

A ... O ... N ... S ... : T ... R ... C ...

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Ab•rac

Abstract text containing multiple lines of faint, illegible characters and symbols, possibly representing a corrupted or low-resolution scan of the article's abstract.

A A' 5

C 1-

B

B

A

?

, 2006)

63%

14. A (2006)

14

14 3.4

A

(2009)

(65%)

(2010)

() 9 10.

66%

() 10, A

(1)

(2)

?

() 15-

40

()

(, 2007)

(, 2011);

A (, 2012).

(, 2007;

2008; (, 2011). (2006)

1.1. Background

A

C (2011) , 2010,

12.

10,

A , 2007;

A (

(, 2007);

(, 2008),

(2003;

(, 2007),

(2003; , 2007).

(

(2008)

(B 2008; 2008)
 2010; 2010; (2010;
 , 2010; A -C , 2011).
 2003). A (, 2001;
 B , 2003),

2.4. Data analysis

A 1 (D) 5 ()
 5 1 A
 A (C , 2007).
 , 1993). A

3. Results

121 109 230
 2011.
 A
 9 10 A

3.1. Significant results from pre- to post-visit surveys

B
 B
 C
 C
 2.
 3.

Table 2. Significant Results from Paired Samples Test

1	C	-.17341	.80170	.06095	-.29372	-.05310	-2.845	172	.005
2	C	-.09483	.56287	.04267	-.17905	-.01060	-2.222	173	.028
3	C	.09691	.56256	.04217	.01370	.18012	2.298	177	.023

Table 3. Significant Results from Related-Samples Wilcoxon Signed Rank Test

	T	Z	p	D
1	C		0.007	
2	C	0.	0.024	
3	C	0.	0.021	

1
 B () A
 ()
 C
 A
 95%
 (=3.33, Δ 0.68)
 =3.07, Δ 0.56; (210) = -3.07, ϵ = .002
 ϵ = .002.
 (=3.41, Δ 0.71)
 =3.14, Δ 0.55; (178) =
 -2.99, ϵ = .003 ;
 ϵ = .002.

3.2. Attitudes to Science

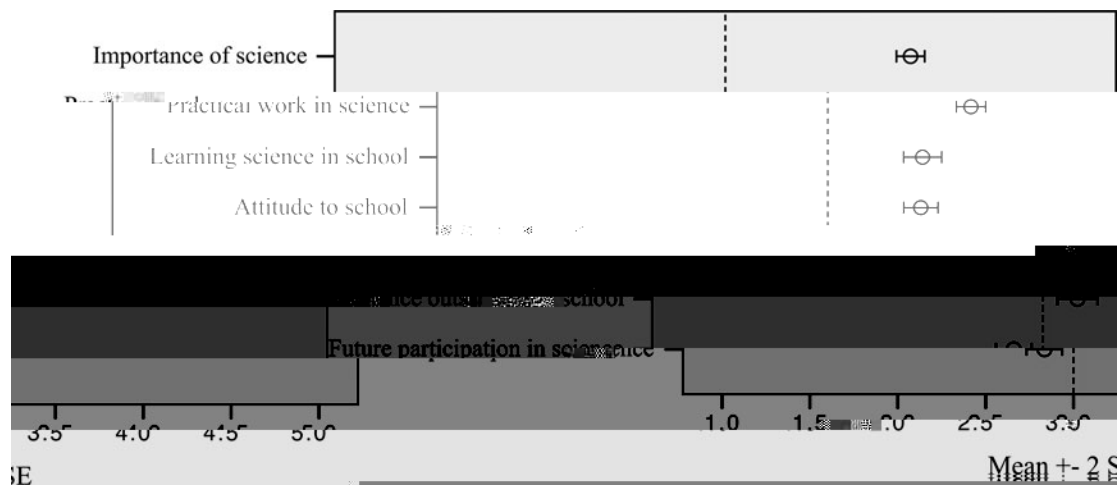
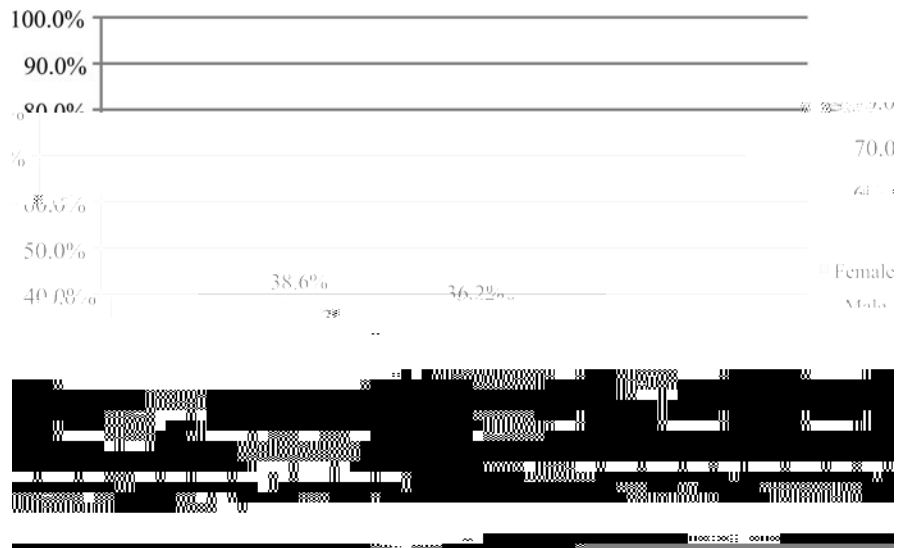


