Construct	Subconstruct (if applicable)	# of items		items			pulse checks			pulse checks						pulse checks				
					ch1				mid1 ch4						mid2 ch9					post
Expectancy	(pulse check)	1		I am confident in what I have learned so far in this course.		exp_pulse2	exp_pulse3	exp_pulse4		exp_pulse5		exp_pulse7				exp_pulse10		exp_pulse12	exp_pulse13	
Jtility Value	(pulse check)	1		I think what I have learned so far in this course is useful		uv_pulse2	uv_pulse3	uv_pulse4		uv_pulse5	uv_pulse6	uv_pulse7	uv_pulse8	uv_pulse9		uv_pulse10	uv_pulse11	uv_pulse12	uv_pulse13	
ntrinsic Value	(pulse check)	1		I think this class is interesting.		iv_pulse2	iv_pulse3	iv_pulse4		iv_pulse5	iv_pulse6	iv_pulse7	iv_pulse8	iv_pulse9		iv_pulse10	iv_pulse11	iv_pulse12	iv_pulse13	
Cost	(pulse check)	1		I am unable to put in the time needed to do well in this course.		cost_pulse2	cost_pulse3	cost_pulse4		cost_pulse5	cost_pulse6	5 cost_pulse7	cost_pulse8	cost_pulse9		cost_pulse10	cost_pulse11	cost_pulse12	cost_pulse13	
Expectancy		_	1	I am confident i can learn the material in this course.																exp1
		2	2	l expect to do well in this class.																exp2
Values	Utility Value (for Future)		1	What I'm going to learn in this class will be useful in the future (pre)/What I am learning in this class will be useful in the future (mid & post)																uv_f1
	Utility Value (for Job)		2	Good grades in this class will improve my job and career chances.																uv_j1
	Utility Value (for Daily Life)	5	3	What I'm going to learn in this class will be relevant to my everyday life (pre)/ What we learn in this class is relevant to my everyday life (mid/post)																uv_d
	Intrinsic value		4	I think this class will be interesting (pre) I think this class is interesting (mid/post)																iv1_
	Intrinsic value		5	I will like this class (pre) I like this class (mid/post)																iv2_
Cost			1	I think I will have to give up too much to do well in this class (pre); I have to give up too much to do well in this course (mid/post)																
		2	2	I think this course is going to be too stressful for me (pre); This course is too stressful for me (mid/post).																cost
Programming Sentiment		1	1	PRE: In this course, you will use r (a programming language) to analyze data. how do you feel about this? POST: In this class, you used R to analyze data. How do you feel about this now?																sent_p
			1	PRE: I think that learning R programming will be enjoyable. POST: I think that learning R programming is enjoyable.																r_joy
Programming		4	2	I welcome the possibility of having a job in the future that involves R programming.																r_jot
Anxiety		4	3	PRE: I believe that learning R programming will be difficult. POST: I believe that learning R programming is difficult.																r_diffic
			4	I am anxious/nervous about learning R programming.																r_an>
Confidence	Confidence in R	1	1	How confident are you in your R skills?																conf
Anxiety		1	1	In general, i tend to feel very anxious about mathematics.																anx_n
Course concerns		1	1	When I think about this course, I'm concerned that(write not at all if you so choose)																
Couse challenges		1	1	What, if anything, made it hard to succeed in this class?																obst
Behavioral intention	Future interest		1	I look forward to learning more about math, statistics, or data science.																fi
	Future interest	3	2	science classes in the future.																f2_
	Future interest		3	I would be interested in having a job someday that involves things like math, science, statistics, or data science.																
STEM Identity	STEM identity	1		I see myself as a statisics person.																identi
Belonging	Class belonging	2		I matter as a student in this class																blc1
	Class belonging		2	I belong in this class																blc2
Goal Orientation	Performance	_	1	To be honest, it is very important for me to do well compared to others in this class.																goal
	Mastery	2	2	Honestly, the most important thing for me in this class is to understand the content as thoroughly as possible.																

Course perceptions	Memorization	2	1	I expect that this course will require a lot of memorization (pre); This course required a lot of memorization (post)	mem_1							mem_4
	Deep Understanding		2	this course required deep thinking and understanding of concepts.								
Course advice		1	1	What advice would you give to future students who want to do well in this course?								
Student mindset	Math mindset	2	1	You can learn new things, but you can't really change your basic math ability (fixed math mindset - reverse code for growth mindset)			ms]_2		ms1_3			
beliefs	Math mindset		2	My math ability is something about me that I can't change very much (fixed math mindset - reverse code for growth mindset)	ms2_1		ms2_2		ms2_3			
	Instructor Value		1	My instructor demonstrates how what we are learning is useful.			tv1_2		tv1_3			
	Instructor Value		2	My instructor explains how what we are learning may be important.			tv2_2		tv2_3			
Perception of instructor	Instructor Mindset	4	3	My instructor seems to believe that students have a certain amount of intelligence, and they really can't do much to change it (reverse code)			im1_2					
	Instructor Mindset		4	My instructor seems to believe that students can learn new things, but they can't really change their basic intelligence (reverse code)			im2_2					