nation*. Retrieved March 19, 2005, from http://www.commondreams.org/views04/1120-21.htm.
- Holden, C. (2002). Georgia county opens door to creationism. Science teaching.

- 298(5591), 35-36. Retrieved March 31, 2005, from http://web31.epnet.com/cittion.astb=1 ug=sid+E5cc00E1%2d13a5%2d4e87%2.htm.
- Hutton, T. (2003, Winter). Controversial content: The legal landscape. *Inside School Law*. Retrieved from the National School Boards Association website on May 2, 2007 from http://www.nsba.org/site/docs/11100/11049.pdf.
- Judge nixes evolution textbook stickers. (2005, Jan 13). Retrieved May 12, 2007, from MSNBC website: http://www.msnbc.msn.com/ID/6822028/.
- Kitzmiller v. Dover Area School District (2006, Sept. 28). *TalkOrigins archive*. Retrieved May 6, 2007, from www.talkorigins.org/faqs/dover/kilzmiller_v_dover.html.
- Lawrence, J. (2005, Nov. 9). 'Intelligent design' backers lose in Pennsylvania. *USA Today*. Retrieved May 6, 2007, from www.usatoday.com/news/education/2005-11-09-
 Pennsylvania-intelligent-design_x.htm.
- Marsh, C. & Willis, G. (2003). *Curriculum Alternative Approaches, Ongoing Issues*Upper Saddle River, New Jersey: Pearson Ed., Inc.
- Marus, R. (2005, Jan. 21). Judge orders school to remove evolution disclaimer from Textbooks. Retrieved May 11, 2007, from *Baptist Standard Journal* website: http://www.baptiststandard.com/postnuke/index.php?module=htmlpages&func =display&pid=2915.
- Matzke, N. (2006, December 19). Selman v. Cobb County settled: Stickers stay out!

 Retrieved May 11, 2007, from National Center for Science Education website:

 http://www.ncseweb.org/resources/news/2006/GA/272_selman_v_cobb_county

 _settled_12_19_2006.asp.
- McCoy, J. (2005, Feb. 16). Beebe will not remove stickers. *The Arkansas Leader*.

- Retrieved March 19, 2005, from http://www.arkansasleader.com/frontstories/st_02_16_05/beebestickers.html.
- Parlow, J. (2005, Jan. 16). School board in Charles taps new leaders. *Washington Post*, 1-3. Retrieved March 19, 2005, from http://www.washingtonpost.com/wp-dyn/articles/A11355-2005Jan15html.
- Price, P. (Chair). (2004, Jan. 6). SIVB public policy committee action alert.

 Retrieved March 19, 2005, from http://www.sivg.org/publicPolicy_creationism.asp.
- Renick, T. (2004, Feb. 1). The legal battle over creationism in the U.S. courts.

 Retrieved March 19, 2005, from http://www.georgiascience.org/info-legal.htm.
- Rule IDBD-theories of origin. (2002, Sept. 26). Retrieved March 19, 2005, from Cobb County Web site: http://www.cobb.k12.ga.us/news/originpolicy.htm.
- Schneider, Z. (2003, Oct. 12). Washakie school board weighs 'intelligent design.'

 Casper Star-Tribune, 1-2. Retrieved March 19, 2005, from 119bddbf04d11c6dc8b.prt.
- School board members are conservative in religion and politics, new survey shows. (1997). *Church & State*, *50*(2), 15. Retrieved August 2, 2006, from Expanded Academic ASAP.
- School board success story. (1996, January/February). *ASA newsletter*, *38*(1), Retrieved March 19, 2005, from htpp://wwww.asa3.org/ASA/newsletter/Hemet_Board%20.htm.
- Science and Nature. (2006). Retrieved August 12, 2006, from *Polling Report* Web site: http://www.pollingreport.com/science.htm.
- Science standards. (n.d.). Retrieved August 10, 2006, from Georgia Department of Education Web site: http://www.georgiastandards.org/science.aspx.

