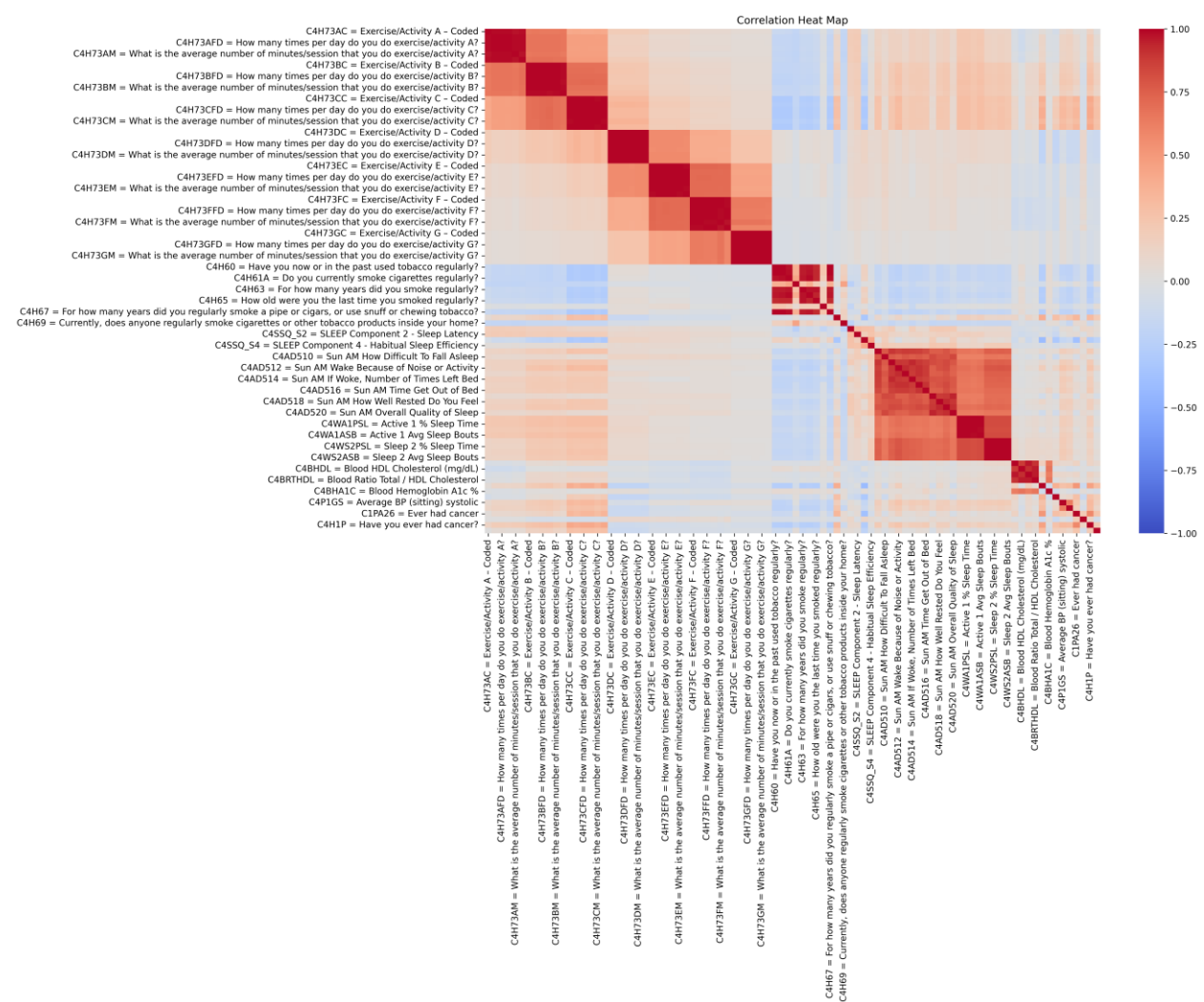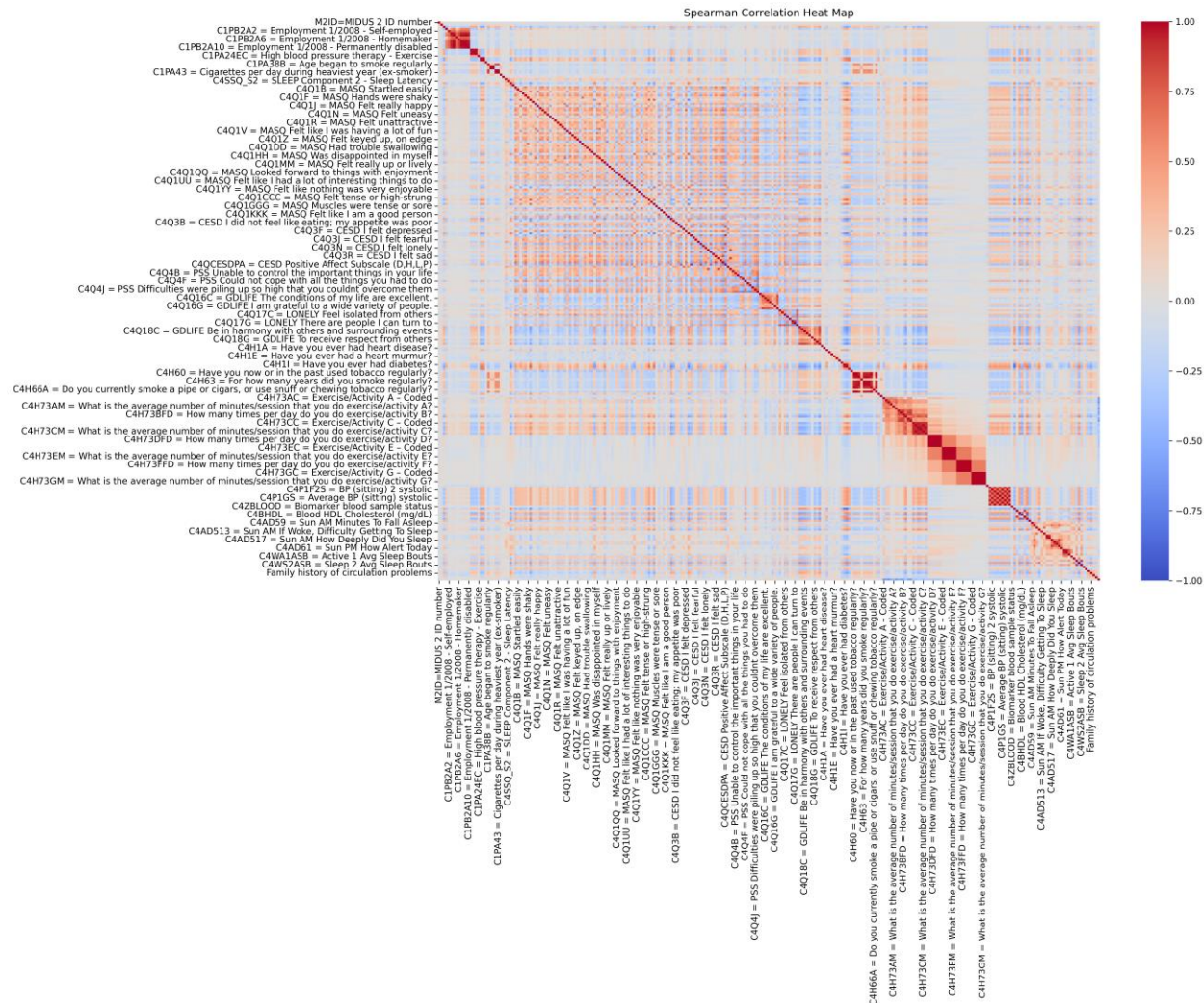# MIDUS- CVD, Cancer, Exercise- Cleaned Tables and Figures Only

