

Tables

Table 1 Hypothesized Relations between Motivation and Self-Regulation

| | Metacognition | Self-Control | Attention Regulation | Reappraisal | Suppression | Rumination | Content | Time | Environment |
|---|---------------|--------------|----------------------|--------------------|-------------|------------|---------|--------------------|--------------------|
| 1. Mastery goal orientations | + | ++ | + | + | - | - | + | + | + |
| 2. Performance-approach goal orientations | | | + | F = null LF = + | | | | F = null LF = + | F = null LF = + |
| 3. Performance-avoid goal orientations | - | | - | - | + | + | | F = + LF = - | F = + LF = - |
| 4. Expectancy | + | + | + | + | - | - | | | |
| 5. Utility Value | + | + | ++ | + | - | - | ++ | ++ | + |
| 6. Attainment Value | + | + | ++ | -/+ | -/+ | -/+ | ++ | ++ | + |
| 7. Intrinsic/Interest Value | + | + | ++ | + | - | - | -/+ | + | + |

Note. Hypothesized relations are denoted as follows: - Negative relations; + Positive relations; ++ highly positive relations; -/+ negative or positive relations. For relations that are hypothesized to be different for favorite and least favorite classes, this is noted by F for favorite and LF for least favorite. Otherwise, hypothesized relations are the same across both types of classes.

Table 2 Fit Statistics for Confirmatory Factor Analyses for High School and College Samples by Favorite and Least Favorite Class

| | Chi-Square | CFI | TLI | RMSEA |
|----------------------------|------------------|-----|-----|-------|
| Motivation | | | | |
| High School Favorite | 762.48 (470)*** | .91 | .90 | .06 |
| High School Least Favorite | 758.77 (470)*** | .93 | .92 | .06 |
| College Favorite | 806.18 (470)*** | .93 | .92 | .05 |
| College Least Favorite | 1065.40 (470)*** | .92 | .91 | .07 |
| Self-Regulation | | | | |
| High School Favorite | 861.66 (597)*** | .91 | .90 | .05 |
| High School Least Favorite | 933.56 (596)*** | .90 | .90 | .06 |
| College Favorite | 4845.03 (666)*** | .93 | .92 | .04 |
| College Least Favorite | 1030.51 (597)*** | .93 | .92 | .05 |
| Learning Processes | | | | |
| High School Favorite | 284.48 (139)*** | .88 | .85 | .08 |
| High School Least Favorite | 261.23 (138)*** | .90 | .87 | .08 |
| College Favorite | 312.55 (137)*** | .89 | .86 | .07 |
| College Least Favorite | 331.99 (138)*** | .91 | .89 | .07 |

Table 3 Correlations for Favorite Classes for High School (top) and College (bottom) Samples

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. |
|-----------------|--------|--------|--------|---------|---------|--------|--------|--------|---------|--------|--------|--------|---------|--------|---------|--------|--------|--------|--------|------|------|--------|--------|
| 1. Mastery | -- | .28*** | .18*** | .19* | .51*** | .58*** | .59*** | .42*** | .27*** | .45*** | .36*** | .26** | -.08 | .06 | .30*** | .27*** | .25** | .41*** | .46*** | .04 | .17* | .09 | .05 |
| 2. Per-App | .31*** | -- | .78*** | .15* | .11 | .40*** | .19* | .27*** | .20** | .35*** | .14 | .10 | .02 | -.01 | .04 | .10 | .20** | .16* | .25** | -.03 | .12 | .06 | .08 |
| 3. Perf-Avoid | .23*** | .72*** | -- | .11 | .05 | .29*** | .11 | .18* | .17* | .33*** | .12 | .02 | .12 | -.05 | .01 | .01 | .14 | .11 | .19* | -.05 | .11 | .11 | .06 |
| 4. Expectancy | .07 | .27*** | .14* | -- | .35*** | .16* | .24** | .13 | .29*** | .19* | .13 | -.03 | -.27*** | -.08 | .27*** | .02 | .06 | .18* | .29*** | -.03 | .07 | .25** | .47*** |
| 5. Interest | .48*** | .12 | .14* | .31*** | -- | .51*** | .37*** | .30*** | .38*** | .29*** | .20** | .08 | -.25** | -.08 | .28*** | .12 | .10 | .33*** | .45*** | .07 | .15 | .16* | .21** |
| 6. Attainment | .60*** | .40*** | .27*** | .17** | .39*** | -- | .58*** | .37*** | .20** | .42*** | .27*** | .19* | .04 | -.07 | .09 | .26** | .15 | .36*** | .26** | -.11 | .07 | .05 | .05 |
| 7. Utility | .54*** | .21** | .11 | .16** | .36*** | .62*** | -- | .23** | .15* | .30*** | .24** | .17* | -.05 | -.11 | .22** | .13 | .10 | .32*** | .26** | -.12 | .02 | .12 | .15 |
| 8. Metacog | .34*** | .20** | .16** | .31*** | .30*** | .30*** | .24*** | -- | .18* | .58*** | .46*** | .48*** | .10 | .05 | .17* | .53*** | .43*** | .40*** | .41*** | -.00 | .10 | .17* | -.03 |
| 9. Attention | .31*** | .08 | .09 | .25*** | .42*** | .18** | .16** | .21** | -- | .37*** | .32*** | .07 | -.42*** | .17* | .60*** | .18* | .24** | .33*** | .56*** | -.01 | .16* | .28*** | .20* |
| 10. Time | .43*** | .27*** | .23*** | .23*** | .27*** | .35*** | .30*** | .46*** | .28*** | -- | .66*** | .39*** | .07 | .11 | .34*** | .57*** | .59*** | .59*** | .54*** | .07 | .19* | .28*** | .17* |
| 11. Environ | .43*** | .12* | .09 | .26*** | .22*** | .23*** | .20** | .43*** | .31*** | .48*** | -- | .41*** | -.06 | .14 | .44*** | .47*** | .52*** | .46*** | .44*** | .14 | .11 | .29*** | .10 |
| 12. Reappraisal | .27*** | .18** | .17** | .05 | .18** | .25*** | .17** | .37*** | .10 | .23*** | .31 | -- | .16* | .33*** | .16* | .37*** | .42*** | .34*** | .22** | .02 | .01 | .08 | -.12 |
| 13. Rumination | .04 | .07 | .08 | -.46*** | -.27*** | .13* | .03 | -.08 | -.35*** | -.08 | -.10 | .17** | -- | .02 | -.27*** | .07 | .03 | .03 | -.13 | .03 | .09 | -.20** | -.17* |
| 14. Suppression | -.02 | -.03 | .12* | -.12* | -.12* | -.09 | -.07 | -.06 | .03 | -.01 | .09 | .10 | .02 | -- | .21** | .10 | .21** | .00 | .04 | -.10 | .03 | -.02 | -.06 |
| 15. Self-Cntrl | .21** | -.02 | .02 | .19** | .29*** | .04 | .11 | .10 | .60*** | .18** | .24*** | -.06 | -.45*** | .10 | -- | .22** | .27*** | .31*** | .44*** | .05 | .06 | .18 | .19* |
| 16. Organztion | .26*** | .17** | .13* | .11 | .20** | .27*** | .19** | .33*** | .13* | .41*** | .29*** | .20** | .11 | -.14* | .05 | -- | .58*** | .50*** | .22** | -.02 | .02 | .12 | -.09 |

Table 3 continued

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. |
|-----------------------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|-------|--------|--------|--------|--------|--------|------|--------|--------|--------|
| 17.Rehearsal | .21** | .06 | .07 | .08 | .20** | .15* | .17** | .33*** | .07 | .26*** | .30*** | .24*** | .06 | -.03 | .05 | .60*** | -- | .48 | .44*** | -.08 | .10 | .18* | .02 |
| 18. Elaboration | .44*** | .21*** | .17** | .25*** | .47*** | .43*** | .37*** | .43*** | .39*** | .41*** | .40*** | .24*** | -.05 | -.06 | .18** | .39*** | .34*** | -- | .51*** | -.07 | .06 | .26** | .17* |
| 19. Engagement | .44*** | .24*** | .16* | .27*** | .50*** | .29*** | .31*** | .36*** | .56*** | .46*** | .41*** | .19** | -.18** | -.13* | .48*** | .30*** | .23*** | .53*** | -- | -.00 | .31*** | .34*** | .31*** |
| 20. Ac BehTime | .21** | .10 | .11 | -.01 | .02 | .17** | .17** | .12 | -.01 | .15* | .20** | .13* | .19** | .05 | .05 | .05 | .06 | .09 | .18** | -- | .04 | -.18* | -.07 |
| 21. Ac Beh Attendance | .19** | .13* | .11 | .29*** | .23*** | .14* | .14* | .15* | .23*** | .22*** | .11 | .08 | -.17** | -.09 | .29*** | .06 | .01 | .20** | .46*** | .11 | -- | .22** | .18* |
| 22.Ac Beh Assignment | .06 | -.03 | -.01 | .32*** | .15* | .01 | .08 | .19** | .17** | .16** | .19* | .07 | -.28*** | .01 | .24*** | -.01 | .05 | .04 | .27*** | .10 | .37*** | -- | .40 |
| 23. Achievement | -.02 | .07 | .01 | .49*** | .25*** | .06 | .06 | .15* | .08 | .13 | .05 | -.08 | -.25*** | -.12 | .11 | .04 | .01 | .11 | .26*** | -.04 | .32*** | .17* | -- |

Table 4 Correlations for Least Favorite Classes in High School (top) and College (bottom) Samples

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. |
|------------------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|--------|--------|---------|------|-------|---------|---------|
| 1. Mastery | -- | .41*** | .43*** | .24** | .50*** | .67*** | .61*** | .57*** | .31*** | .51*** | .51*** | .27*** | -.00 | .10 | .32*** | .36*** | .48*** | .56*** | .61*** | -.03 | .14 | .24** | .14 |
| 2. Per-App | .50*** | -- | .84*** | .32*** | .26** | .49*** | .31*** | .44*** | .19* | .32*** | .32*** | .19* | -.03 | -.04 | .09 | .23** | .34*** | .38*** | .34*** | -.02 | .05 | .19* | .05 |
| 3. Perf-Avoid | .43*** | .84*** | -- | .32*** | .15 | .40*** | .28*** | .38*** | .17* | .36*** | .38*** | .17* | .02 | .00 | .16* | .22** | .37*** | .43*** | .38*** | -.06 | .06 | .19* | .12 |
| 4. Expectancy | .02 | .13* | .06 | -- | .20* | .23** | .22** | .17* | .30*** | .16* | .23** | .15 | -.52*** | .18* | .37*** | .00 | .16* | .18* | .33*** | -.14 | .26** | .32*** | .62*** |
| 5. Interest | .51*** | .23*** | .12 | .28*** | -- | .59*** | .57*** | .30*** | .46*** | .15 | .18* | .22** | -.12 | .04 | .18* | .21** | .16* | .21** | .31*** | -.01 | .08 | .26** | .10 |
| 6. Attainment | .76*** | .55*** | .42*** | .14* | .52*** | -- | .74*** | .53*** | .31*** | .36*** | .37*** | .29*** | -.01 | -.02 | .10 | .39*** | .27** | .46*** | .38*** | -.07 | .06 | .12 | .08 |
| 7. Utility | .69*** | .32*** | .22*** | .12* | .53*** | .74*** | -- | .39*** | .30*** | .31*** | .29*** | .28*** | -.05 | .03 | .13 | .34*** | .23** | .39*** | .39*** | -.09 | .07 | .18* | .13 |
| 8. Metacog | .47*** | .32*** | .26*** | .17** | .35*** | .37*** | .33*** | -- | .18* | .62*** | .59*** | .51*** | .18* | .04 | .15 | .60*** | .64*** | .67*** | .53*** | -.03 | .05 | .10 | .03 |
| 9. Attention | .37*** | .17** | .13* | .07 | .39*** | .26*** | .20** | .40*** | -- | .22** | .30*** | .18* | -.44*** | .13 | .66*** | .17* | .15 | .21** | .55*** | .04 | .12 | .31*** | .19* |
| 10. Time | .45*** | .22*** | .22*** | .09 | .20** | .25*** | .28*** | .49*** | .27*** | -- | .63*** | .30*** | .17* | .11 | .30*** | .58*** | .59*** | .59*** | .53*** | -.06 | .05 | .21* | .15 |
| 11. Environ | .38*** | .19** | .22*** | .08 | .23*** | .23*** | .22*** | .46*** | .34*** | .54*** | -- | .30*** | -.02 | .09 | .33*** | .34*** | .51*** | .51*** | .57*** | -.09 | .15 | .20* | .17* |
| 12. Reappraisal | .23*** | .20** | .25*** | .10 | .25*** | .26*** | .18** | .33*** | .13* | .18** | .33*** | -- | -.06 | .31*** | .18* | .38*** | .41*** | .38*** | .36*** | -.07 | .06 | .16 | .04 |
| 13. Rumination | .20** | .13* | .21*** | -.53*** | -.10 | .14* | .09 | .12* | -.13* | .15* | .07 | .06 | - | -.14 | -.31*** | .14 | .08 | .04 | -.22*** | -.02 | -.18* | -.29*** | -.34*** |
| 14. Suppression | .17** | .14* | .25*** | -.14* | .02 | .06 | .09 | .02 | .08 | .05 | .19** | .26*** | .14* | -- | .33*** | .02 | .12 | .01 | .03 | .01 | .10 | .19* | .13 |
| 15. Self-Cntrl | .35*** | .13* | .11 | .09 | .20** | .15* | .15* | .26*** | .60*** | .30*** | .32*** | .03 | -.16** | .11 | -- | .17* | .22** | .25** | .51*** | .01 | .21** | .31*** | .38*** |
| 16. Organization | .36*** | .27*** | .20** | .09 | .23*** | .30*** | .28*** | .56*** | .20** | .44*** | .27*** | .18** | .15* | -.05 | .16* | -- | .61*** | .57*** | .37*** | .08 | -.11 | .02 | -.04 |

Table 4 continued

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|------|--------|--------|--------|--------|--------|-------|--------|--------|-------|
| 17.Rehearsal | .33*** | .19** | .16** | .08 | .22*** | .16** | .19** | .54*** | .25*** | .46*** | .38*** | .20** | .08 | .07 | .28*** | .71*** | -- | .65*** | .56*** | .00 | .03 | .18* | .07 |
| 18. Elaboration | .58*** | .39*** | .33*** | .08 | .35*** | .45*** | .41*** | .60*** | .34*** | .45*** | .48*** | .31*** | .21** | .12 | .28*** | .52*** | .51*** | -- | .64*** | -.03 | .01 | .18* | .13 |
| 19. Engagement | .49*** | .30*** | .26*** | .09 | .36*** | .30*** | .27*** | .55*** | .65*** | .53*** | .47*** | .19** | -.03 | .05 | .59*** | .39*** | .48*** | .57*** | -- | .02 | .23** | .39*** | .12* |
| 20. Ac Beh Time | .25*** | .15* | .15* | -.16** | -.03 | .17** | .17** | .18** | .16* | .23*** | .05 | -.09 | .19** | .12 | .18** | .06 | .04 | .06 | .24*** | -- | -.23** | -.13 | -.03 |
| 21. Ac Beh Attendance | .25*** | .16** | .10 | .07 | .14* | .15* | .13* | .24*** | .36*** | .29*** | .19** | .07 | .02 | -.06 | .35*** | .23*** | .23*** | .27*** | .65*** | .16** | -- | .51*** | .26** |
| 22.Ac Beh Assignment | .10 | .03 | .00 | .26*** | -.04 | .04 | -.00 | .17** | .05 | .29*** | .12** | .05 | -.16** | -.01 | .22*** | .15* | .18** | .12 | .28*** | .10 | .26*** | -- | .26** |
| 23. Achievement | .02 | .10 | .04 | .63*** | .22*** | .10 | .04 | .08 | .10 | .07 | -.05 | .14 | -.39*** | -.10 | .09 | .05 | .05 | .19** | .15* | -.16* | .16* | .19** | -- |