FIG. 1. (D); 2 (D); 3U (); 4 () 5 (). A =1

FIG. 4.



... B ... (= 0.13).

4. Discussion

... 1%. ... 64.4% ... 63.4% ... (... , 2005; ... , 2010).

... A ... 4, ... 16.8% ... 95% ... (= 0.37), ... (... , 2010).

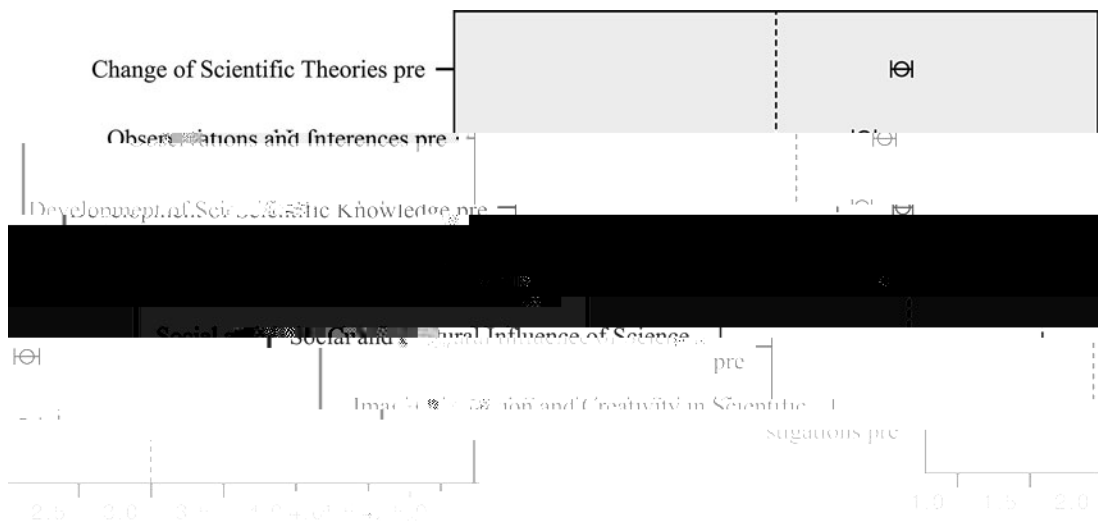


FIG. 5.