- Scott, E. (1997, Oct.). Antievolution and creationism in the United States. *Annual Review of Anthropology*, 26, 263-289. Retrieved March 30, 2005, from http://80-arjournals.annualreviews.org.ezproxy.liberty.edu:2048/doi/full/10.1146/annurev.anthro.26.1.263.
- Selman v. Cobb County School District (2005, Jan.). *TalkOrigins Archive*. Retrieved May 6, 2007, from TalkOrigins website: http://www.talkorigins.org/faqs/cobb/selman-v-cobb.html.
- Sidoti, L. (2002, June 9). One school stands tall on expanding view of evolution [Electronic version]. *Cincinnati Enquirer*, Retrieved March 19, 2005, from http://www.enquirer.com/editions/2002/06/09/loc_one_school_stands.html.
- Stepp, D. (2006, Aug. 9). Cobb ousts incumbent from school board post. *The Atlanta Journal-Constitution*, *D*, 5.
- Teaching Darwin splits Pennsylvania town. (2004, March 27). *Yahoo News*. Retrieved July 14, 2005, from http://www.geocities.com/lclane2/dover1.html.
- Tenneson, Michael G. (2001). The development and validation of a scientific attitudes and attitudes toward evolution and creation instrument for Christian college biology students (Doctoral dissertation, University of Missouri-Columbia). *Proquest Information and Learning*. (UMI No. 3052222).
- Time for new blood on Cobb school board. (2006, July 14). *Marietta Daily Journal's Online Edition*. Retrieved August 10, 2006, from http://www.mdjonline.com/articles/2006/07/14/94/10224861.txt.
- Toland, B. (Jan. 9, 2005). Intelligent design: Is it just creationism lite? *Pittsburgh Post-Gazette*. Retrieved May 12, 2007, Retrieved May 12, 2007, from

- http://www.postgazette.com/pg.05009/439503.stm.
- Town's schools abandon creationism. (2002, April 10). Retrieved March 19, 2005, from http://archives.cnn.com/2002/fyi/teachers.ednews/04/10/school.creationism.ap/.
- WV county shaping up as creation vs. evolution battleground! (2000, April 1).

 Retrieved May 12, 2007, from http://www.answersingenesis.org/docs2/4263news4-1-2000.asp.
- Williams, W. (2004, Dec. 30). Evolution debate spills over into legislature

 Bozeman Daily Chronicle. Retrieved March 19, 2005, from

 http://www.bozemandailychronicle.com/articles/2004/12/30/news/03creationism.txt.
- Wyatt, E. (2000, Feb. 18). Charter school to raise topic of creationism. *New York Times*, Retrieved March 19, 2005, from http://www.nytimes.com/library/national/regional/021800ny-create-edu.html.

Appendix A

Survey Questions for School Board Members

QUESTIONS:	Yes	No
1. Do you personally believe that God created the heavens and the earth?		
2. Do you believe in Young-Earth-Creationism? Young Earth		
Creationism is a Biblical doctrine stating that earth was created		
recently by God about 6,000 years ago.		
3. Do you believe in Old Earth Creationism? Old Earth Creationism		
is the belief that God created the earth millions to billions of years ago.		
4. Do you believe evolution has occurred? For the purposes of this		
study, evolution is changes in organisms and other things from one type or form to another type or form over time.		
5. Do you believe macroevolution has occurred? Macroevolution is		
evolutionary change at the species level, creating a new species.		
6. Do you believe microevolution is happening at this point in time?		
Microevolution is genetic variation due to such things as natural selection and mutation.		
7. Does your county/district curriculum permit the inclusion of		
creationism in the science curriculum?		
8. Does your county/district require the inclusion of creationism in		
the science curriculum?		
9. Have you taken action to support the inclusion of creationism in		
the science curriculum in your county/district? Actions can include		
speaking out in public or in board meetings or encouraging others to		
support the inclusion of creationism in district science curriculum.		
10. Would you vote to include creationism in the science curriculum		
in your county/district?		
11. Have you taken action to exclude creationism from the science		
curriculum in your county/district? Actions can include speaking out		
in public or in board meetings or encouraging others to support the exclusion of creationism in district science curriculum.		
exclusion of creationism in district science currentum.		
12. Would you vote to exclude creationism from the science		

curriculum in your county or district?
DEMOGRAPHIC QUESTIONS
13. Would you describe your district as:suburbanruralurban?
14. Gender:malefemale
15. Age:under 2020-2930-3940-55over 55?
16. Ethnicity:CaucasianAfrican AmericanHispanicAsianOther
17. Your highest educational level is:High SchoolSome College
4-Year DegreeEducational SpecialistDoctorate.