Table 5 Percent of Class Type Nominated as Favorite and Least Favorite by High School and College Students

| | <u>High School</u> | | <u>College</u> | |
|-----------------------------------|--------------------|----------------|----------------|----------------|
| | Favorite | Least Favorite | Favorite | Least Favorite |
| Arts ¹ | | .6 | 4.4 | 1.8 |
| Anthropology ² | | | 2.5 | 1.8 |
| Astronomy | .6 | | | |
| Biology | 4.5 | 6.0 | 4.6 | 6.5 |
| Chemistry | 9.6 | 7.2 | 4.3 | 6.9 |
| Computer Science | | 1.8 | 2.1 | 4.7 |
| Cultural Studies ³ | | | 3.3 | .4 |
| Economics | 9 | 7.2 | 3.6 | 5.1 |
| Education | | | | .4 |
| Engineering ⁴ | | | 8.2 | 4.7 |
| English ⁵ | 26.0 | 16.3 | 4.3 | 2.2 |
| Ethics in International Relations | | | .4 | |
| Foreign Language | 7.3 | 8.4 | 10 | 16.3 |
| Global Health Certificate | | .6 | 1.8 | .4 |
| History ⁶ | 15.8 | 9.6 | 5.0 | 2.2 |

¹ Arts- Art of Moving Image College Favorite 1.1%; Art of Moving Image College Least Favorite .7%; Art History College Favorite .7%; Cooking High School Least Favorite .6%; Dance College Favorite .4%; Documentary Studies College Favorite .4%; Music College Favorite 1.1%; Theatre College Least Favorite .4%; Visual Studies College Favorite .7%; Visual Studies College Least Favorite .7%

² Anthropology- Cultural Anthropology College Favorite 1.8%; Cultural Anthropology College Least Favorite 1.8%; Evolutionary Anthropology College Favorite .7%

³ Cultural Studies- Af & Af American Studies College Favorite 1.1%; Asian & Mid-East Studies College Favorite.4%; Religion College Favorite 1.8%; Slavic & Eurasian Studies College Favorite .4%; Jewish Studies College Least Favorite .4%

⁴ Engineering- Biomedical Engineering College Favorite 1.4%; Biomedical Engineering College Least Favorite 1.1%; Civil Engineering College Favorite .7%; Engineering College Favorite 3.9%; Engineering College Least Favorite 1.1%; Electrical and Computer Engineering College Favorite 1.8%; Electrical and Computer Engineering College Least Favorite 1.1%; Mechanical Engineering College Favorite .4%; Mechanical Engineering College Least Favorite 1.4%

⁵ English- English High School Favorite 26.0%; English High School Least Favorite 16.3%; English College Favorite 4.3%; English College Least Favorite 1.8%; Literature College Least Favorite .4%

⁶ History- Classical Studies College Favorite .4%; History High School Favorite 15.8%; History High School Least Favorite 9.6%; History College Favorite 4.6%; History College Least Favorite 2.2%

Table 5 continued

| | <u>High School</u> | | <u>College</u> | |
|-----------------------------------|--------------------|----------------|----------------|----------------|
| | Favorite | Least Favorite | Favorite | Least Favorite |
| International Comparative Studies | | | | 1.1 |
| Inf Science and Inf Studies | | | .4 | |
| Math | 13.6 | 28.9 | 2.1 | 6.1 |
| Medical Science | 3.4 | 1.2 | | |
| Markets & Management Studies | 1.1 | | | .4 |
| Neuroscience | | | 1.1 | 1.8 |
| Philosophy | | | 1.4 | .4 |
| Physical Education | .6 | | | |
| Physical Science ⁷ | 2.8 | 1.8 | .4 | 1.1 |
| Physics | 1.7 | 5.4 | 1.8 | 4.7 |
| Political Science | | | 1.1 | 2.5 |
| Psychology | | | 29.3 | 18.4 |
| Public Policy | | | 4.3 | 2.9 |
| SAT preparation | .6 | 2.4 | | |
| Science | .6 | | | .4 |
| Sociology | | | 2.8 | 1.4 |
| Statistics | 2.3 | 1.8 | .4 | 5.8 |

⁷ Physical Science- Earth & Ocean Science High School Favorite 1.7%; Earth & Ocean Science High School Least Favorite .6%; Earth & Ocean Science College Favorite .4%; Earth & Ocean Science College Least Favorite 1.1%; Physical Science High School Favorite 1.1%; Physical Science High School Least Favorite 1.2%

Table 6 Reasons Students Gave for Choosing Their Favorite or Least Favorite Class

| | Favorite | Least Favorite |
|-------------------------|--|--|
| Stimulating Environment | A “great” environment, fun, there is much discussion, small class size, have friends, interesting lecture | There is no discussion, a large class, don’t have any friends, don’t have opportunities to participate, boring lecture |
| Instructor | Effective, engaging, enthusiastic teaching style, teacher is helpful, organized and understanding | Ineffective, unengaging, disinterested teaching style, teacher is unhelpful, disorganized and inconsiderate |
| Method of Evaluation | Methods of evaluation in the class are fair, clear, and at an appropriate frequency. The grading does not generate competition among students, is not the principle focus of the class, and/or a lack of tests is viewed positively. | Methods of evaluation in the class are unfair, unclear, and at an inappropriate frequency. The grading generates competition among students, is the principle focus of the class, and/or a lack of tests is viewed negatively. |
| Relativity | The class is better than the student’s other classes. | The class is worse than the student’s other classes. |
| Learning Subject | Specific qualities of the subject matter are positively noted—subject matter offers a new perspective, comprehensively covers a wide breadth of information, and/or is logical | Specific qualities of the subject matter are negatively noted—subject matter does not offer a new perspective, it covers too much information, is required and/or difficult to understand |
| Class Work | Class work is hands-on, includes real-world application activities or problem solving, is personally rewarding, positively contributes to understanding the material and/or leads to better performance on methods of evaluation | Class work is passive, lacks real-world application activities or problem solving, is not personally rewarding, does not lead to increased understanding of material or better performance on methods of evaluation |
| Liking | General liking/love for the subject matter | General dislike/hate for the subject matter |
| Fun/Enjoyment | Class is described as generally fun or enjoyable | Class is not generally fun or enjoyable |
| Interest | High interest in subject matter and classwork | Low interest in subject matter and classwork |

Table 6 continued

| | Favorite | Least Favorite |
|-----------------------------|---|--|
| Personal Competency | Personal skill level with class material is high or learning of class material leads to improved skill level | Personal skill level with class material is low or learning of class material does not lead to improved skill level |
| Self-Understanding | The class contributes to a student's understanding of his or her identity. For example, the class relates to the cultural background of the student or his or her political beliefs. | The class counter-acts a student's understanding of his or her identity. For example, the class covers topics that contradict the student's political beliefs or moral values. |
| Learning Process | Learning of class material is retained through high-level learning processes as opposed to rote memorization. The pace of the class is conducive to higher-level learning. There is freedom to learn independently. | Learning of the class material relies mostly on memorization. The pace of the class makes it difficult to learn the material. There is little to no individual independence in the learning process. |
| Level of Subject Difficulty | Class is easy, challenging in a positive way, or not too challenging, but still mentally stimulating. | Class is too easy or overly challenging. |
| Time Commitment | Time commitment of the class is low, high in a positive sense and/or the class is scheduled at a favorable time. | Time commitment of the class is high in a negative sense, wasteful, and/or the class is scheduled at an unfavorable time (i.e., too early in the morning). |
| Level of Work | The work level of the class is described as a favorable attribute, whether it is identified as being high, low or average. | The work level of the class is described as an unfavorable attribute, whether it is identified as being, high, low, or average. |
| Pressure/Stress | Pressure or stress generated by the class is low. | Pressure or stress generated by the class is high. |
| Performance /Grade | Student has a high grade in the class or the class is seen as an "easy A." | Student has a low grade in the class or getting good grades in class demands excessive effort. |
| Utility | Subject matter is perceived as being relevant to everyday life, academic major, or future career/life goals | Subject matter is perceived as being irrelevant to everyday life, academic major, or future career/life goals |

Table 7 Means, Standard Deviations, F-values and P-values for Differences between Class Type Univariate Tests of Motivation, Self-Regulation, Learning Processes, Academic Behaviors, and Achievement

| | Favorite | Least Favorite | F-Value | P-value |
|---------------|--------------|----------------|---------|---------|
| Mastery | 4.08 (.61) | 3.32 (1.02) | 198.80 | .000 |
| Perf-App | 3.15 (.77) | 2.78 (.90) | 72.91 | .000 |
| Perf-Avoid | 3.17 (.75) | 2.99 (.89) | 21.65 | .000 |
| Expectancy | 4.01 (.63) | 3.30 (.88) | 239.92 | .000 |
| Interest | 4.19 (.58) | 2.32 (.90) | 1451.15 | .000 |
| Attainment | 3.36 (.77) | 2.66 (.94) | 162.57 | .000 |
| Utility | 3.68 (.80) | 2.90 (1.01) | 166.97 | .000 |
| Metacognition | 3.30 (.63) | 3.08 (.73) | 48.69 | .000 |
| Attention | 3.62 (.75) | 2.61 (.89) | 351.29 | .000 |
| Time Planning | 3.66 (.75) | 3.38 (.81) | 63.12 | .000 |
| Environment | 3.80 (.79) | 3.49 (.91) | 60.41 | .000 |
| Reappraisal | 3.13 (.77) | 3.02 (.84) | 9.58 | .002 |
| Rumination | 2.37 (.75) | 3.08 (.93) | 180.11 | .000 |
| Suppression | 3.38 (.96) | 3.39 (.91) | .56 | .455 |
| Organization | 3.07 (.93) | 2.92 (.94) | 11.19 | .001 |
| Rehearsal | 3.45 (.86) | 3.34 (.92) | 5.49 | .020 |
| Elaboration | 3.74 (.77) | 3.35 (.85) | 92.71 | .000 |
| Engagement | 4.01 (.57) | 3.44 (.74) | 227.79 | .000 |
| Time Spent | -.00 (1.01) | .01 (.99) | .07 | .795 |
| Attendance | -.00 (.93) | .02 (.93) | 1.08 | .300 |
| Assignments | .02 (.87) | -.00 (.89) | .07 | .793 |
| Achievement | 10.46 (2.23) | 9.30 (2.74) | 68.68 | .000 |

Table 8 Means and Standard Deviations for Motivation for Females and Males in High School and College.

| | High School | | | College | | |
|------------|-------------|-------------------------|-------------|-------------|-------------------------|-------------|
| | Female | <u>Favorite</u> Male | Total | Female | <u>Favorite</u> Male | Total |
| Mastery | 4.24 (.58) | 4.11 (.55) | 4.19 (.57) | 4.11 (.58) | 3.94 (.64) | 4.02 (.62) |
| Perf-App | 3.33 (.69) | 3.46 (.83) | 3.38 (.75) | 2.98 (.70) | 3.05 (.79) | 3.02 (.75) |
| Perf-Avoid | 3.33 (.70) | 3.47 (.86) | 3.38 (.76) | 3.10 (.66) | 2.99 (.75) | 3.04 (.71) |
| Expectancy | 4.16 (.56) | 4.11 (.68) | 4.14 (.61) | 3.85 (.62) | 4.00 (.64) | 3.93 (.63) |
| Interest | 4.14 (.61) | 4.05 (.79) | 4.11 (.68) | 4.36 (.46) | 4.12 (.54) | 4.23 (.51) |
| Attainment | 3.53 (.67) | 3.32 (.79) | 3.45 (.72) | 3.38 (.79) | 3.24 (.80) | 3.31 (.79) |
| Utility | 3.90 (.74) | 3.68 (.81) | 3.82 (.77) | 3.64 (.85) | 3.57 (.77) | 3.60 (.81) |
| | | <u>Least Favorite</u> | | | <u>Least Favorite</u> | |
| Mastery | 3.44 (.96) | 3.43 (.76) | 3.44 (.89) | 3.50 (.96) | 3.16 (1.04) | 3.32 (1.03) |
| Perf-App | 2.90 (.92) | 3.01 (.95) | 2.94 (.93) | 2.74 (.82) | 2.63 (.92) | 2.68 (.87) |
| Perf-Avoid | 3.10 (.93) | 3.15 (.89) | 3.12 (.96) | 3.04 (.83) | 2.81 (.90) | 2.92 (.87) |
| Expectancy | 3.60 (.84) | 3.64 (.85) | 3.61 (.84) | 3.09 (.80) | 3.16 (.91) | 3.13 (.86) |
| Interest | 2.24 (.95) | 2.33 (.88) | 2.27 (.92) | 2.43 (.90) | 2.27 (.86) | 2.34 (.88) |
| Attainment | 2.58 (.89) | 2.70 (.95) | 2.62 (.91) | 2.72 (.98) | 2.64 (.95) | 2.68 (.96) |
| Utility | 2.89 (1.08) | 3.00 (.93) | 2.93 (1.02) | 2.99 (1.00) | 2.79 (1.00) | 2.89 (1.00) |

Table 9 Means, standard errors, F-values, and p-values by Gender for Motivaiton, Self-Regulation, Learning Processes, , Academic Behaviors, and Achievement

| | Male | Female | F-Value | P-value |
|---------------|------------|------------|---------|---------|
| Mastery | 3.64 (.05) | 3.83 (.04) | 9.92 | .002 |
| Perf-App | 3.02 (.05) | 2.99 (.05) | .19 | .665 |
| Perf-Avoid | 3.07 (.05) | 3.15 (.05) | 1.11 | .292 |
| Expectancy | 3.74 (.05) | 3.67 (.04) | 1.24 | .266 |
| Interest | 3.17 (.04) | 3.30 (.04) | 5.30 | .022 |
| Attainment | 2.96 (.05) | 3.05 (.04) | 1.91 | .168 |
| Utility | 3.25 (.05) | 3.36 (.05) | 2.53 | .112 |
| Metacognition | 3.10 (.04) | 3.29 (.04) | 10.56 | .001 |
| Attention | 3.08 (.05) | 3.17 (.04) | 1.64 | .201 |
| Time Planning | 3.30 (.05) | 3.65 (.05) | 27.18 | .000 |
| Environment | 3.55 (.06) | 3.69 (.05) | 3.50 | .062 |
| Reappraisal | 3.04 (.05) | 3.15 (.05) | 2.69 | .102 |
| Rumination | 2.68 (.05) | 2.78 (.05) | 1.78 | .183 |
| Suppression | 3.33 (.06) | 3.40 (.05) | .80 | .371 |
| Organization | 2.75 (.06) | 3.13 (.05) | 22.25 | .000 |
| Rehearsal | 3.21 (.05) | 3.56 (.05) | 24.31 | .000 |
| Elaboration | 3.40 (.05) | 3.62 (.05) | 10.29 | .001 |
| Engagement | 3.67 (.04) | 3.84 (.04) | 10.68 | .001 |
| Time Spent | -.04 (.07) | .07 (.07) | 1.12 | .291 |
| Attendance | -.07 (.06) | .15 (.05) | 8.78 | .003 |
| Assignments | -.07 (.06) | .02 (.05) | 1.56 | .213 |
| Achievement | 9.68 (.17) | 9.87 (.15) | .69 | .407 |

Table 10 Means and Standard Deviations for Self-Regulation for Females and Males in High School and College.