Analysis of correlation between AHA Life essential 8 variables:

Pearson and Spearman Bivariate correlation analysis in females of AHA essential 8 variables -

Creation of refined total physical activity variable and analysis of correlation with other variables:

Spearman Correlation Heat Map

The top correlations between total_physical_activity variable and health belief model based variables are identified as -

Physical Activity Variable	Motivation Variable	Correlation	P-value
total_physical_activity	C4Q1AA = MASQ Felt like I had a lot of energy	0.239904	6.87E-160
total_physical_activity	C4AD510 = Sun AM How Difficult To Fall Asleep	-0.121652	1.32E-41
total_physical_activity	C4AD513 = Sun AM If Woke, Difficulty Getting T...	-0.105802	7.82E-32
total_physical_activity	C4Q4G = PSS Able to control irritations in you...	0.049153	5.25E-08
total_physical_activity	C4Q4G = PSS Able to control irritations in you...	0.049153	5.25E-08

total_physical_activity	C4Q4J = PSS Difficulties were piling up so hig...	-0.046543	2.56E-07
total_physical_activity	C4Q4I = PSS Angered because of things that wer...	-0.045355	5.12E-07
total_physical_activity	C4Q4D = PSS Confident about your ability to ha...	0.042646	2.34E-06
total_physical_activity	C4Q3C = CESD I felt that I could not shake off...	0.037613	3.13E-05
total_physical_activity	C4Q3C = CESD I felt that I could not shake off...	-0.03761	3.13E-05

Top correlations between physicial activity and theory of planned behavior variables:

Physical Activity Variable	TPB Variable	Correlation	P-value
total_physical_activity	C4Q1AA = MASQ Felt like I had a lot of energy	0.239904	6.87E-160
total_physical_activity	C4Q1WW = MASQ Felt like I had accomplished a lot	0.145632	4.83E-59
total_physical_activity	C4Q1UU = MASQ Felt like I had a lot of interes...	0.134419	1.72E-50
total_physical_activity	C4H62 = Since we last interviewed you, have yo...	0.133989	3.55E-50
total_physical_activity	C4Q1XX = - MASQ Felt like it took extra effort...	-0.116404	3.22E-38
total_physical_activity	C4Q1PP = MASQ Felt like I was choking	-0.11448	5.17E-37
total_physical_activity	C4AD513 = Sun AM If Woke, Difficulty Getting T...	-0.105802	7.82E-32
total_physical_activity	C4H1A = Have you ever had heart disease?	0.103726	1.18E-30
total_physical_activity	C4Q3B = CESD I did not feel like eating; my ap...	-0.095665	2.65E-26
total_physical_activity	C4Q1V = MASQ Felt like I was having a lot of fun	0.095215	4.52E-26

The significant correlations between TPB variables and total physical activity according to Theory of Planned Behavior model:

TPB Category	Variable	Correlation	P-value
Attitudes	C4Q16C = GDLIFE The conditions of my life are excellent	0.155025	0
Attitudes	C4Q16E = GDLIFE So far I have gotten the important things I want in l	0.134265	0
Attitudes	C4Q16F = GDLIFE I have so much in life to be thankful for	0.1213	0
Attitudes	C4Q16D = GDLIFE I am satisfied with my life	0.11998	0
Subjective Norms	C4Q18G = GDLIFE To receive respect from others	-0.09696	0
Attitudes	C4Q16B = GDLIFE In most ways my life is close to my ideal.	0.087914	0
Attitudes	C4Q16A = GDLIFE Compared to most of my peers, I consider myself	0.069221	0
Subjective Norms	C4Q18F = GDLIFE To receive sympathy from others	-0.05467	0
Perceived Behavioral	C4Q4G = PSS Able to control irritations in your life	0.049153	0
Perceived Behavioral	C4Q4H = PSS Felt that you were on top of things	0.043766	0
Perceived Behavioral	C4Q4D = PSS Confident about your ability to handle your personal p	0.042646	0
Perceived Behavioral	C4Q18D = GDLIFE Have the ability to make a good effort at somethin	0.020647	0.0223

Significant correlations between HBM variables and total physical activity according to Health Belief Model:

HBM Category	Variable	Correlation	P-Value
Perceived Severity	C4H1H = Have you ever had cholesterol problems?	0.130041	0
Cues to Action	C4H69 = Currently, does anyone regularly smoke cigarettes or other tobacco products inside your home?	0.127351	0
Perceived Severity	C4H1B = Have you ever had high blood pressure?	0.123167	0
Perceived Severity	C4H1I = Have you ever had diabetes?	0.118892	0
Perceived Severity	C4H1A = Have you ever had heart disease?	0.103726	0
Perceived Severity	C4H1C = Have you ever had circulation problems?	0.098071	0
Perceived Barriers	C4Q3G = CESD I felt that everything I did was an effort	-0.09459	0
Perceived Severity	C4H1D = Have you ever had blood clots?	0.082521	0
Perceived Severity	C4H1F = Have you ever had a TIA (mini-stroke) or stroke?	0.078772	0
Perceived Susceptibility	Family history of Alzheimer's	0.066705	0
Perceived Susceptibility	Family history of heart disease	0.066496	0

SDT Category	Variable		
Cues to Action	C4H68 = In the past, did anyone in your household smoke tobacco inside your home regularly?	0.05 3541	0
Self-Efficacy	C4Q4G = PSS Able to control irritations in your life	0.04 9153	0
Perceived Susceptibility	Family history of breast cancer	0.04 7292	0
Perceived Barriers	C4Q4J = PSS Difficulties were piling up so high that you couldnt overcome them	- 0.04 654	0
Perceived Severity	C4H1P = Have you ever had cancer?	0.04 5094	0
Self-Efficacy	C4Q4H = PSS Felt that you were on top of things	0.04 3766	0
Perceived Severity	C4H1G = Have you ever had anemia or other blood disease?	0.04 3304	0
Self-Efficacy	C4Q4D = PSS Confident about your ability to handle your personal problems	0.04 2646	0
Perceived Benefits	C1PA24EC = High blood pressure therapy - Exercise	- 0.04 119	0
Perceived Severity	C4H1E = Have you ever had a heart murmur?	- 0.03 592	0.00 01
Perceived Susceptibility	Family history of circulation problems	- 0.03 554	0.00 01
Perceived Susceptibility	Family history of high blood pressure	- 0.02 755	0.00 23
Perceived Susceptibility	Family history of stroke	0.02 4753	0.00 62
Perceived Severity	C4H1V = Have you ever had depression?	0.02 0929	0.02 05
Self-Efficacy	C4Q18D = GDLIFE Have the ability to make a good effort at something and stick to it	0.02 0647	0.02 23

Significant correlations between SDT variables and the total physical activity according to self-Determination theory:

SDT Category	Variable	Correlation	P-value
Intrinsic Motivation	C4Q1AA = MASQ Felt like I had a lot of energy	0.239904	0

Competence	C4Q1WW = MASQ Felt like I had accomplished a lot	0.145632	0
Intrinsic Motivation	C4Q1MM = MASQ Felt really up or lively	0.137642	0
Intrinsic Motivation	C4Q1UU = MASQ Felt like I had a lot of interesting things to do	0.134419	0
Competence	C4Q1O = MASQ Was proud of myself	0.115801	0
Extrinsic Motivation	C4Q18G = GDLIFE To receive respect from others	-0.096957	0
Intrinsic Motivation	C4Q1V = MASQ Felt like I was having a lot of fun	0.095215	0
Relatedness	C4Q17A = LONELY There is no one I can turn to	-0.078402	0
Extrinsic Motivation	C4Q18F = GDLIFE To receive sympathy from others	-0.054665	0
Autonomy	C4Q4G = PSS Able to control irritations in your life	0.049153	0
Relatedness	C4Q17B = LONELY No one really knows me well	-0.046269	0
Autonomy	C4Q4H = PSS Felt that you were on top of things	0.043766	0
Relatedness	C4QLONEL = UCLA Loneliness Scale	-0.043435	0
Competence	C4Q4D = PSS Confident about your ability to handle your personal problems	0.042646	0
Relatedness	C4Q17G = LONELY There are people I can turn to	0.042269	0
Competence	C4Q18D = GDLIFE Have the ability to make a good effort at something and stick to it	0.020647	0.0223
Relatedness	C4Q17D = LONELY There are people who really understand me	0.019535	0.0306