Appendix B

SPSS Charts for Hypothesis 1, YEC and the **Permitted** Inclusion

Case Processing Summary

		Cases				
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
0=no, 1=yes, permits creationism * 0=no, 1=yes, YEC	57	86.4%	9	13.6%	66	100.0%

a. 1=mailed, 0=emailed = 0

0=no, 1=yes, permits creationism * 0=no, 1=yes, YEC Crosstabulation 0=no, Total 1=yes, YEC 0 1 0 19 2 21 0=no, Count 1=yes, permits creationis m Expected 15.5 5.5 21.0 Count % within 90.5% 9.5% 100.0% 0=no, 1=yes, permits creationis % within 45.2% 13.3% 36.8% 0=no, 1=yes, YEC % of Total 33.3% 3.5% 36.8% 1 Count 23 13 36 Expected 26.5 9.5 36.0 Count % within 63.9% 36.1% 100.0% 0=no, 1=yes, permits creationis % within 54.8% 86.7% 63.2% 0=no, 1=yes, YEC 40.4% 63.2% % of Total 22.8% Total Count 42 15 57 Expected 42.0 15.0 57.0

		Count % within 0=no, 1=yes, permits creationis m	73.7%	26.3%	100.0%
		% within 0=no, 1=yes, YEC	100.0%	100.0%	100.0%
		% of Total	73.7%	26.3%	100.0%
a 1=mailed, Chi-Square T		= 0			
·	Value	df		Exact Sig. (2-sided)	
Pearson Chi- Square	4.835	1	.028		
Continuity Correction	3.561	1	.059		
Likelihood Ratio	5.401	1	.020		
Fisher's Exact Test				.033	.026
Linear-by- Linear Associatio	4.750	1	.029		
n N of Valid Cases	57	0.01-1-1			

- a Computed only for a 2x2 table b 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.53.
- c 1=mailed, 0=emailed = 0

Symmetric Measures

		Value	Approx.
Nominal	Phi	.291	Sig. .028
by		.201	.020
Nominal			
Crame	r's V	.291	.028
N of Valid		57	
Cases			

- a Not assuming the null hypothesis.b Using the asymptotic standard error assuming the null hypothesis.
- c 1=mailed, 0=emailed = 0

Appendix C

SPSS Charts for Hypothesis 2, OEC and the **Permitted** Inclusion of Creationism

	• 1					
O=no, 1=yes, OEC * O=no, 1=yes, permits creationis m a 1=mailed, 0	Cases Valid N 58	Percent 87.9%	Missing N 8	Percent 12.1%	Total N 66	Percent 100.0%
0=no, 1=yes, (OEC * 0=no	o, 1=yes, բ	0=no, 1=yes, permits creationis m	ationism Cro	osstabulatior Total	1
0=no, 1=yes, OEC	0	Count	0	1 12	13	
OLO	E	Expected Count	4.9	8.1	13.0	
		% within 0=no, 1=yes, OEC	7.7%	92.3%	100.0%	
		% within 0=no, 1=yes, permits reationis	4.5%	33.3%	22.4%	
		of Total	1.7%	20.7%	22.4%	
		Count	21 17.1	24 27.9	45 45.0	
		Count % within 0=no, 1=yes, OEC	46.7%	53.3%	100.0%	
		% within 0=no, 1=yes, permits reationis	95.5%	66.7%	77.6%	
	%	of Total	36.2%	41.4%	77.6%	

Total		Count Expected Count	22 22.0	36 36.0	58 58.0
		% within 0=no, 1=yes, OEC	37.9%	62.1%	100.0%
		% within 0=no, 1=yes, permits creationis	100.0%	100.0%	100.0%
a 1=mailed,	0=emailed	% of Total	37.9%	62.1%	100.0%
Chi-Square	Tests				
,	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi- Square	6.508	1	.011		
Continuity Correction	4.957	1	.026		
Likelihood Ratio Fisher's	7.758	1	.005	.011	.009
Exact Test Linear-by- Linear	6.395	1	.011	.011	.009
Associatio n N of Valid Cases	58				

- a Computed only for a 2x2 table b 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.93.
- c 1=mailed, 0=emailed = 0

Symmetric Measures

		Value	Approx. Sig.
Nominal	Phi	335	.011
by Nominal			
	mer's V	.335	.011
N of Valid	IIICI S V	.555 58	.011
Cases		00	

- a Not assuming the null hypothesis.
- b Using the asymptotic standard error assuming the null hypothesis. c 1=mailed, 0=emailed = 0