| | High School | | | College | | |
|---------------|-----------------|-----------------------|----------------|-----------------|-----------------------|---------------|
| | <u>Favorite</u> | | | <u>Favorite</u> | | |
| | Female | Male | Total | Female | Male | Total |
| Metacognition | 3.45 (.68) | 3.21 (.69) | 3.36 (.69) | 3.30 (.62) | 3.24 (.56) | 3.27 (.59) |
| Attention | 3.57 (.73) | 3.72 (.83) | 3.63 (.77) | 3.75 (.68) | 3.50 (.76) | 3.62 (.74) |
| Time | 3.62 (.76) | 3.44 (.84) | 3.55 (.79) | 3.90 (.70) | 3.55 (.70) | 3.72 (.72) |
| Environment | 3.77 (.88) | 3.61 (.89) | 3.71 (.89) | 3.88 (.73) | 3.82 (.72) | 3.85 (.73) |
| Reappraisal | 3.31 (.86) | 3.16 (.84) | 3.25 (.85) | 3.13 (.64) | 3.01 (.77) | 3.06 (.71) |
| Rumination | 2.57 (.81) | 2.43 (.86) | 2.52 (.83) | 2.23 (.66) | 2.34 (.73) | 2.29 (.70) |
| Suppression | 3.41 (1.11) | 3.38 (.95) | 3.40 (1.05) | 3.37 (.92) | 3.38 (.89) | 3.37 (.91) |
| | | <u>Least Favorite</u> | | | <u>Least Favorite</u> | |
| Metacognition | 3.25 (.77) | 2.84 (.78) | 3.10 (.80) | 3.16 (.72) | 2.99 (.67) | 3.07 (.69) |
| Attention | 2.71 (.82) | 2.78 (.96) | 2.73 (.87) | 2.60 (.94) | 2.49 (.85) | 2.54 (.89) |
| Time | 3.39 (.73) | 3.07 (.85) | 3.27 (.79) | 3.68 (.75) | 3.23 (.81) | 3.44 (.81) |
| Environment | 3.52 (.93) | 3.29 (.85) | 3.44 (.90) | 3.60 (.89) | 3.44 (.92) | 3.52 (.91) |
| Reappraisal | 3.22 (.84) | 2.97 (.88) | 3.13 (.86) | 2.97 (.78) | 2.94 (.86) | 2.96 (.82) |
| Rumination | 3.13 (.90) | 2.78 (1.04) | 3.00 (.97) | 3.20 (.92) | 3.07 (.90) | 3.13 (.91) |
| Suppression | 3.30 (.97) | 3.13 (.87) | 3.24 (.93) | 3.53 (.77) | 3.42 (.98) | 3.47 (.89) |

Table 11 Means and Standard Deviations for Academic Outcome Variables for Females and Males in High School and College

| | High School | | | College | | |
|--------------|-------------|-----------------------|--------|-----------------------|--------|--------|
| | Female | Male | Total | Female | Male | Total |
| Organization | 3.11 | 2.57 | 2.91 | 3.30 | 3.03 | 3.16 |
| | (.99) | (.93) | (1.01) | (.90) | (.83) | (.88) |
| Rehearsal | 3.69 | 3.14 | 3.48 | 3.54 | 3.33 | 3.44 |
| | (.84) | (.84) | (.90) | (.86) | (.82) | (.84) |
| Elaboration | 3.74 | 3.50 | 3.65 | 3.93 | 3.68 | 3.80 |
| | (.85) | (.86) | (.86) | (.66) | (.72) | (.70) |
| Engagement | 4.10 | 4.06 | 4.09 | 4.07 | 3.86 | 3.96 |
| | (.54) | (.59) | (.56) | (.51) | (.60) | (.57) |
| Time Spent | .20 | -.04 | .11 | -.05 | -.07 | -.06 |
| | (2.09) | (.16) | (1.66) | (.21) | (.18) | (.19) |
| Attendance | .11 | .15 | .13 | .12 | -.24 | -.07 |
| | (.72) | (.70) | (.71) | (.88) | (1.13) | (1.03) |
| Assignments | -.09 | -.18 | -.13 | .20 | .02 | .10 |
| | (.85) | (.95) | (.89) | (.79) | (.89) | (.85) |
| Achievement | 9.60 | 9.56 | 9.59 | 11.02 | 11.18 | 11.10 |
| | (2.59) | (2.75) | (2.65) | (1.69) | (1.51) | (1.60) |
| | | <u>Least Favorite</u> | | <u>Least Favorite</u> | | |
| Organization | 2.93 | 2.47 | 2.76 | 3.19 | 2.84 | 3.01 |
| | (.97) | (.84) | (.95) | (.95) | (.88) | (.93) |
| Rehearsal | 3.56 | 3.06 (.85) | 3.38 | 3.48 | 3.17 | 3.32 |
| | (.93) | | (.93) | (.88) | (.94) | (.92) |
| Elaboration | 3.37 | 3.10 | 3.27 | 3.48 | 3.31 | 3.39 |
| | (.85) | (.92) | (.88) | (.76) | (.87) | (.82) |
| Engagement | 3.77 | 3.62 | 3.71 | 3.40 | 3.17 | 3.28 |
| | (.57) | (.60) | (.58) | (.79) | (.74) | (.77) |
| Time Spent | .18 | -.08 | .08 | -.02 | -.05 | -.04 |
| | (1.99) | (.13) | (1.58) | (.40) | (.32) | (.36) |
| Attendance | .29 | .36 | .31 | .05 | -.33 | -.15 |
| | (.52) | (.47) | (.50) | (.97) | (1.12) | (1.06) |
| Assignments | -.14 | -.14 | -.14 | .11 | .05 | .08 |
| | (.91) | (.89) | (.90) | (.86) | (.89) | (.87) |
| Achievement | 8.96 | 8.42 | 8.75 | 9.90 | 9.50 | 9.70 |
| | (2.74) | (3.08) | (2.87) | (2.46) | (2.68) | (2.58) |

Table 12 Standardized Betas for the Relations between Motivation predicting Self-Regulation in Learning Processes Model for Favorite and Least Favorite High School Classes

| | Metacognition | | Attention | | Time | | Environ | | Reappraisal | | Rumination | | Suppression | |
|------------|---------------|-----------|-----------|-----------|--------|-----------|---------|-----------|-------------|-----------|------------|-----------|-------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | .31** | .40*** | .13 | .07 | .31*** | .47*** | .30** | .45*** | .24* | .09 | -.03 | .05 | .24* | .18 |
| Per-App | .18 | .25 | .10 | -.08 | .06 | -.02 | -.01 | -.07 | .13 | .04 | -.19 | -.07 | .09 | -.14 |
| Perf-Avoid | -.06 | -.08 | .07 | .08 | .18 | .16 | .04 | .20 | -.14 | .01 | .25* | .23 | -.12 | .03 |
| Expectancy | .03 | -.01 | .16* | .21** | .08 | .02 | .07 | .09 | -.08 | .06 | -.20** | -.59*** | -.04 | .21* |
| Interest | .07 | -.06 | .31** | .40*** | .03 | -.16 | -.02 | -.11 | -.06 | .04 | -.29*** | -.10 | -.10 | .03 |
| Attainment | .16 | .25 | -.09 | -.00 | .14 | .05 | .08 | .10 | .09 | .09 | .25* | .11 | -.06 | -.17 |
| Utility | -.10 | -.05 | .05 | -.01 | -.02 | .04 | .02 | -.05 | .02 | .12 | .00 | -.03 | -.17 | .02 |

Table 13 Standardized Betas for the Relations between Motivation predicting Self-Regulation in Academic Behaviors Model for Favorite and Least Favorite High School Classes

| | Metacognition | | Attention | | Time | | Environment | | Reappraisal | | Rumination | | Suppression | |
|------------|---------------|-----------|-----------|-----------|--------|-----------|-------------|-----------|-------------|-----------|------------|-----------|-------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | .31** | .40*** | .13 | .07 | .31*** | .47*** | .30** | .45*** | .23* | .09 | -.03 | .05 | .24* | .18 |
| Per-App | .18 | .25 | .10 | -.08 | .06 | -.03 | -.01 | -.07 | .13 | .04 | -.19 | -.07 | .09 | -.14 |
| Perf-Avoid | -.06 | -.08 | .06 | .08 | .17 | .17 | .03 | .20 | -.13 | .01 | .25* | .23 | -.12 | .03 |
| Expectancy | .03 | -.01 | .16* | .21** | .08 | .02 | .07 | .09 | -.08 | .06 | -.20** | -.59*** | -.04 | .21* |
| Interest | .07 | -.06 | .31*** | .40*** | .03 | -.16 | -.03 | -.11 | -.06 | .04 | -.29*** | -.10 | -.10 | .03 |
| Attainment | .16 | .25 | -.09 | -.00 | .15 | .05 | .08 | .10 | .09 | .09 | .25* | .11 | -.06 | -.17 |
| Utility | -.10 | -.05 | -.05 | -.01 | -.02 | .04 | .02 | -.05 | .02 | .11 | .00 | -.03 | -.17 | .02 |

Table 14 Standardized Betas for the Relations between Motivation and Self-Regulation to Academic Achievement for Favorite and Least Favorite College Classes

| | <u>Metacognition</u> | | <u>Attention</u> | | <u>Tim</u> | | <u>Environ</u> | | <u>Reappraisal</u> | | <u>Rumination</u> | | <u>Suppression</u> | | <u>Achievement</u> | |
|-------------|----------------------|--------------|------------------|--------------|--------------|--------------|----------------|--------------|--------------------|--------------|-------------------|--------------|--------------------|--------------|--------------------|-----------|
| | Fav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least Fav | Least Fav |
| Mastery | .31** | .40*** | .13 | .07 | .31*** | .47*** | .30** | .45*** | .23* | .09 | -.03 | .05 | .24* | .18 | -.09 | .02 |
| Per-App | .18 | .25 | .10 | -.08 | .06 | -.03 | -.01 | -.07 | .13 | .04 | -.19 | -.07 | .09 | -.14 | .06 | -.22 |
| Perf-Avoid | -.06 | -.08 | .06 | .08 | .18 | .17 | .04 | .20 | -.14 | .01 | .25* | .23 | -.12 | .03 | -.06 | .09 |
| Expectancy | .03 | -.01 | .16* | .21*** | .08 | .02 | .07 | .09 | -.08 | .06 | -.20** | -.59*** | -.04 | .21* | .40*** | .64*** |
| Interest | .07 | -.06 | .31*** | .40*** | .03 | -.16 | -.02 | -.11 | -.06 | .04 | -.29*** | -.10 | -.10 | .03 | .12 | .05 |
| Attainment | .16 | .25 | -.09 | -.00 | .14 | .05 | .08 | .10 | .09 | .09 | .25* | .11 | -.06 | -.17 | -.11 | -.08 |
| Utility | -.10 | -.05 | -.05 | -.01 | -.02 | .04 | .02 | -.05 | .02 | .12 | .00 | -.03 | -.17 | .02 | .08 | .07 |
| Metacog | | | | | | | | | | | | | | | -.17 | -.11 |
| Attention | | | | | | | | | | | | | | | -.00 | -.01 |
| Time | | | | | | | | | | | | | | | .25* | .14 |
| Environ | | | | | | | | | | | | | | | .02 | .06 |
| Reappraisal | | | | | | | | | | | | | | | -.11 | -.06 |
| Rumination | | | | | | | | | | | | | | | -.02 | -.01 |
| Suppression | | | | | | | | | | | | | | | .03 | .01 |

Table 15 Standardized Betas for the Relations between Motivation and Self-Regulation to Learning Processes for Favorite and Least Favorite High School Classes

| | <u>Organization</u> | | <u>Rehearsal</u> | | <u>Elaboration</u> | | <u>Engagement</u> | |
|-------------|---------------------|-----------|------------------|-----------|--------------------|-----------|-------------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | .02 | -.14 | .01 | .18 | .08 | .17 | .22* | .37*** |
| Per-App | .03 | -.13 | .11 | .00 | -.01 | -.18 | .12 | -.10 |
| Perf-Avoid | -.22* | .11 | -.08 | .12 | -.09 | .28** | -.06 | .14 |
| Expectancy | -.06 | -.17* | -.03 | -.03 | .03 | -.06 | .06 | .05 |
| Interest | -.14 | .00 | -.04 | .03 | .06 | -.09 | .19* | -.08 |
| Attainment | .11 | .15 | -.12 | -.22 | .02 | .03 | -.23* | -.22** |
| Utility | -.07 | .06 | -.02 | -.04 | .06 | .06 | .00 | .07 |
| Metacog | .30*** | .41*** | .09 | .37*** | -.02 | .40*** | .09 | .17* |
| Attention | .07 | .05 | .06 | -.04 | .18 | -.00 | .39*** | .35*** |
| Time | .37*** | .43*** | .41*** | .25** | .39*** | .20* | .17 | .13 |
| Environ | .07 | -.16 | .15 | .08 | .06 | .02 | .11 | .11 |
| Reappraisal | .05 | .10 | .15* | .13 | .16* | .07 | .03 | .13* |
| Rumination | .02 | -.08 | .01 | -.05 | .11 | -.13 | .13* | -.12* |
| Suppression | -.02 | -.03 | .07 | .01 | -.12 | -.08 | -.08 | -.16** |

Table 16 Indirect Effects for Mediations for High School

| Predictor | Mediator | Outcome Variable | Mediation Coefficient |
|-----------------------|---------------|------------------|-----------------------|
| <u>Favorite</u> | | | |
| Mastery | Metacognition | Organization | .09* |
| Mastery | Time | Organization | .12* |
| Mastery | Time | Rehearsal | .11** |
| Mastery | Time | Elaboration | .10* |
| Mastery | Time | Achievement | .21 |
| Expectancy | Attention | Engagement | .04* |
| Interest | Attention | Engagement | .07** |
| Perf-Avoid | Rumination | Engagement | .02 |
| Expectancy | Rumination | Engagement | -.01 |
| Interest | Rumination | Engagement | -.02 |
| <u>Least Favorite</u> | | | |
| Mastery | Metacognition | Organization | .16** |
| Mastery | Metacognition | Rehearsal | .14** |
| Mastery | Metacognition | Engagement | .04* |
| Mastery | Metacognition | Elaboration | .14** |
| Mastery | Time | Organization | .19*** |
| Mastery | Time | Rehearsal | .11* |
| Expectancy | Attention | Engagement | .04* |
| Expectancy | Rumination | Engagement | .04* |
| Expectancy | Suppression | Engagement | -.02 |
| Interest | Attention | Engagement | .08*** |

Table 17 Standardized Betas for the Relations between Motivation and Self-Regulation to Academic Behaviors and Achievement for Favorite and Least Favorite High School Classes

| | <u>Time Spent</u> | | <u>Attendance</u> | | <u>Assignments</u> | |
|-------------|-------------------|-----------|-------------------|-----------|--------------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | .17 | .07 | .17 | .15 | -.11 | .10 |
| Per-App | .11 | .16 | .10 | -.01 | -.17 | .12 |
| Perf-Avoid | -.12 | -.10 | -.03 | -.06 | .19 | .00 |
| Expectancy | -.04 | -.22 | .03 | .22* | .14 | .11 |
| Interest | .21 | .02 | .14 | .02 | .05 | .22* |
| Attainment | -.25 | -.07 | -.15 | -.06 | -.12 | -.26* |
| Utility | -.21 | -.08 | -.10 | -.02 | .08 | .06 |
| Metacog | -.15 | .10 | -.05 | -.06 | .05 | -.11 |
| Attention | -.01 | .08 | .15 | -.01 | .11 | .06 |
| Time | .03 | -.00 | .10 | -.07 | .13 | .19 |
| Environ | .24 | -.11 | .01 | .15 | .17 | .04 |
| Reappraisal | .05 | -.08 | .04 | .02 | .02 | .04 |
| Rumination | .12 | -.11 | .23 | -.04 | -.13 | -.16 |
| Suppression | -.18 | .06 | -.01 | .03 | .06 | .08 |