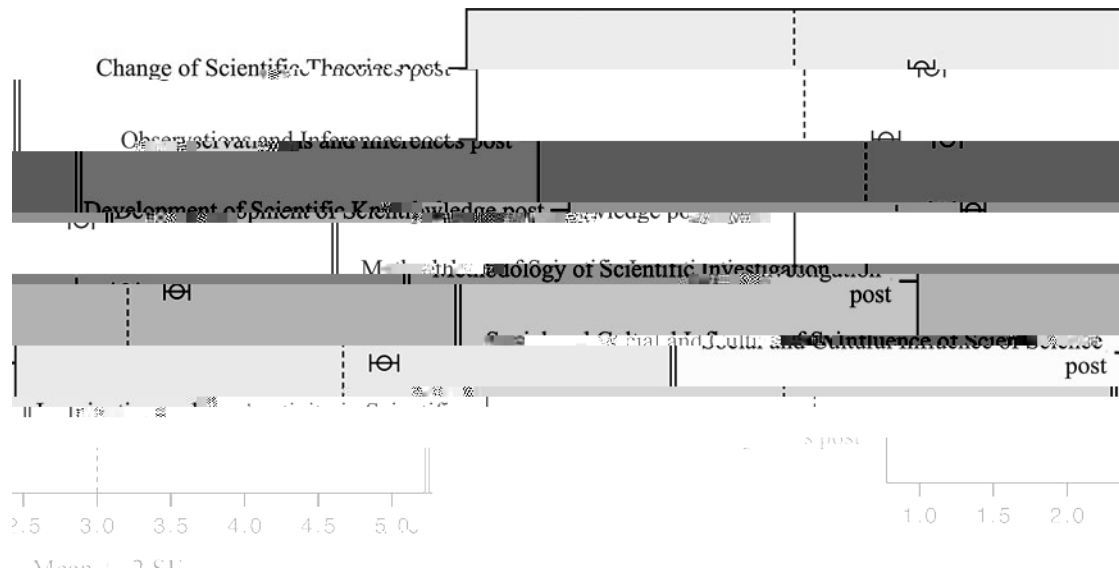


FIG. 6. Mean scores for categories of scientific understanding.

... A ... 15% D ... D ... 45.2% (40.4% ... 48.9% ... 30% ... B ... (...) ... (2011), ... 10. A ... 8, 57% ...)

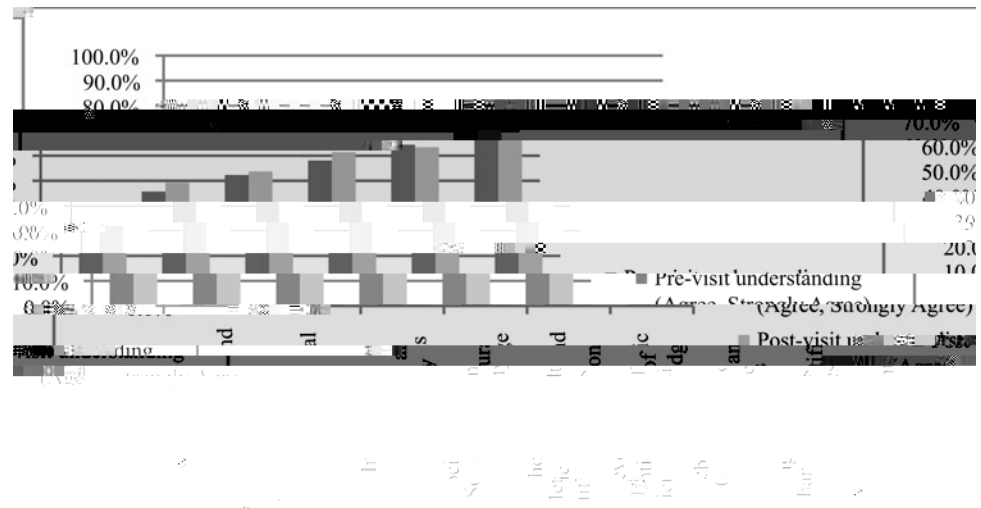


FIG. 7. Percentage distribution of responses for pre-visit and post-visit understanding.