Significant correlations between social cognitive learning theory (SCLT) variables and total physical activity according to Social Cognitive Learning Theory:

SCLT Category	Variable	Correlation	P-value
Outcome Expectations	C4Q16C = GDLIFE The conditions of my life are excellent.	0.155025	9.40E-67
Outcome Expectations	C4Q16E = GDLIFE So far I have gotten the important things I want in life	0.134265	2.23E-50

Outcome Expectations	C4Q16D = GDLIFE I am satisfied with my life.	0.119 98	1.64 E-40
Goals	C4Q18H = GDLIFE To give something back to society	- 0.091 911	2.13 E-24
Outcome Expectations	C4Q16B = GDLIFE In most ways my life is close to my ideal.	0.087 914	1.89 E-22
Sociostructural Factors	B1PGENDER = Gender	- 0.060 113	2.77 E-11
Self-efficacy	C4Q4G = PSS Able to control irritations in your life	0.049 153	5.25 E-08
Self-efficacy	C4Q4H = PSS Felt that you were on top of things	0.043 766	1.26 E-06
Self-efficacy	C4Q4D = PSS Confident about your ability to handle your personal problems	0.042 646	2.34 E-06
Sociostructural Factors	C4H85 = Marital status changed - Current status	0.038 116	2.45 E-05
Sociostructural Factors	C1PB1=Highest level of education completed	0.034 251	1.50 E-04

Summary table that compares the strengths of correlations across all four models (HBM, TPB, SDT, and SCLT):

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Health Belief Model Summary:
                                 mean       min       max
HBM Category
Cues to Action             0.090446  0.053541  0.127351
Perceived Barriers        -0.070569 -0.094594 -0.046543
Perceived Benefits        -0.041192 -0.041192 -0.041192
Perceived Severity         0.073509 -0.035923  0.130041
Perceived Susceptibility   0.023693 -0.035540  0.066705
Self-Efficacy              0.039053  0.020647  0.049153

Theory of Planned Behavior Summary:
                                 mean       min       max
TPB Category
Attitudes                    0.114617  0.069221  0.155025
Perceived Behavioral Control 0.039053  0.020647  0.049153
Subjective Norms            -0.075811 -0.096957 -0.054665

Self-Determination Theory Summary:
                             mean       min       max
SDT Category
Autonomy               0.046460  0.043766  0.049153
Competence             0.081182  0.020647  0.145632
Extrinsic Motivation  -0.075811 -0.096957 -0.054665
Intrinsic Motivation   0.151795  0.095215  0.239904
Relatedness           -0.021260 -0.078402  0.042269