Table 18 Standardized Betas for the Relations between Motivation to Self-Regulation in Learning Processes Model for Favorite and Least Favorite College Classes

| | <u>Metacognition</u> | | <u>Attention</u> | | <u>Time</u> | | <u>Environment</u> | | <u>Reappraisal</u> | | <u>Rumination</u> | | <u>Suppression</u> | |
|------------|----------------------|-----------|------------------|-----------|-------------|-----------|--------------------|-----------|--------------------|-----------|-------------------|-----------|--------------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | .23** | .43*** | .24** | .37*** | .31*** | .60*** | .51*** | .46*** | .15 | .01 | -.01 | .08 | .10 | .15 |
| Per-App | -.02 | .10 | -.07 | .03 | .02 | -.06 | -.09 | -.12 | .02 | -.19 | .08 | -.13 | -.23* | -.21 |
| Perf-Avoid | .06 | .01 | .03 | -.02 | .10 | .11 | .03 | .18 | .08 | .32** | .04 | .27** | .31*** | .42*** |
| Expectancy | .25*** | .12* | .17** | -.00 | .17** | .11 | .28*** | .07 | -.01 | .04 | -.46*** | -.53*** | -.06 | -.13* |
| Interest | .08 | .12* | .30*** | .33*** | .02 | -.03 | -.06 | .08 | .05 | .18* | -.24*** | -.08 | -.13 | .02 |
| Attainment | .09 | -.08 | -.06 | -.07 | .06 | -.26* | -.03 | -.17 | .10 | .16 | .25*** | .13 | -.08 | -.17 |
| Utility | .01 | .02 | -.05 | -.18* | .04 | .06 | -.06 | -.02 | .00 | -.06 | .02 | .02 | -.01 | .10 |

Table 19 Betas for the Relations between Motivation to Self-Regulation in Academic Behaviors Model for Favorite and Least Favorite College Classes

| | <u>Metacognition</u> | | <u>Attention</u> | | <u>Time</u> | | <u>Environ</u> | | <u>Reappraisal</u> | | <u>Rumination</u> | | <u>Suppression</u> | |
|------------|----------------------|-----------|------------------|-----------|-------------|-----------|----------------|-----------|--------------------|-----------|-------------------|-----------|--------------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | .23** | .43*** | .24** | .37*** | .31*** | .60*** | .51*** | .45*** | .15 | .01 | -.02 | .08 | .10 | .15 |
| Per-App | -.02 | .10 | -.07 | .03 | .02 | -.06 | -.09 | -.12 | .02 | -.19 | .09 | -.13 | -.23* | -.21 |
| Perf-Avoid | .06 | .01 | .03 | -.02 | .10 | .11 | .03 | .18 | .08 | .32** | .04 | .27** | .31*** | .42*** |
| Expectancy | .25*** | .13* | .18** | .00 | .17** | .11 | .28*** | .07 | -.01 | .04 | -.47*** | -.52*** | -.06 | -.13* |
| Interest | .08 | .12 | .30*** | .33*** | .02 | -.04 | -.06 | .08 | .05 | .19* | -.24*** | -.08 | -.13 | .01 |
| Attainment | .09 | -.09 | -.06 | -.07 | .06 | -.26* | -.03 | -.17 | .10 | .16 | .25*** | .13 | -.08 | -.17 |
| Utility | -.01 | -.02 | -.05 | -.18 | .04 | .07 | -.06 | -.02 | -.00 | -.06 | .02 | .03 | -.01 | .10 |

Table 20 Standardized Betas for the Relations between Motivation and Self-Regulation to Academic Achievement for Favorite and Least Favorite College Classes

| | <u>Metacognition</u> | | <u>Attention</u> | | <u>Time</u> | | <u>Environ</u> | | <u>Reappraisal</u> | | <u>Rumination</u> | | <u>Suppression</u> | | <u>Achievement</u> | |
|-------------|----------------------|--------------|------------------|--------------|--------------|--------------|----------------|--------------|--------------------|--------------|-------------------|--------------|--------------------|--------------|--------------------|-----------|
| | Fav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least FavFav | Least Fav | Least Fav |
| Mastery | .31** | .40*** | .25** | .48 | .27** | .58*** | .55*** | .38*** | .13 | -.04 | .01 | -.07 | .11 | .20 | -.09 | -.01 |
| Per-App | -.06 | .24* | -.15 | .01 | -.00 | -.05 | -.08 | -.07 | .02 | -.09 | .06 | -.12 | -.21 | -.25 | -.01 | .06 |
| Perf-Avoid | .03 | -.18 | .08 | -.04 | .14 | .06 | .01 | .10 | .10 | .23 | .06 | .27** | .24** | .40** | -.02 | -.03 |
| Expectancy | .21** | .07 | .16* | .04 | .16* | .12 | .24*** | .11 | .01 | .12 | -.41*** | -.63*** | -.05 | -.09 | .44*** | .61*** |
| Interest | .13 | .15* | .29*** | .26*** | .02 | -.07 | -.02 | .07 | .07 | .21* | -.28*** | -.06 | -.18* | -.00 | .18* | .12 |
| Attainment | .04 | .01 | -.01 | -.08 | .14 | -.17 | .03 | -.10 | .11 | .12 | .23** | .30*** | -.09 | -.19 | .03 | .01 |
| Utility | -.03 | -.02 | -.09 | -.10 | .04 | .03 | -.11 | -.01 | .04 | -.02 | .03 | -.14 | -.01 | .13 | -.02 | -.12 |
| Metacog | | | | | | | | | | | | | | | .07 | -.07 |
| Attention | | | | | | | | | | | | | | | -.07 | .11 |
| Time | | | | | | | | | | | | | | | .08 | .05 |
| Environ | | | | | | | | | | | | | | | -.05 | -.13 |
| Reappraisal | | | | | | | | | | | | | | | -.14 | .09 |
| Rumination | | | | | | | | | | | | | | | .00 | .01 |
| Suppression | | | | | | | | | | | | | | | .00 | -.07 |

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Table 21 Standardized Betas for the Relations between Motivation and Self-Regulation to Learning Processes for Favorite and Least Favorite College Classes

| | Organization | | Rehearsal | | Elaboration | | Engagement | |
|-------------|--------------|-----------|-----------|-----------|-------------|-----------|------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | -.05 | -.01 | -.03 | .13 | -.02 | .26** | .06 | .21** |
| Per-App | .01 | .18 | -.05 | .11 | .02 | .14 | .16* | .09 |
| Perf-Avoid | .00 | -.12 | .03 | -.07 | -.00 | -.06 | -.07 | .02 |
| Expectancy | .00 | .00 | -.02 | -.01 | .04 | .06 | -.01 | -.05 |
| Interest | .07 | .02 | .13 | .06 | .24*** | .02 | .23*** | .05 |
| Attainment | .08 | .01 | -.07 | -.22* | .13 | -.06 | -.13* | -.13 |
| Utility | -.01 | .04 | .06 | .01 | .08 | .05 | .09 | -.04 |
| Metacog | .12 | .42*** | .19** | .40*** | .17** | .28*** | .06 | .18*** |
| Attention | .03 | -.03 | -.06 | -.02 | .19** | .05 | .37*** | .42*** |
| Time | .28*** | .24*** | .09 | .21** | .08 | .04 | .17** | .24*** |
| Environ | .11 | -.06 | .17* | .06 | .14* | .17* | .12* | .07 |
| Reappraisal | .02 | .02 | .09 | .02 | -.00 | .06 | -.00 | -.00 |
| Rumination | .17* | .08 | .10 | -.01 | .12* | .14* | .04 | -.09* |
| Suppression | -.13* | -.07 | -.04 | .04 | -.02 | .00 | -.11* | -.04 |

Table 22 Indirect Mediation Effects for Motivation to Academic Outcomes Mediated by Self-Regulation for College Students in Favorite and Least Favorite Classes

| Predictor | Mediator | Outcome Variable | Indirect Path |
|-----------------|---------------|------------------|---------------|
| <u>Favorite</u> | | | |
| Mastery | Metacognition | Rehearsal | .04* |
| Mastery | Metacognition | Elaboration | .03* |
| Mastery | Attention | Elaboration | .03* |
| Mastery | Attention | Engagement | .05** |
| Mastery | Time | Organization | .08** |
| Mastery | Time | Engagement | .03* |
| Mastery | Environment | Rehearsal | .07* |
| Mastery | Environment | Elaboration | .05* |
| Mastery | Environment | Engagement | .03 |
| Perf-Avoidance | Suppression | Organization | -.04 |
| Perf-Avoidance | Suppression | Engagement | -.02* |
| Expectancy | Metacognition | Rehearsal | .04* |
| Expectancy | Metacognition | Elaboration | .03** |
| Expectancy | Attention | Elaboration | .02* |
| Expectancy | Attention | Engagement | .04** |
| Expectancy | Time | Organization | .04* |
| Expectancy | Time | Engagement | .02* |
| Expectancy | Environment | Elaboration | .03* |
| Expectancy | Environment | Engagement | .02* |
| Expectancy | Environment | Rehearsal | .04 |
| Expectancy | Rumination | Organization | -.07* |
| Expectancy | Rumination | Elaboration | -.04* |
| Expectancy | Rumination | Time Spent | -.08** |
| Expectancy | Rumination | Assignments | .07* |
| Attainment | Rumination | Organization | .04 |
| Attainment | Rumination | Elaboration | .02 |
| Attainment | Rumination | Time Spent | .05** |
| Attainment | Rumination | Assignments | -.04 |
| Interest | Metacognition | Rehearsal | .01 |
| Interest | Attention | Elaboration | .04* |
| Interest | Attention | Engagement | .06*** |
| Interest | Rumination | Organization | -.04* |
| Interest | Rumination | Elaboration | -.02 |

Table 22 continued

| Predictor | Mediator | Outcome Variable | Indirect Path |
|----------------|-----------------------|------------------|---------------|
| | <u>Favorite</u> | | |
| Interest | Rumination | Time Spent | -.04* |
| Interest | Rumination | Assignments | .04 |
| | <u>Least Favorite</u> | | |
| Mastery | Metacognition | Organization | .17*** |
| Mastery | Metacognition | Rehearsal | .16*** |
| Mastery | Metacognition | Elaboration | .10** |
| Mastery | Metacognition | Engagement | .06** |
| Mastery | Attention | Engagement | .12*** |
| Mastery | Attention | Attendance | .12*** |
| Mastery | Time | Organization | .13** |
| Mastery | Time | Rehearsal | .12* |
| Mastery | Time | Engagement | .11*** |
| Mastery | Time | Attendance | .10* |
| Mastery | Time | Assignments | .14** |
| Mastery | Environment | Elaboration | .06* |
| Perf-Avoidance | Rumination | Elaboration | .03 |
| Perf-Avoidance | Rumination | Engagement | -.02 |
| Expectancy | Metacognition | Organization | .05 |
| Expectancy | Metacognition | Rehearsal | .05 |
| Expectancy | Metacognition | Elaboration | .03 |
| Expectancy | Metacognition | Engagement | .02 |
| Expectancy | Rumination | Elaboration | -.06* |
| Expectancy | Rumination | Engagement | .04 |
| Attainment | Time | Organization | -.06 |
| Attainment | Time | Rehearsal | -.05 |
| Attainment | Time | Engagement | -.05 |
| Attainment | Time | Attendance | -.04 |
| Attainment | Time | Assignments | -.06 |
| Attainment | Rumination | Organization | .01 |
| Attainment | Rumination | Elaboration | .02 |
| Attainment | Rumination | Engagement | -.01 |
| Interest | Attention | Engagement | .11*** |
| Interest | Attention | Attendance | .10*** |
| Interest | Metacognition | Organization | .05* |
| Interest | Metacognition | Rehearsal | .05* |
| Interest | Metacognition | Elaboration | .03* |
| Interest | Metacognition | Engagement | .02 |

Table 22 continued

| <u>Least Favorite</u> | | | |
|-----------------------|------------|--------------|------|
| Interest | Rumination | Organization | -.01 |
| Interest | Rumination | Elaboration | -.01 |
| Interest | Rumination | Engagement | .01 |

Table 23 Standardized Betas for the Relations between Motivation and Self-Regulation to Academic Behaviors for College Students in Favorite and Least Favorite Classes

| | <u>Time Spent</u> | | <u>Attendance</u> | | <u>Assignments</u> | |
|-------------|-------------------|-----------|-------------------|-----------|--------------------|-----------|
| | Fav | Least Fav | Fav | Least Fav | Fav | Least Fav |
| Mastery | .10 | .12 | .12 | .16 | .01 | .17 |
| Per-App | -.05 | .02 | -.04 | .18 | -.15 | .01 |
| Perf-Avoid | .08 | .03 | .06 | -.13 | .05 | -.13 |
| Expectancy | .04 | -.12 | .24* | .07 | .23 | .23** |
| Interest | -.04 | -.19* | .03 | -.08 | -.02 | -.21** |
| Attainment | .01 | .04 | -.04 | -.12 | -.06 | .07 |
| Utility | .08 | .10 | .01 | .01 | .06 | -.16* |
| Metacog | .01 | .12 | -.02 | -.02 | .06 | .06 |
| Attention | -.05 | .13 | .11 | .33*** | .03 | -.06 |
| Time | .03 | .19 | .12 | .17* | .06 | .25*** |
| Environ | .14* | -.15 | -.09 | -.04 | .06 | .07 |
| Reappraisal | -.00 | -.18 | .04 | .03 | .06 | -.01 |
| Rumination | .19** | .04 | -.02 | .07 | -.17* | -.12 |
| Suppression | .03 | .11 | -.06 | -.10 | .01 | .04 |

Table 24 Means and MANOVAs for Self-Regulation by Class Membership for High School Students in Favorite Classes

| | High Regulators (N = 54) | Attention Regulators (N = 40) | Emotion Regulators (N = 44) | Low Regulators (N = 30) | F value | p-value |
|---------------|--------------------------------|-------------------------------------|-----------------------------------|-------------------------------|------------|---------|
| Metacognition | 0.85 ^a | -0.67 ^b | 0.20 ^c | -0.88 ^b | 49.95 | .000 |
| Attention | 0.67 ^a | 0.49 ^a | -0.83 ^b | -0.56 ^b | 44.45 | .000 |
| Environment | 0.92 ^a | -0.02 ^c | -0.03 ^b | -1.44 ^b | 104.28 | .000 |
| Time | 0.96 ^a | -0.41 ^b | 0.01 ^c | -1.22 ^d | 81.01 | .000 |
| Reappraisal | 0.69 ^a | -0.52 ^b | 0.20 ^c | -0.82 ^b | 29.64 | .000 |
| Rumination | -0.18 ^a | -0.72 ^b | 0.77 ^c | 0.13 ^a | 24.16 | .000 |
| Suppression | 0.33 ^a | -0.04 ^{ab} | -0.13 ^b | -0.34 ^b | 3.45 | .018 |

Note: All F values are statistically significant. Non-common superscripts across columns indicate means that are significantly different using LSD ($p < .05$). All variables were standardized, so the overall mean across groups is 0 with a standard deviation of 1.