Table 4. Linear Regression Coefficients of Subscale Constructs with “I Would Like to Become a Scientist”

	U				
	U1	U2	U3	U4	U5
C	.460	.096	.371	4.800	.000
A	.156	.078	.132	2.003	.047

C (2012), (2011), A (2010), A (2008; 2011) (2007; 2011). (2010) (2007). 70% (2010) (2006; 2007; A 2010).

A 19.5% (2008; 2011) (2007; 2011). (2010) (2007). 70% (2010) (2006; 2007; A 2010).

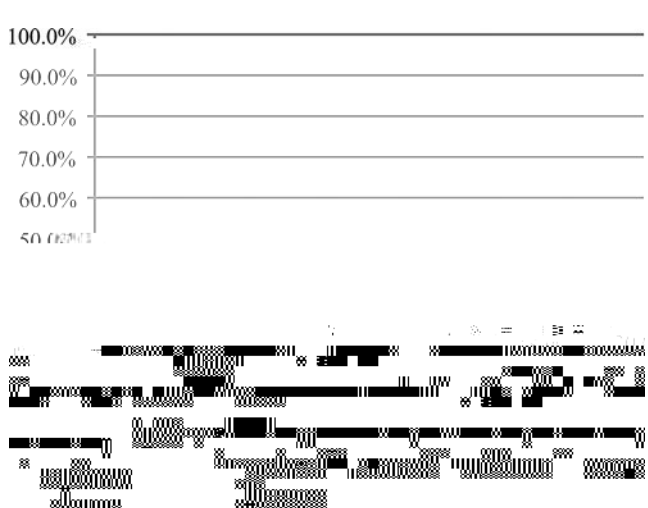


FIG. 8.

5. Conclusion
 A

2006; , 2007; , 2010).

Acknowledgments

A A A B A C A C C C

Author Disclosure Statement

Abbreviations

References

A (2010) ?
 B (2008) J 30:
 1075 1093.
 B .A. (2007)
 44:800 814.
 B (2006)
 J 28:1373 1388.

C (2007)
 J 3:106 116.
 C (2006)
 15:463 494.
 C , C-C., C , C. (2011)
 95:961 999.
 (2009) &
 B (2010)
 & I
 C A -C , A , C (2011)
 1:9 13.
 A , A , A (2011)
 C , A
 A (2010)
 53:949 961.
 (2011)
 68:1 6.
 (2005)
 23:41 57.
 (2011) A ?
 1 23; :10.1007/ 11165-011-
 9230-9.
 (2007) C
 43:1 37.
 B (2007)
 J 29:871 893.
 C. B (2003) A
 J 24:65 80.
 (2007)
 A A
 831 879.
 C , C , A , A.
 (2005)
 ():
 &
 C , C , A , A.
 (2006)
 ():
 I I
 CA.
 C , C , A , A.
 (2008) A

9(1), A 1.
 , A. (2008)
 30:793 805.
 (2006)
 28:591 613.
 (2010) U
 D
 A A A
 , A. (2009) , A
 , A. (2011) J 32:669 685.
 95:877 907.
 , A. , C, B. , C. (2010) A
 J 32:653 667.
 (2008) J
 17:226 235.
 , C. (2010) C , C , C.
 9:45 54.
 C (2012)
 A & C.
 , C.A. (2008) C
 (2006)
 C A C, A
 2 5.
 (2003) C
 ? A J
 40:692 720.
 (2003) C , B.
 & 88:879 903.
 (2008) A , A.
 C. A
 (2006)
 C A C, A
 6 11.
 , A. (2011) C
 , C. (2006) 2:435 445.

, C. (2007) ?
 C 1 17.
 (2008)
 J 30:727 771.
 (2001) A
 J 22:127 160.
 , B. (2010)
 J 14(2).
 , C. (2010)
 , C, A, (2006)
 312:1143 1145.
 (2006)
 (2011) & U
 (2007)
 , A
 . 51, A C
 C , C, A C C
 (2008) & & , A
 C (2011)
 C 2011 2012.
 C A (2012)
 A , C
 , B. (2009)
 18:95 118.
 , B. (1993)
 ?
 34:390 400.
 A J
 U I I
 @