Appendix D

SPSS Charts for Hypothesis 3, YEC and the **Required** Inclusion of Creationism

O=no, 1=yes, requires creationis m * 0=no, 1=yes, YEC a 1=mailed, 0=	Cases Valid N 60	Percent 90.9%	Missing N 6	Percent 9.1%	Total N 66	Percent 100.0%
0=no, 1=yes, r	equires cre	eationism *	0=no, 1=yes, YEC		osstabulatio Total	n
0=no, 1=yes, requires creationis m	0	Count	0 42	1 14	56	
	E	Expected Count	41.1	14.9	56.0	
	C	% within 0=no, 1=yes, requires reationis	75.0%	25.0%	100.0%	
		% within 0=no, 1=yes, YEC	95.5%	87.5%	93.3%	
	%	of Total	70.0%	23.3%	93.3%	
	1	Count	2	2	4	
	ŀ	Expected Count	2.9	1.1	4.0	
	C	% within 0=no, 1=yes, requires reationis	50.0%	50.0%	100.0%	
		m % within 0=no, 1=yes, YEC	4.5%	12.5%	6.7%	
Total	%	of Total Count	3.3% 44	3.3% 16	6.7% 60	

		Expected Count	44.0	16.0	60.0
		% within 0=no, 1=yes, requires creationis	73.3%	26.7%	100.0%
		% within 0=no, 1=yes, YEC	100.0%	100.0%	100.0%
		% of Total	73.3%	26.7%	100.0%
a 1=mailed,	0=emailed	= 0			
Chi-Square	Tests				
	Value	df		Exact Sig. (2-sided)	
Pearson Chi- Square	1.193	1	.275		
Continuity Correction	.257	1	.612		
Likelihood Ratio	1.063	1	.303		
Fisher's				.287	.287
Exact Test					
Linear-by-	1.173	1	.279		
Linear					
Associatio n					
N of Valid Cases	60				
Cases					

- a Computed only for a 2x2 table b 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.07. c 1=mailed, 0=emailed = 0

Case Processing Summary

	Cases Valid N	Percent	Missing N	Percent	Total N	Percent
0=no,	35	92.1%	3	7.9%	38	100.0%
1=yes,						
requires						
creationis						
m * 0=no,						
1=yes,						
YEC						
a 1=mailed, 0	=emailed :	= 1				

Appendix E

SPSS Charts for Hypothesis 4, OEC and the **Required** Inclusion of Creationism

O=no, 1=yes, requires creationis m * 0=no, 1=yes, OEC a 1=mailed, 0	Cases Valid N 60	Percent 90.9%	Missing N 6	Percent 9.1%	Total N 66	Percent 100.0%
0=no, 1=yes, r	equires cre	eationism *	0=no, 1=yes, OEC	s, OEC Cro	osstabulatio Total	n
0=no, 1=yes, requires creationis m	0	Count	0 12	1 44	56	
	[Expected	12.1	43.9	56.0	
	C	Count % within 0=no, 1=yes, requires creationis m	21.4%	78.6%	100.0%	
		% within 0=no, 1=yes, OEC	92.3%	93.6%	93.3%	
	%	of Total	20.0%	73.3%	93.3%	
	1	Count	1	3	4	
	E	Expected Count	.9	3.1	4.0	
	c	% within 0=no, 1=yes, requires creationis m	25.0%	75.0%	100.0%	
		% within 0=no, 1=yes, OEC	7.7%	6.4%	6.7%	
Total	%	of Total Count	1.7% 13	5.0% 47	6.7% 60	

		Expected Count	13.0	47.0	60.0
		% within 0=no, 1=yes, requires creationis	21.7%	78.3%	100.0%
		% within 0=no, 1=yes, OEC	100.0%	100.0%	100.0%
		% of Total	21.7%	78.3%	100.0%
a 1=mailed,	0=emailed	= 0			
Chi-Square 7					
	Value	df		Exact Sig. (2-sided)	
Pearson Chi- Square	.028	1	.867		
Continuity Correction	.000	1	1.000		
Likelihood Ratio	.027	1	.869		
Fisher's				1.000	.634
Exact Test Linear-by- Linear Associatio	.028	1	.868		
n N of Valid Cases	60	0.0 +- - -			

a Computed only for a 2x2 table b 2 cells (50.0%) have expected count less than 5. The minimum expected count is .87. c 1=mailed, 0=emailed = 0