Table 25 Means and MANOVAs for Self-Regulation by Class Membership for High School Students in Least Favorite Classes

| | High Regulators (N = 48) | Attention Regulators (N = 26) | Ruminators (N = 84) | F value | p-value |
|---------------|-----------------------------|----------------------------------|------------------------|---------|---------|
| Metacognition | 1.036 ^a | -1.363 ^b | -0.169 ^c | 142.04 | .000 |
| Attention | 0.588 ^a | 0.413 ^a | -0.448 ^b | 24.78 | .000 |
| Environment | 0.896 ^a | -0.824 ^b | -0.265 ^c | 50.42 | .000 |
| Time | 0.929 ^a | -1.265 ^b | -0.139 ^c | 90.82 | .000 |
| Reappraisal | 0.744 ^a | -0.588 ^b | -0.235 ^b | 26.53 | .000 |
| Rumination | -0.07 ^a | -0.919 ^b | 0.307 ^c | 18.57 | .000 |
| Suppression | 0.164 ^a | 0.117 ^a | -0.14 ^a | 1.65 | .195 |

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Note. Non-common superscripts across rows indicate means that are significantly different using LSD ($p < .05$). All variables were standardized, so the overall mean across groups is 0 with a standard deviation of 1.

Table 26 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation to Learning and Behavior Outcomes High School Students' Favorite Classes

| | Low Reg Class | Attention Reg Class | Emotion Reg Class | Organization | Rehearsal | Elaboration | Engagement | Time | Attendance | Assignment |
|---------------------|------------------|------------------------|----------------------|--------------|-----------|-------------|------------|------|------------|------------|
| Mastery | -1.11*** | -1.01*** | -.80*** | -.00 | .03 | .01 | .11 | .07 | .15 | -.11 |
| Per-App | -.09 | -.40 | -.46 | .06 | .15 | -.02 | .08 | .04 | .03 | -.11 |
| Perf-Avoid | -.02 | .16 | .38 | -.17 | -.04 | .02 | .02 | -.05 | .06 | .16 |
| Expectancy | -.21 | -.05 | -.41** | -.02 | -.02 | .03 | .05 | -.06 | .04 | .16* |
| Interest | -.03 | .37* | -.05 | -.04 | -.02 | .10 | .16** | .18 | .14 | .10 |
| Attainment | -.28 | -.48 | -.21 | .14 | -.08 | .04 | -.13* | -.24 | -.09 | -.14 |
| Utility | .23 | .34 | .35 | -.07 | -.02 | .09 | .01 | -.13 | -.09 | .09 |
| Low Reg Class | | | | -.66*** | -.74*** | -.55*** | .30*** | -.13 | .10 | -.47** |
| Attention Reg Class | | | | -.30** | .03 | -.06 | .05 | -.14 | -.25 | .09 |
| Emotion Reg Class | | | | .19 | .07 | .01 | -.07 | -.02 | .12 | -.02 |

Table 27 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation to Achievement in High School Students' Favorite Classes

| | Low Reg Class | Attention Reg Class | Emotion Reg Class | Achievement |
|---------------------|---------------|---------------------|-------------------|-------------|
| Mastery | -1.11*** | -1.01*** | -.80*** | -.20 |
| Per-App | -.09 | -.40 | -.46 | .10 |
| Perf-Avoid | -.02 | .16 | .38 | -.01 |
| Expectancy | -.21 | -.05 | -.41** | 1.07 |
| Interest | -.03 | .37* | -.05 | .30 |
| Attainment | -.28 | -.48 | -.21 | -.32 |
| Utility | .23 | .34 | .35 | .27 |
| Low Reg Class | | | | -.17 |
| Attention Reg Class | | | | .48 |
| Emotion Reg Class | | | | -.34 |

Table 28 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation to Learning and Behavior Outcomes in High School Students' Least Favorite Classes

| | Attention Reg Class | Rumination Class | Organization | Rehearsal | Elaboration | Engagement | Time | Attendance | Assignment |
|---------------------|------------------------|---------------------|--------------|-----------|-------------|------------|------|------------|------------|
| Mastery | -.97*** | -.43 | -.04 | .27** | .23** | .26*** | .11 | .17 | .17 |
| Per-App | -.41 | .12 | -.09 | .00 | -.12 | -.05 | .23 | -.02 | .09 |
| Perf-Avoid | -.10 | -.21 | .08 | .11 | .21* | .09 | -.15 | -.04 | .01 |
| Expectancy | .07 | -.54*** | -.11 | .04 | .01 | .09* | -.21 | .23** | .19** |
| Interest | .30 | -.11 | .01 | .01 | -.08 | .03 | .03 | .01 | .20* |
| Attainment | -.27 | -.55* | .19 | -.13 | .10 | -.11 | -.11 | -.05 | -.30* |
| Utility | -.28 | .19 | .03 | -.08 | .02 | .04 | -.05 | -.01 | .10 |
| Attention Reg Class | | | -.66*** | -.67*** | -.50*** | -.14 | .36 | .08 | .14 |
| Rumination Class | | | -.06 | -.01 | -.04 | -.13* | -.25 | .00 | -.14 |

Table 29 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation to Achievement in High School Students' Least Favorite Classes

| | Attention Rumination | | Achievement |
|------------|----------------------|--------|-------------|
| | Reg Class | Class | |
| Mastery | -.57*** | .27 | -.15 |
| Per-App | -.28 | .07 | -.80* |
| Perf-Avoid | -.03 | -.12 | .29 |
| Expectancy | .07 | -.32** | 1.65*** |
| Interest | .18 | -.06 | .05 |
| Attainment | -.15 | -.33 | -.54 |
| Utility | -.15 | .10 | .22 |
| Attention | | | -.74** |
| Reg Class | | | |
| Rumination | | | -.25 |
| Class | | | |

Table 30 Means and MANOVAs for Self-Regulation by Class Membership for College Students in Favorite Classes

| | High Regulators (N = 91) | Attention Regulators (N = 106) | Emotion Regulators (N = 54) | Low Regulators (N = 21) | F value | P-value |
|---------------|--------------------------------|--------------------------------------|-----------------------------------|-------------------------------|------------|---------|
| Metacognition | .83 ^a | -0.40 ^b | -0.06 ^c | -1.55 ^d | 82.35 | .000 |
| Attention | 0.52 ^a | 0.31 ^b | -1.12 ^c | -0.91 ^c | 71.80 | .000 |
| Environment | 0.67 ^a | 0.09 ^b | -0.57 ^c | -1.99 ^d | 98.03 | .000 |
| Time | 0.75 ^a | -0.12 ^b | -0.42 ^c | -1.59 ^d | 65.51 | .000 |
| Reappraisal | 0.51 ^a | -0.36 ^b | 0.37 ^a | -1.38 ^c | 40.39 | .000 |
| Rumination | -0.22 ^a | -0.29 ^a | 1.02 ^b | -0.17 ^a | 31.34 | .000 |
| Suppression | 0.07 ^a | 0.05 ^a | -0.20 ^a | -0.05 ^a | .92 | .432 |

Note. Non-common superscripts across rows indicate means that are significantly different using LSD ($p < .05$). All variables were standardized, so the overall mean across groups is 0 with a standard deviation of 1.

Table 31 Means and MANOVAs for Self-Regulation by Class Membership for College Students Least Favorite Classes

| | High Regulators (N = 58) | Moderate- Low Regulators (N = 76) | Behavior Regulators (N = 125) | Low Regulators (N = 11) | F value | p-value |
|---------------|--------------------------------|--|-------------------------------------|-------------------------------|---------|---------|
| Metacognition | 0.97 ^a | -0.48 ^b | 0.04 ^c | -2.34 ^d | 84.75 | .000 |
| Attention | 1.37 ^a | -0.42 ^{bc} | -0.32 ^b | -0.83 ^c | 100.34 | .000 |
| Environment | 0.66 ^a | -0.80 ^b | 0.39 ^c | -2.36 ^d | 117.44 | .000 |
| Time | 0.65 ^a | -0.96 ^b | 0.42 ^c | -1.60 ^d | 101.06 | .000 |
| Reappraisal | 0.26 ^a | -0.23 ^b | 0.16 ^a | -1.77 ^c | 18.09 | .000 |
| Rumination | -0.15 ^a | -0.07 ^{ab} | 0.19 ^b | -0.99 ^c | 5.83 | .001 |
| Suppression | 0.15 ^a | -0.07 ^a | 0.05 ^a | -1.09 ^b | 5.25 | .002 |

Note. Non-common superscripts across rows indicate means that are significantly different using LSD ($p < .05$). All variables were standardized, so the overall mean across groups is 0 with a standard deviation of 1.

Table 32 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation to Learning and Behavior Outcomes in College Students' Favorite Classes

| | Low Reg Class | Attention Reg Class | Emotion Reg Class | Organization | Rehearsal | Elaboration | Engagement | Time Spent | Attendance | Assignment |
|---------------------|------------------|------------------------|----------------------|--------------|-----------|-------------|------------|------------|------------|------------|
| Mastery | -.90*** | -.02 | -.63*** | -.01 | .00 | .02 | .05 | .12 | .11 | .03 |
| Per-App | .02 | .10 | .14 | .04 | -.04 | .01 | .10* | -.05 | -.02 | -.14* |
| Perf-Avoid | .00 | -.09 | -.00 | .01 | .05 | .02 | -.03 | .09 | .06 | .06 |
| Expectancy | -.71*** | -.22* | .70*** | -.02 | -.02 | .03 | -.00 | -.04 | .24* | .25* |
| Interest | -.27 | -.29* | -.46** | .06 | .10 | .18*** | .17*** | -.11* | .07 | -.01 |
| Attainment | .01 | -.08 | .10 | .11 | -.04 | .11 | -.05 | .05 | -.02 | -.06 |
| Utility | .00 | -.17 | .20 | -.00 | .05 | .05 | .07 | .08 | .02 | .06 |
| Low Reg Class | | | | -.72*** | -.78*** | -.54*** | -.27*** | -.20* | .04 | .02 |
| Attention Reg Class | | | | .05 | .09 | .09 | .18*** | .03 | .06 | .06 |
| Emotion Reg Class | | | | .22* | .28*** | .09 | -.21*** | -.00 | -.08 | -.28* |

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Table 33 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation Achievement in College Students' Favorite Classes

| | Low Reg Class | Attention Reg Class | Emotion Reg Class | Achievement |
|---------------------|------------------|------------------------|----------------------|-------------|
| Mastery | -1.03*** | -.18 | -.61** | -.15 |
| Per-App | .15 | .21 | .20 | .01 |
| Perf-Avoid | -.04 | .20 | -.09 | -.05 |
| Expectancy | -.66*** | -.26* | -.66*** | .70*** |
| Interest | -.28 | -.24 | -.40* | .23* |
| Attainment | -.01 | -.07 | -.03 | .06 |
| Utility | .10 | -.09 | .37* | -.01 |
| Low Reg Class | | | | .22 |
| Attention Reg Class | | | | -.04 |
| Emotion Reg Class | | | | -.16 |

Table 34 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation to Learning Processes and Academic Behavior in College Students' Least Favorite Classes

| | Low Reg Class | Moderate-Low Reg Class | Behavior Reg Class | Organization | Rehearsal | Elaboration | Engagement | Time Spent | Attendance | Assignment |
|------------------------|------------------|---------------------------|-----------------------|--------------|-----------|-------------|------------|------------|------------|------------|
| Mastery | -1.56*** | -1.19*** | -.20 | .04 | .16 | .24** | .22*** | .21* | .17 | .19* |
| Per-App | .27 | .00 | .06 | .24* | .15 | .12 | .13 | .05 | .20 | .01 |
| Perf-Avoid | -.25 | -.03 | .23 | -.15 | -.09 | -.03 | -.04 | .01 | -.15 | -.12 |
| Expectancy | .34 | -.10 | -.09 | .00 | .02 | -.00 | .00 | -.14* | .04 | .230** |
| Interest | -.61*** | -.44** | -.44** | -.02 | .03 | .03 | .08 | -.18 | -.04 | -.23** |
| Attainment | .22 | .39 | -.35 | .01 | -.22* | -.01 | -.14* | -.04 | -.10 | .04 |
| Utility | .48 | .25 | .57* | .08 | .04 | .04 | -.03 | .10 | -.01 | -.13 |
| Low Reg Class | | | | -1.04*** | -1.23*** | -.90*** | -.66*** | -.09 | -.28 | -.28 |
| Moderate-Low Reg Class | | | | .01 | -.03 | -.04 | -.22* | -.03 | -.26 | -.28* |
| Behavior Reg Class | | | | .26** | .40*** | .32*** | .09 | -.10 | .03 | .22* |

Table 35 Unstandardized Betas for Latent Classes Mediating the Relation between Motivation to Achievement in College Students' Least Favorite Classes

| | Low Reg Class | Moderate-Low Reg Class | Behavior Reg Class | Achievement |
|---------------------------|------------------|---------------------------|-----------------------|-------------|
| Mastery | -1.77*** | -1.20*** | -.28 | -.05 |
| Per-App | .10 | .01 | -.04 | .16 |
| Perf-Avoid | .02 | -.04 | .33 | -.10 |
| Expectancy | -.30 | -.12 | -.03 | 1.57*** |
| Interest | -.58* | -.39* | -.45* | .38* |
| Attainment | .03 | .27 | -.38 | .07 |
| Utility | .46 | .20 | .60* | -.40 |
| Low Reg Class | | | | -.69 |
| Moderate-Low Reg Class | | | | .37 |
| Behavior Reg Class | | | | .23 |