Social Cognitive Learning Theory Summary:
                               mean       min       max
SCLT Category
Goals                    -0.091911 -0.091911 -0.091911
Outcome Expectations      0.124296  0.087914  0.155025
Self-efficacy             0.045188  0.042646  0.049153
Sociostructural Factors   0.004085 -0.060113  0.038116
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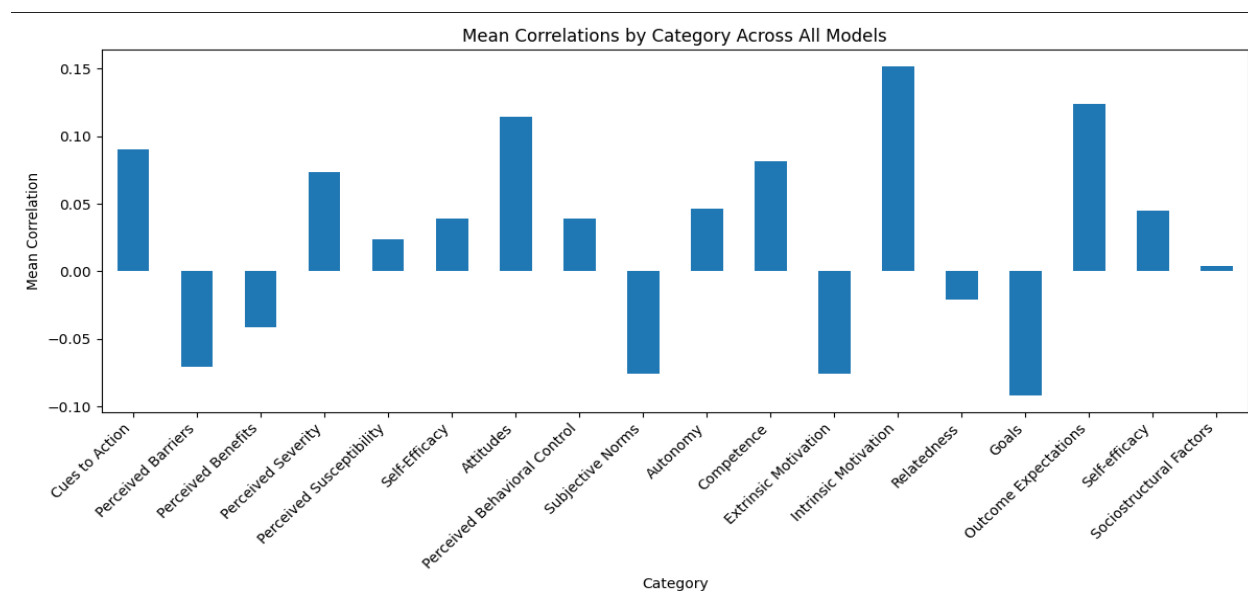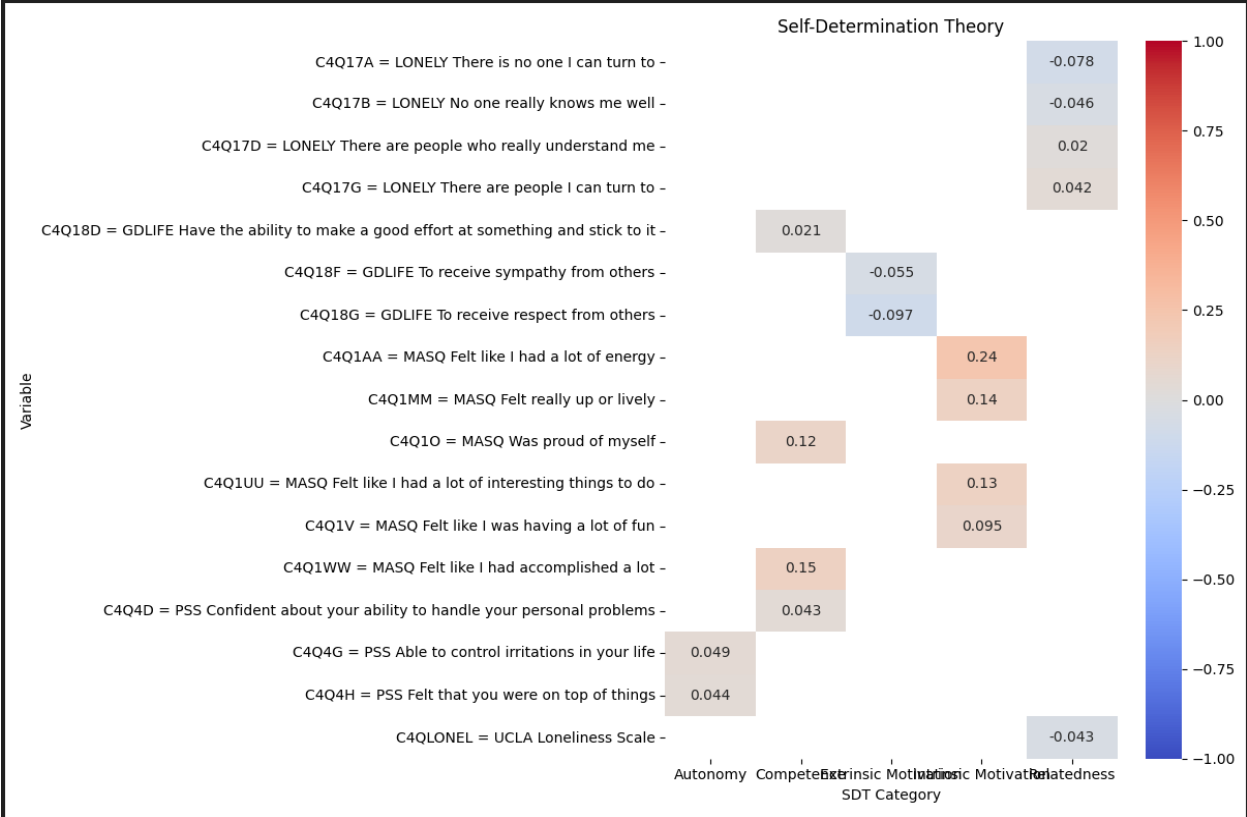
Mean correlation of variables across all the models:

Mean Correlations by Category Across All Models

Self determination theory variables correlation heatmap:

Self-Determination Theory

Health belief model variables correlation heatmap:

Health Belief Model

Theory of planned behavior variables correlation heatmap:

Theory of Planned Behavior
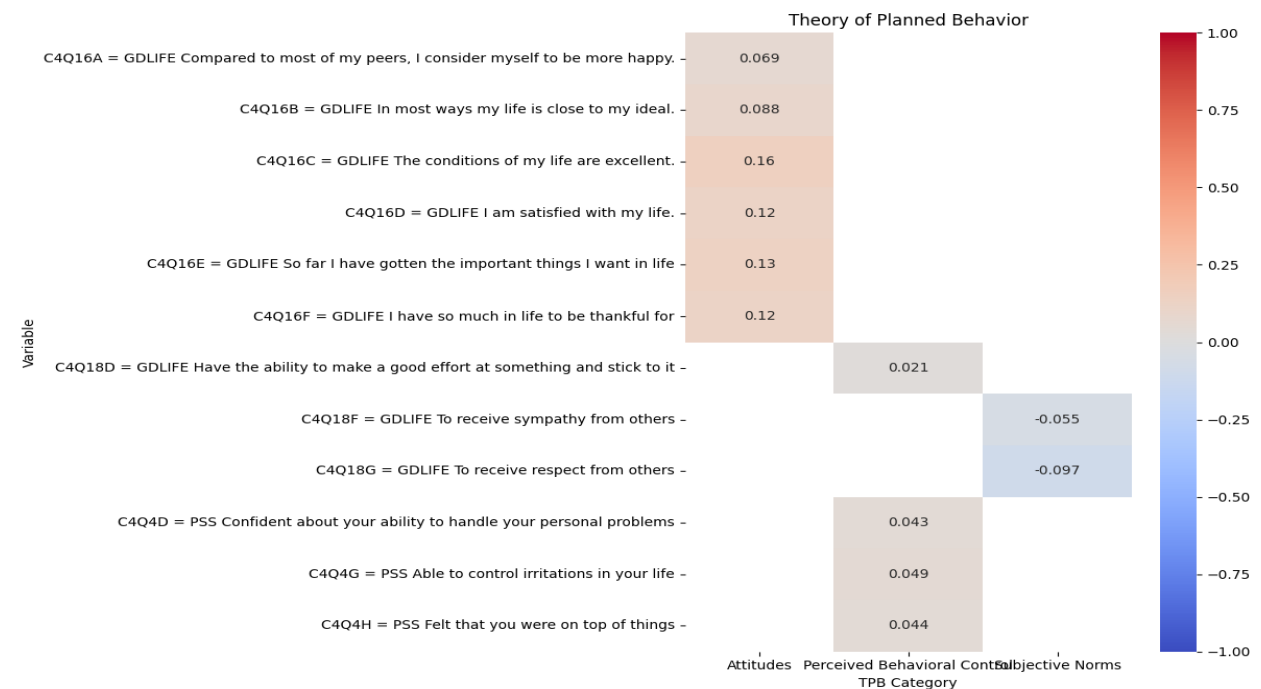
Social cognitive learning theory variables correlation heatmap:

Social Cognitive Learning Theory
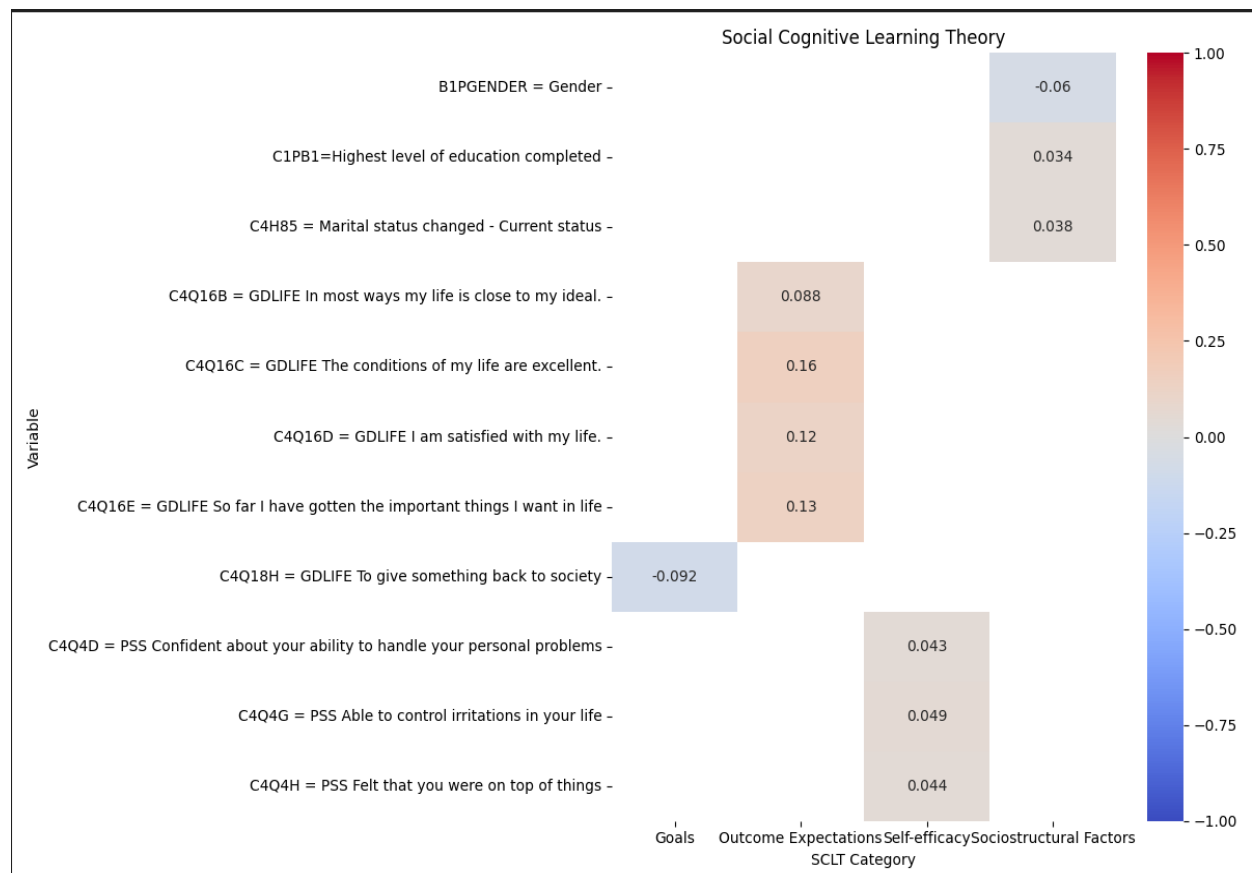
Binary coding people who have breast cancer and correlation analysis with theory variables, physical activity and CVD outcomes:

Correlation Differences (Breast Cancer - No Breast Cancer)