Figures

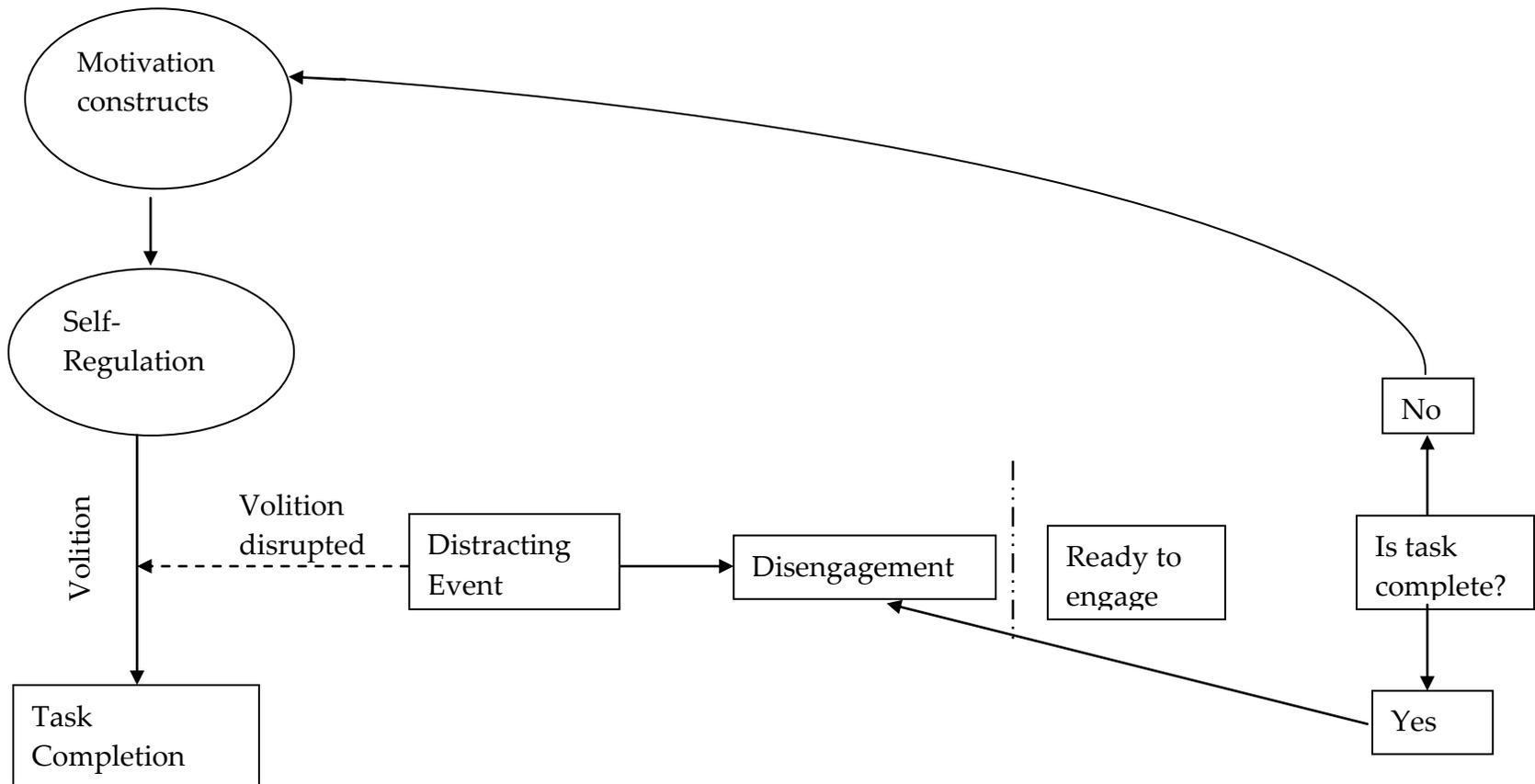


Figure 1. The Regulatory Capacities of Motivation Constructs (RCMC) Model

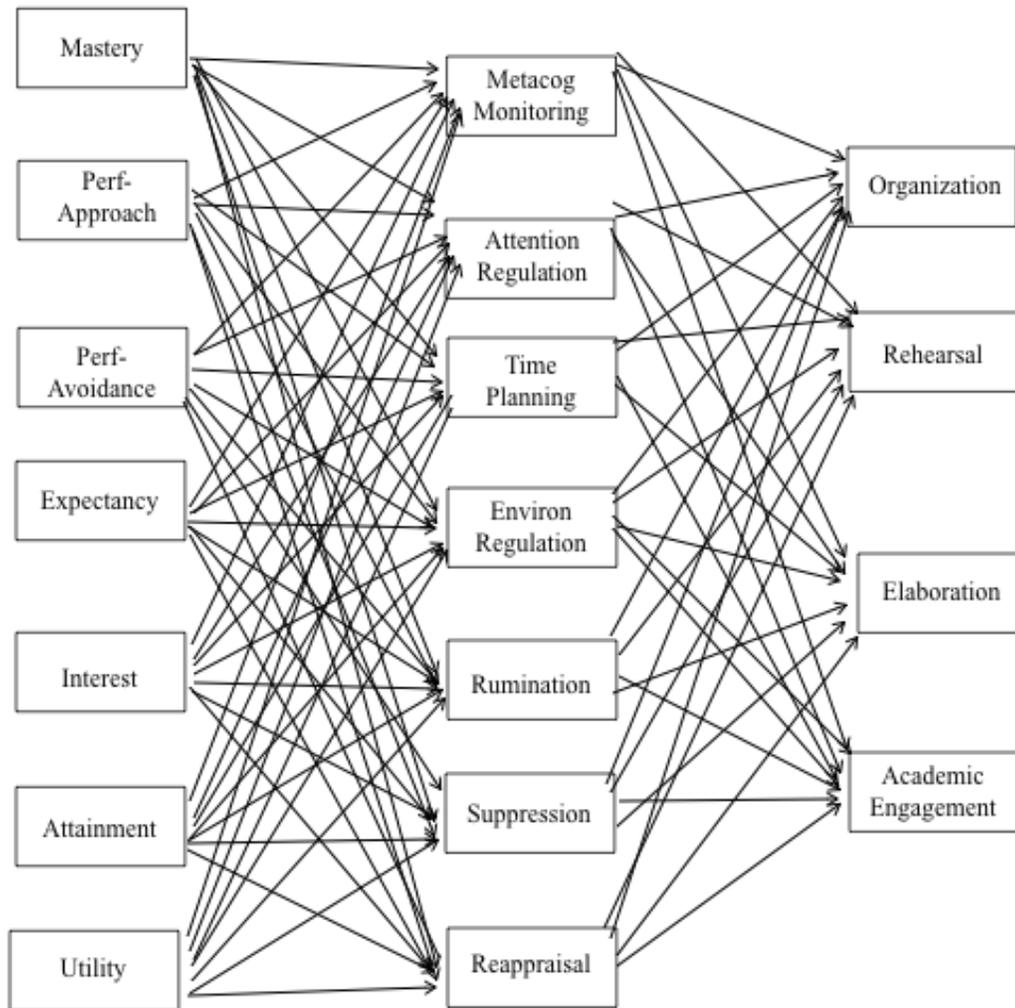


Figure 2. An Example of the Fully Saturated Variable-Centered Mediational Model

Note. Direct paths from each motivational construct to outcome were also included.

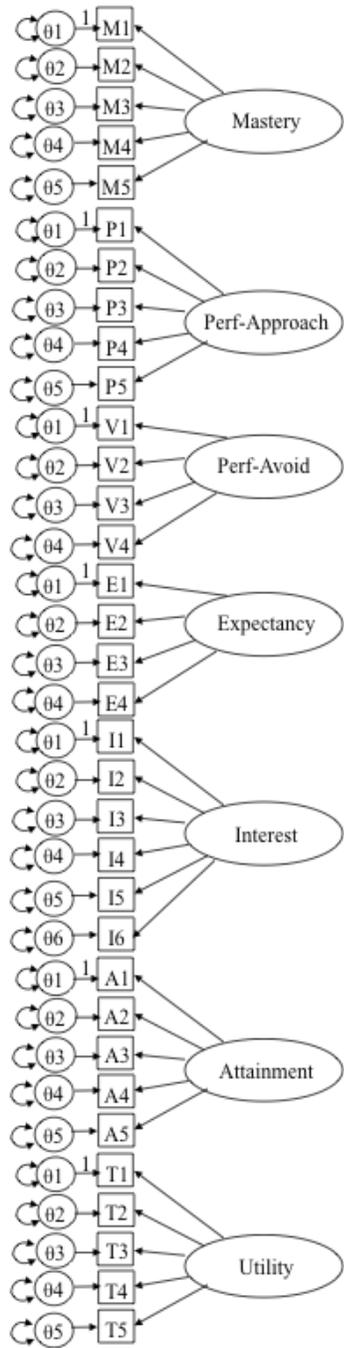


Figure 3. Measurement Model for Motivational Variables

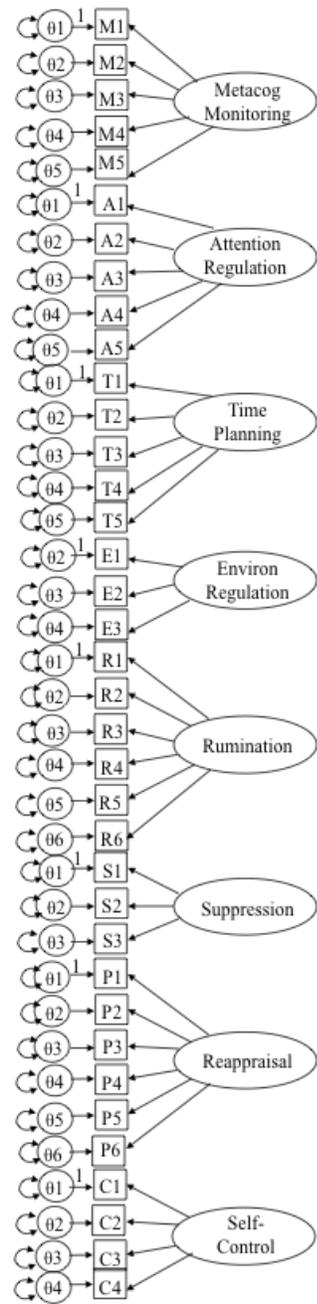


Figure 4. Measurement Model for Self-regulation Variables

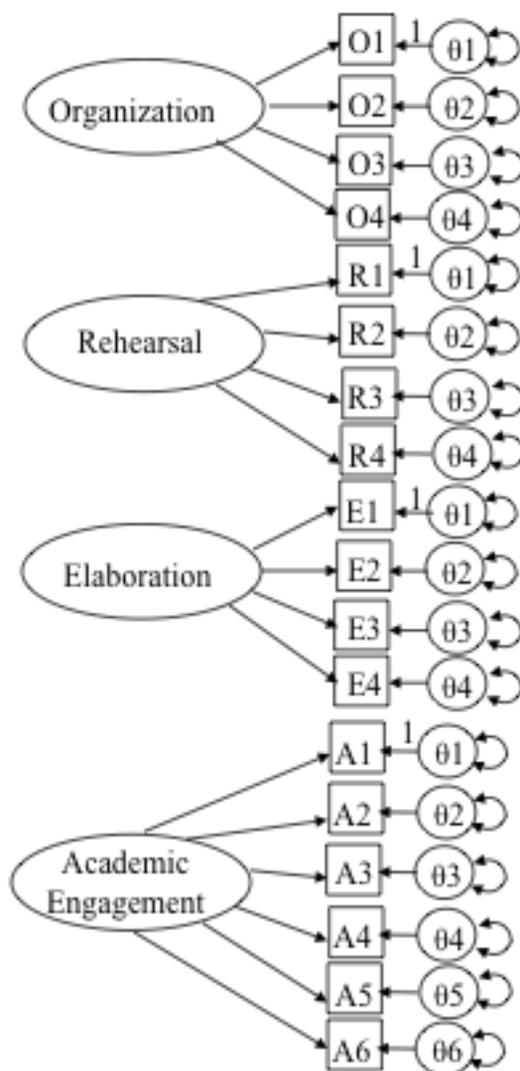


Figure 5. Measurement Model for Learning Processes Variables

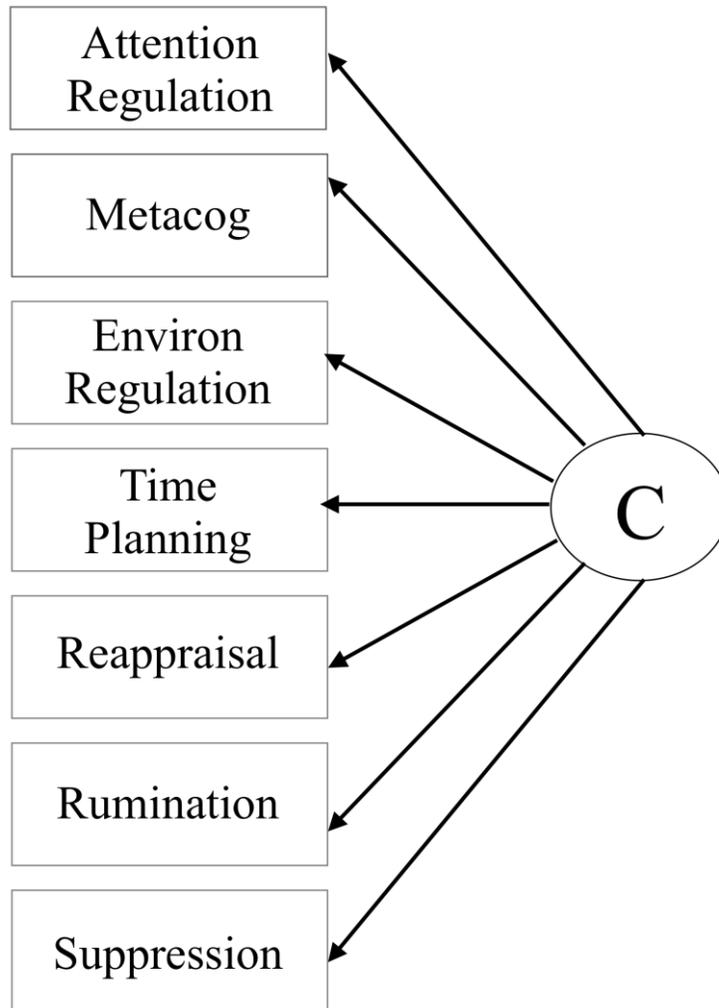


Figure 6. Latent Class Analysis Based on Cognitive, Behavioral, and Emotional Regulation

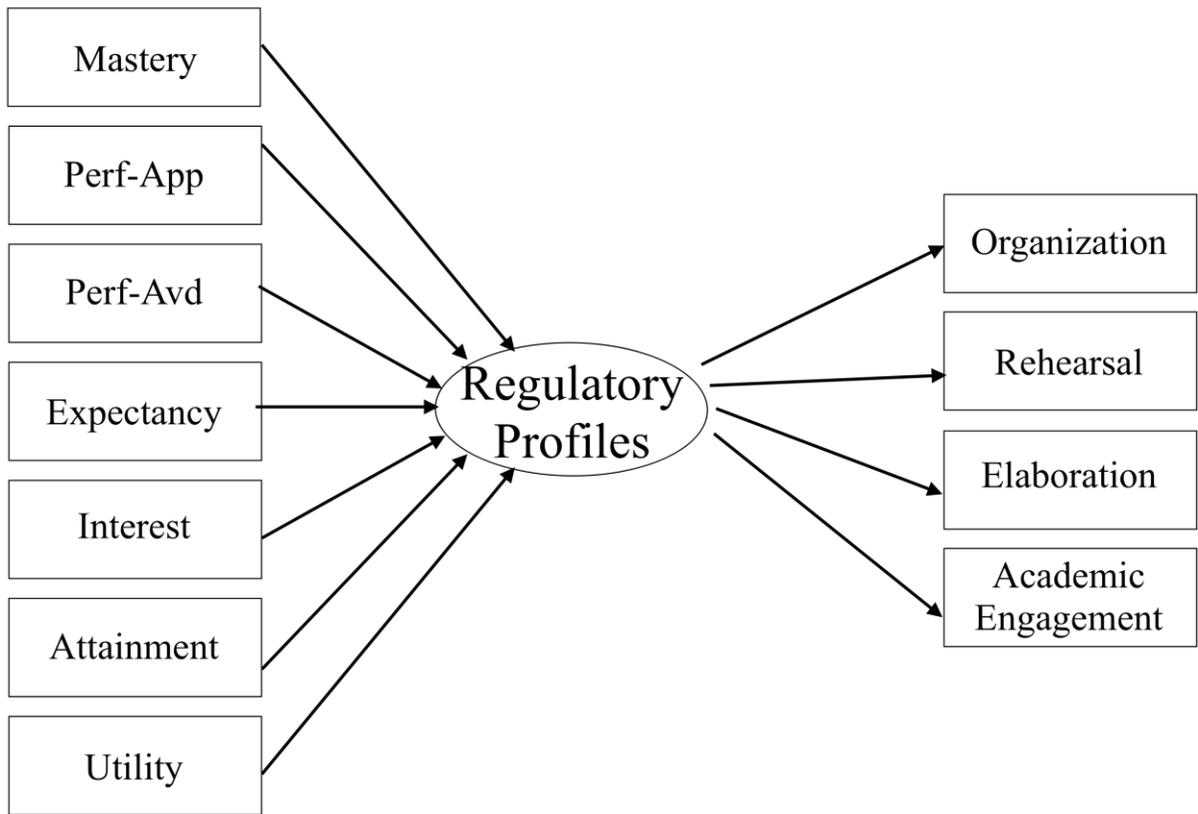


Figure 7. An Example of the Class Mediational Model

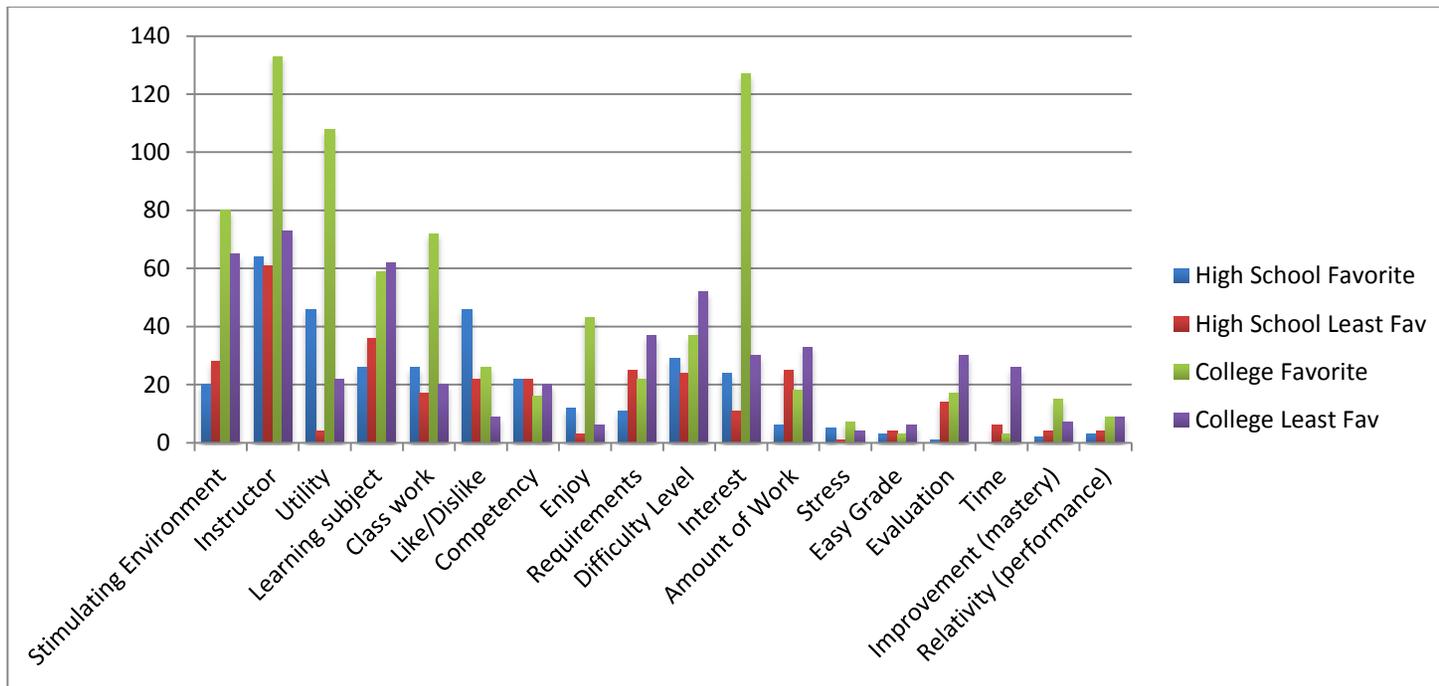


Figure 8. Reasons Why High School and College Students Chose a Class as Favorite or Least Favorite

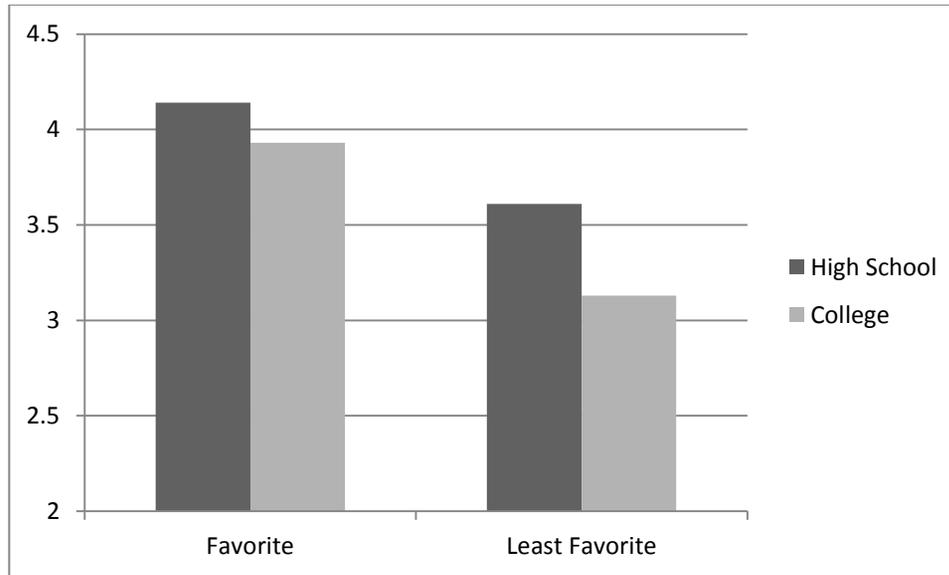


Figure 9. Expectancies in Favorite and Least Favorite Classes for High School and College Students

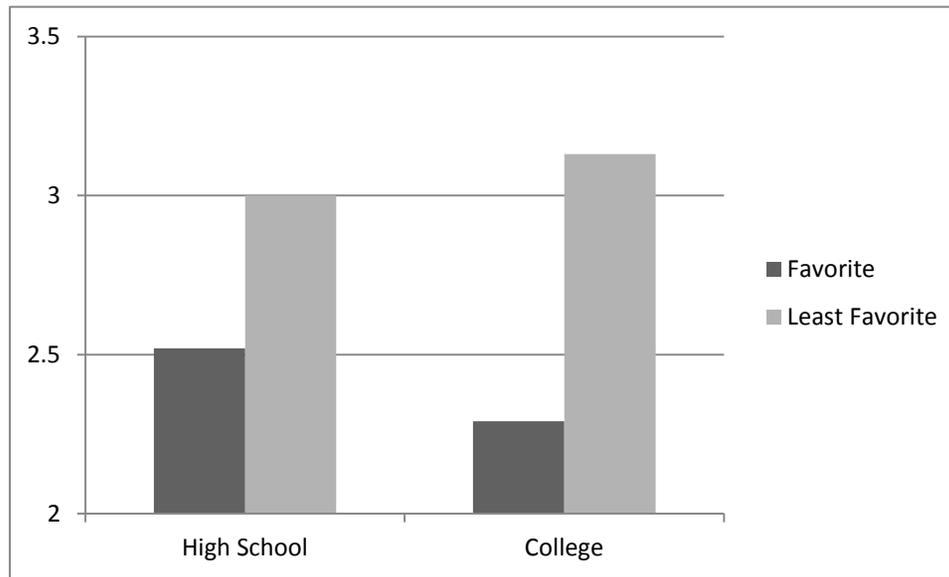


Figure 10. Rumination in Favorite and Least Favorite Classes for High School and College Students

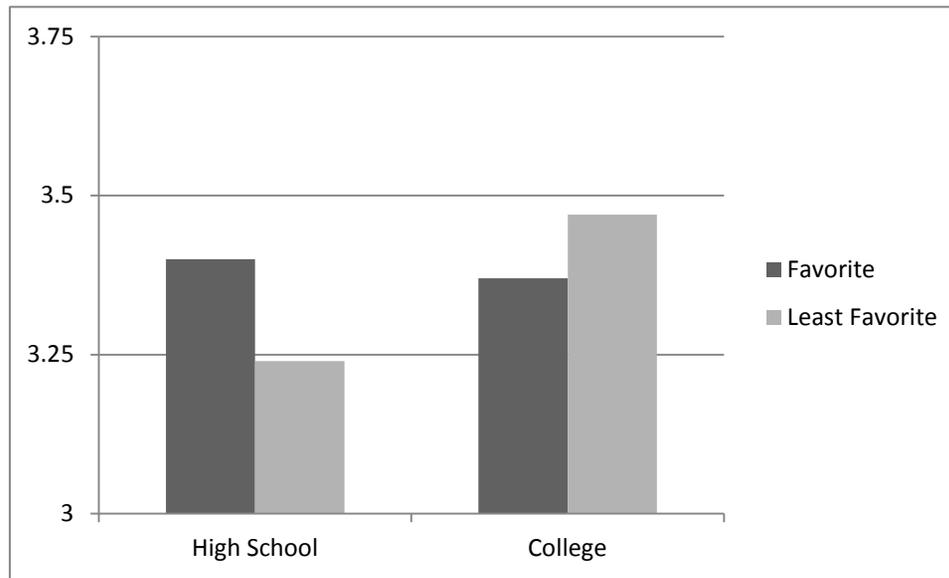


Figure 11. Suppression in Favorite and Least Favorite Classes for High School and College Students

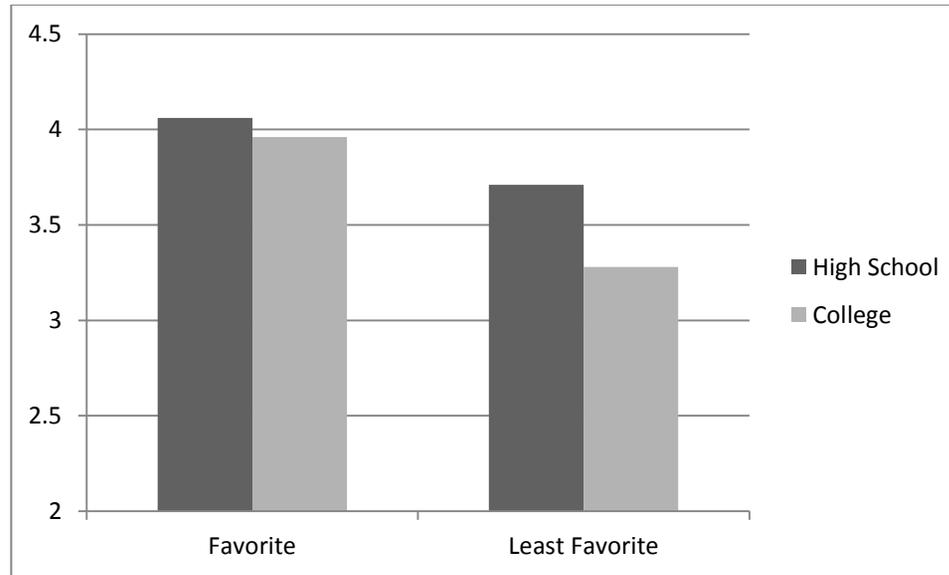


Figure 12. Engagement in Favorite and Least Favorite Classes for High School and College Students

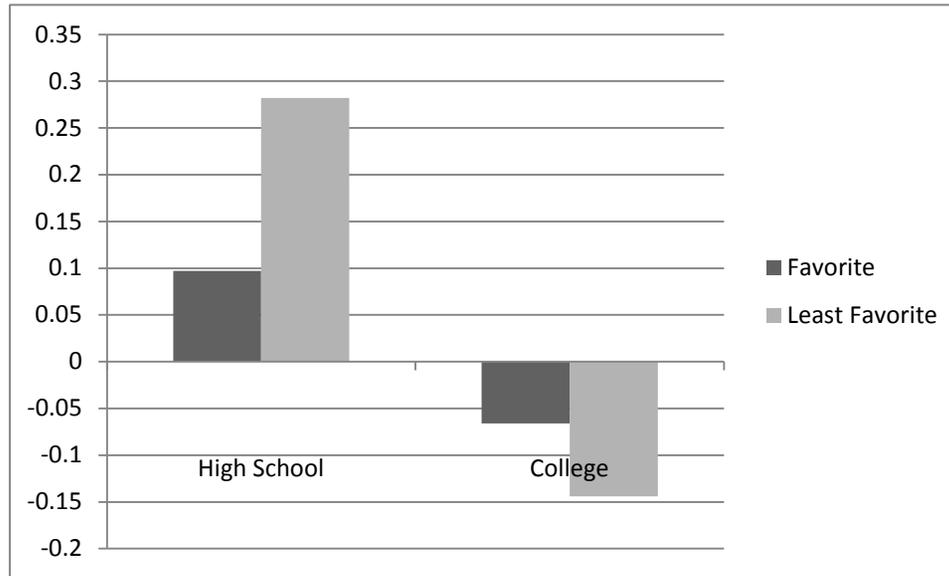


Figure 13. Reported Attendance in Favorite and Least Favorite Classes for High School and College Students

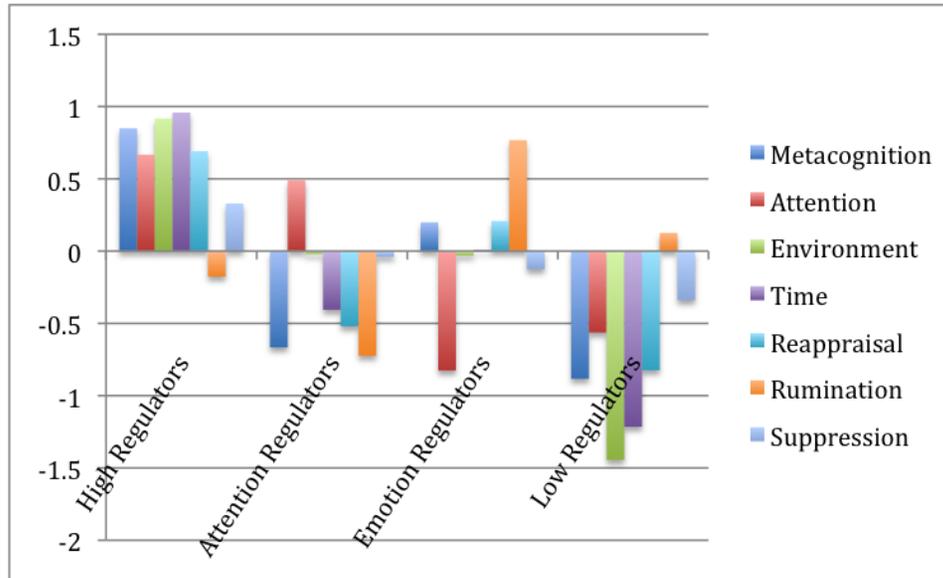


Figure 14. High School Favorite Class Groupings Based on Self-Regulation

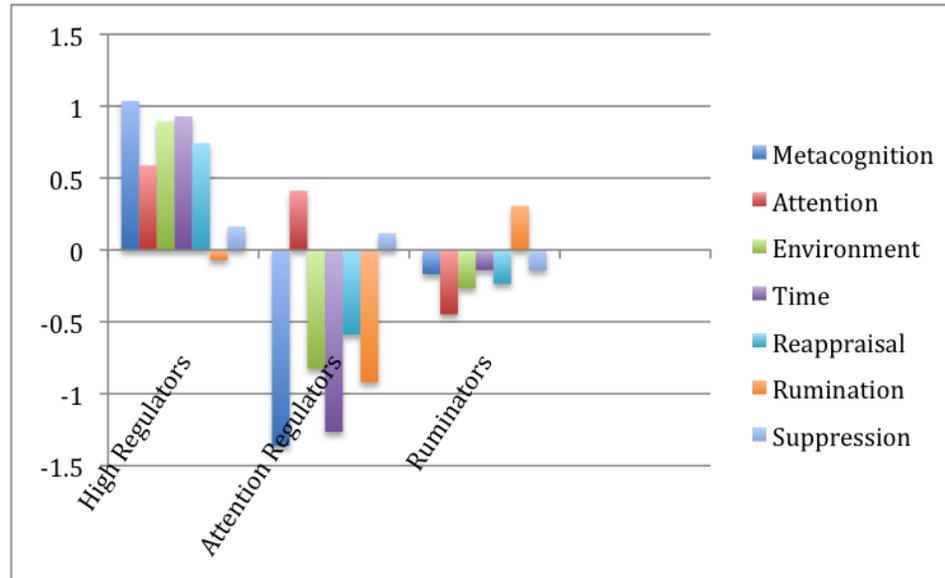


Figure 15. High School Least Favorite Class Groupings Based on Self-Regulation

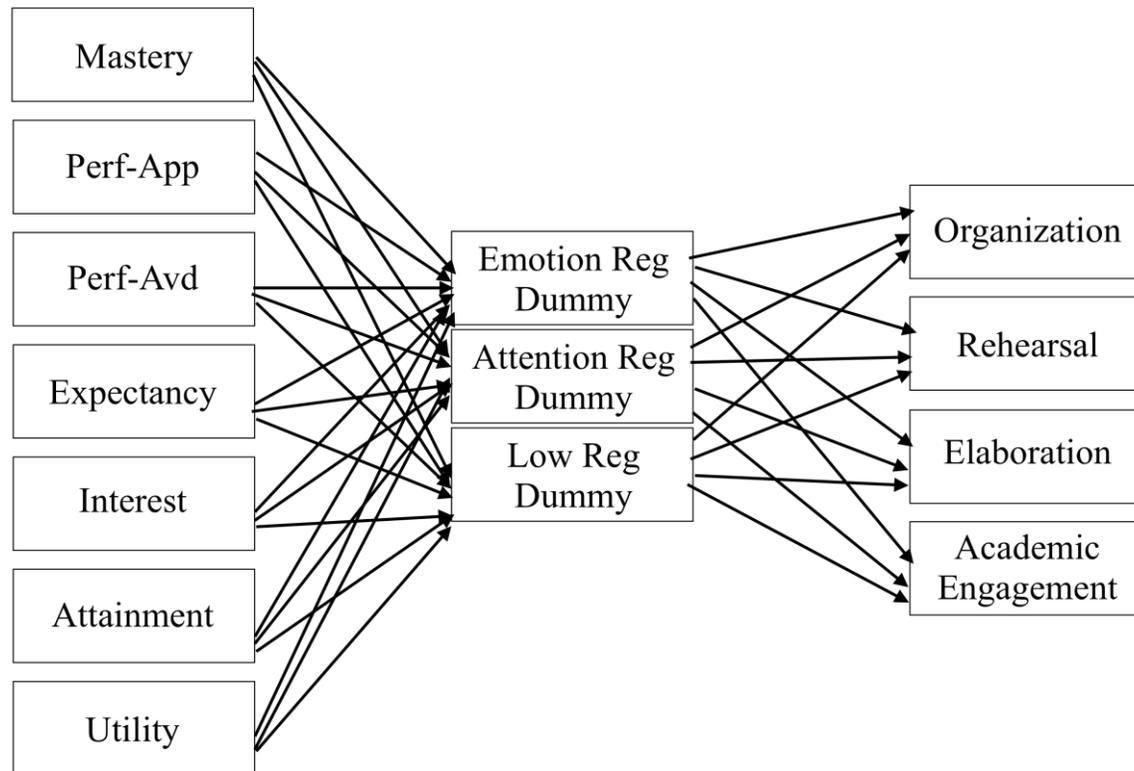


Figure 16. An Example of the Mediational Class Model Examined for High School and College Favorite and Least Favorite Class

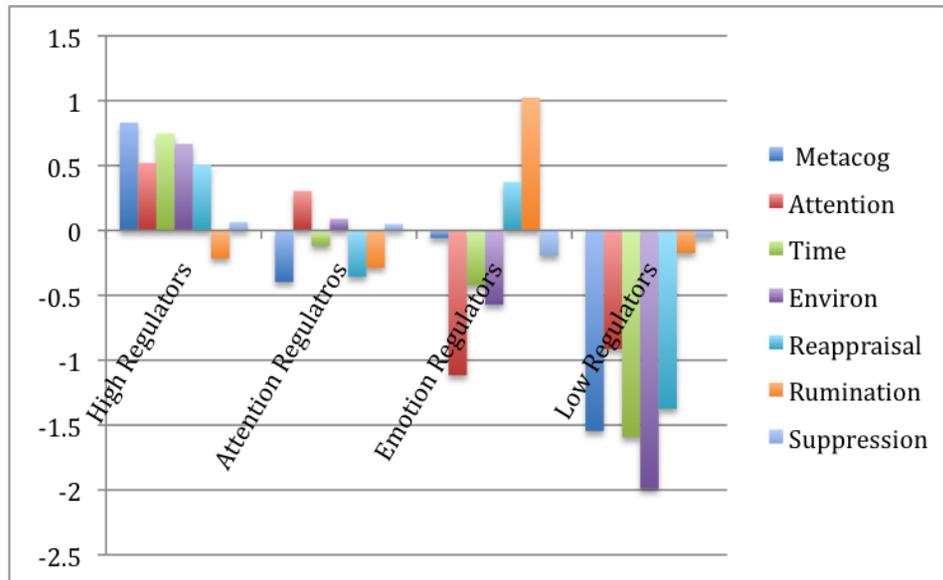


Figure 17. Self-Regulation Classes for College Favorite

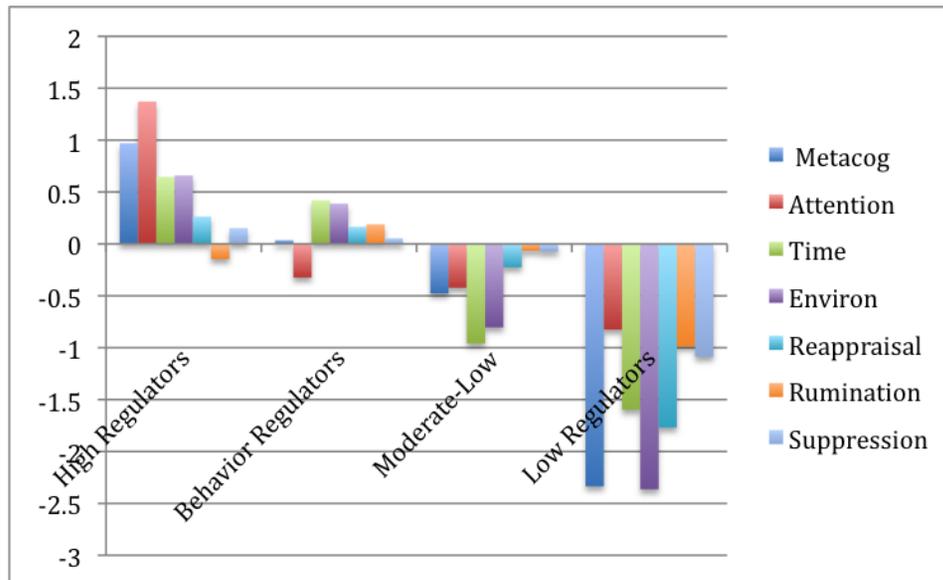


Figure 18. Self-Regulation Classes Least Favorite College

Appendix A – Scale items for motivation, self-regulation, and learning processes scales.

Motivation

Mastery Goal orientations:

1. It's important to me that I learn a lot of new academic concepts (ideas or knowledge) in class.
2. One of my goals in class is to learn as much as I can.
3. One of my goals is to master (or learn) a lot of new academic skills in class.
4. It's important to me that I thoroughly understand my class work in (favorite/least favorite).
5. It's important to me that I improve my academic skills in class.

Performance-Approach Goal Orientations:

1. It's important to me that other students think I am good at (favorite/least favorite).
2. One of my goals is to show others that I'm good at (favorite/least favorite).

3. One of my goals is to show others that (favorite/least favorite) class is easy for me.
4. One of my goals in (favorite/least favorite) is to look smart in comparison to other students.
5. It's important to me that I look smart compared to other students in (favorite/least favorite).

_ performance-avoidance goal orientations:

1. It's important to me that I don't look stupid in class.
2. One of my goals is to keep others from thinking I'm not smart in (favorite/least favorite).
3. It's important to me that my teachers don't think that I know less than others in (favorite/least favorite).
4. One of my goals in (favorite/least favorite) is to avoid looking like I have trouble doing the work.

Expectancies for success:

1. Compared to other students, how well do you think you will do in your (favorite/least favorite) class at the end of the course? (1= worse than other students, 3=about the same, 5= much better than other students).
2. How well do you think you will do in (favorite/least favorite) this term? (1=very poorly, 3=about the same, 5= very well).
3. If you were to order all the students in your (favorite/least favorite) class from worst to the best, where would you put yourself? (1= the worst, 3= in the middle, 5 = the best)
4. How have you been doing in (favorite/least favorite) this term? (1= very poorly, 3 = not poorly and not well, 5 = very well).

Interest/Intrinsic value:

1. I enjoy (favorite/least favorite).
2. I enjoy doing (favorite/least favorite).
3. (Favorite/least favorite) is exciting to me.
4. I am fascinated by (favorite/least favorite).
5. I like (favorite/least favorite).

6. In general, I find working on assignment in (favorite/least favorite) class...
(very boring, not boring and not interesting, very interesting).

Attainment value:

1. It is important for me to be a person who reasons or thinks like someone in the field of (favorite/least favorite).
2. Thinking in a (favorite/least favorite) perspective or point of view is an important part of who I am.
3. It is important for me to be someone who is good at solving problems that involve skills from (favorite/least favorite).
4. Being good in (favorite/least favorite) is an important part of who I am.

Utility value:

1. Concepts, ideas, or knowledge from (favorite/least favorite) are valuable because they will help me in the future.
2. Things I learn in (favorite/least favorite) will be useful for me later in life.
3. The content or information in (favorite/least favorite) is practical or useful for me to know.
4. (Favorite/least favorite) helps me in my daily life outside of school.

5. Being good in (favorite/least favorite) will be important for my future (like when I get a job).

Self-Regulation

Metacognitive Regulation:

1. When reading or studying for my (favorite/least favorite) class, I make up questions to help focus my reading or studying.
2. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.
3. If class materials are difficult to understand, I change the way I read or study the material.
4. I ask myself questions to make sure I understand the material I have been studying in (favorite/least favorite).
5. I try to change the way I study in order to fit the class requirements and teacher's teaching style.

Attention Regulation:

1. I have trouble concentrating in (favorite/least favorite) class. (Reverse coded)

2. During class time I often miss important points because I'm thinking of other things (like daydreaming). (Reverse coded)
3. I have a hard time concentrating in (favorite/least favorite) class. (Reverse coded)
4. I often lose track of what I am thinking about in (favorite/least favorite) class. (Reverse coded)
5. I have difficulty keeping my mind on school-related things in (favorite/least favorite) class. (Reverse coded)

Time Planning:

1. I set a plan for how to go about completing my assignments in (favorite/least favorite).
2. I have a plan for how to go about accomplishing work assigned in (favorite/least favorite).
3. I make lists for work that needs to be accomplished or finished in (favorite/least favorite).
4. I set time to work on my assignments for (favorite/least favorite) ahead of time.

5. I keep track of what remains to be done in (favorite/least favorite).

Environmental Regulation:

1. I usually study in a place where I can concentrate on my work in (favorite/least favorite).
2. I work in an area where I know that I can best concentrate and complete my work for (favorite/least favorite) class.
3. I go to study at a place where I know the noise level will not disrupt my work.

Reappraisal:

1. When I want to feel more positive emotion related to (favorite/least favorite) (such as joy or amusement), I change the way I'm thinking about the situation.
2. When I'm faced with a stressful situation related to (favorite/least favorite), I make myself think about it in a way that helps me stay calm.
3. I control my emotions by changing the way I think about the situation I'm in.

4. When I want to feel less negative emotion relate to (favorite/least favorite) (such as sadness or anger), I change the way I'm thinking about the situation.
5. When I want to feel more positive emotion related to (favorite/least favorite) (such as joy or amusement), I change what I'm thinking about.
6. When I want to feel less negative emotion related to (favorite/least favorite) (such as sadness or anger), I change what I'm thinking about.

Rumination:

1. I think "Why can't I get going?" to complete work for (favorite/least favorite).
2. I think "Why do I always react this way?" about tasks in (favorite/least favorite).
3. I think about a task in my (favorite/least favorite) class, wishing it had gone better.
4. I think "I won't be able to concentrate if I keep feeling this way about (favorite/least favorite).
5. I think "Why can't I handle things better in (favorite/least favorite) class?"

6. I think about all my shortcomings, failings, faults, mistakes related to
(favorite/least favorite).

Suppression:

1. I control my emotions by not expressing or showing them in
(favorite/least favorite) class.
2. When I am feeling negative emotions (such as sadness or anger), I make
sure not to express them in (favorite/least favorite) class.
3. I keep my emotions to myself in (favorite/least favorite) class.

Self-Control:

1. I say inappropriate things in (favorite/least favorite) class. (Reverse coded)
2. In my (favorite/least favorite) class I do certain things that are bad for me,
if they are fun. (Reverse coded)
3. Sometimes I can't stop myself from doing something in (favorite/least
favorite) class, even if I know it is wrong. (Reverse coded)
4. I often act without thinking everything through (like all the alternatives or
options). (Reverse coded).

Academic Outcomes

Organization:

1. When I study for (favorite/least favorite) class, I outline the material or readings to help me organize my thoughts.
2. I make simple charts, diagrams, or tables to help me organize the class material.
3. When I study for (favorite/least favorite) class, I go over my notes and make an outline of important concepts or idea.
4. When I study for (favorite/least favorite) class, I write brief summaries of the main ideas from the readings and the concepts from the lectures.

Rehearsal:

1. When I study for (favorite/least favorite), I practice saying the material to myself over and over.
2. When studying for (favorite/least favorite), I read my class notes and the course readings over and over again.
3. I memorize key words to remind me of important concepts or ideas in (favorite/least favorite).

4. I make lists of important terms, definitions, or information for (favorite/least favorite) and memorize the lists.

Elaboration:

1. When I study for (favorite/least favorite), I pull together information from different sources, such as class time (lectures or discussions) or readings.
2. I try to relate or connect ideas in this subject to those in other classes whenever possible.
3. When reading for (favorite/least favorite) class, I try to connect or relate the material to what I already know.
4. I try to understand the materials or information in (favorite/least favorite) class by making connections between the readings and the ideas or concepts in the lectures.

Academic Engagement:

1. I pay attention and try to follow what the teacher says in (favorite/least favorite) class.
2. I come to (favorite/least favorite) class unprepared (without completing assigned readings and assignments, etc.) (Reverse coded)

3. I participate in conversations and discussions that take place in (favorite/least favorite) class.
4. I often go through the motions in (favorite/least favorite) class, but I'm really not paying attention. (Reverse coded).
5. I spend time studying and preparing for (favorite/least favorite) class.
6. I skip (favorite/least favorite) class. (Reverse coded).
7. I try to apply or use ideas from class assignments or readings in other class activities such as lecture, discussion, or group work.

Achievement Scale:

13 = A+

12 = A

11 = A-

10 = B+

9 = B

8 = B-

7 = C+

6 = C

5 = C-

4 = D+

3 = D

2 = D-

1 = F

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Biography

Adar Ben-Eliyahu was born in Israel on April 1, 1977. Prior to attending Duke, Adar received a Master's in Experimental Psychology from Bar Ilan University, Israel in 2003, and her B.A. in Psychology and Art History from Tel Aviv University, Israel in 2001. Her first year as a Freshman Adar attended U.C. Berkeley. To date, Adar has published eight articles related to children's development and road use in a variety of journals including *Child Development*, *International Journal of Child Development*, *Social Behavior and Personality*, and *Journal of Safety Research*. She published her Master's thesis on the relationships among social cognition, peer acceptance, and social behavior in Israeli kindergarteners, in the *International Journal of Child Development*. Adar has also been the recipient of several scholarships, fellowships, and academic awards. Including completion of her Master's Degree in Experimental Psychology *Magna Cum Laude*. During her time at Duke, she received the Sulzberger-Levitan Fellowship and was a Spencer Foundation Education Research and Policy Scholar. Adar received the American Psychological Association- Division 15 Dissertation Research Award and the Aleane Webb Dissertation Award to assist in the funding of her dissertation.