	GREV	GREQ	GREA	N-Ach	Anx	GPA	MA	Pre	
GREV	0.81								
GRE Q	0.72	0.64							
GRE A	0.54	0.48	0.72						
N-Ach	0.00	0.00	0.42	0.49					
ANX	0.00	0.00	-0.48	-0.56	0.64				
GPA	0.38	0.34	0.55	0.34	-0.39	0.49			
MA	0.32	0.29	0.47	0.29	-0.34	0.42	0.36		
Pre	0.27	0.24	0.39	0.25	-0.28	0.35	0.30	0.25	
Means	600	650	700	5	12	3	6	5	
Sigma	80	100	50	2	4	0.5	2	3	
1)	greatest reliability is			GREV					
2)	Lowest reliability is			PRElims					
3)	GRE Ad	and PRElims		0.39					
4)	z (hat) quant = z verbal * rvq =				.72 * (680-600)/80				
5)				=	0.72				
	Quant (hat) = z(hat) quant * sigma quant + mean quant								
				=	.72 * 100 + 650				
					722				
6)	r part =	(0.34-.38 * .72)/sqrt(1-.72*.72)							
	=	0.096							
	r partial =	(0.34-.38 * .72)/sqrt((1-.72*.72)*(1-.38^2))							
	r partial =	0.103							
7)	beta 1 =	(.32 - .29 * .72)/(1-.72*.72)					0.231		
	beta 2 =	(.29 - .32 * .72)/(1-.72*.72)					0.124		
	R square =	.23 * .32 + .12 * .29				=	0.108		
	R = sqrt(R square)						0.329		
8)	r = cov/sqrt(V1 * V2)								
		cov =	.32+.29			=	0.61		
		Var (V+Q) =		1+1+.72+.72		=	3.44		
		Var MA = 1							
	r =	0.61/SQRT(1*3.44)				=	0.329		

9)	unattenuated r = observed /(sqrt(rel 1 * rel 2)								
	unattenuated r		-0.39/SQRT(0.64*0.49)				-0.7		
10)	change in reliability								
		first find unattenuated, then re-attenuate							
		unattenuated r = observed /(sqrt(rel 1 * rel 2)							
		unattenuated r		=	.25/sqrt(.49*.25)			0.71	
		re-attenuated = unattenuated * sqrt(rel1 * rel 2)							
	new r =	.71 * sqrt(.81* .25)						0.32	
11)	regression of true score based upon observed score								
	estimated true (as z score)= reliability * observed score (z score)								
	z true hat = .64 * (750-650)/100						0.64		
	expected true =		z true * sigma +mean						
			.64 * 100 + 650				714		
12)	alpha =(k * average r)/(1+(k-1)*averge r)								
		average r = (.42 + .35 + .30)/3					0.357		
	alpha =						0.625		
	alpha = ((Vt - ∑vi)/Vt)*(k/k-1)								
		Vt =	3+2*(.42+.35+.30)				5.14		
		∑vi = 3							
		k = 3							
		alpha =	((5.14-3)/5.14)*(3/2)				0.625		
13)	r = cov/sqrt(var1 * var2)								
		cov =	1+ .42 + .35				1.77		
	r =	1.77/sqrt(5.14*1)					0.781		
14)	variance of composite = ∑item variances + 2∑item covariances								
	Vt =	3 + 2*(.72+.54+.48)					6.48		
15)	alpha	((6.48-3)/6.48)*(3/2)					0.806		

16)	r = cov/sqrt(var1 * var2)								
		cov =	0.38	0.34	0.55	=	3.25		
			0.32	0.29	0.47				
			0.27	0.24	0.39				
	var 1 =	1.00	0.72	0.54			6.48		
		0.72	1.00	0.48					
		0.54	0.48	1.00					
	var 2 =	1.00	0.42	0.35			5.14		
		0.42	1.00	0.30					
		0.35	0.30	1.00					
	r =	3.25/sqrt(6.48*5.14)					0.563		
17)	10 item test, all variances = 1, r bar = .15								
	variance = k + k*(k-1) * av covariance								
		10+90*0.15					23.5		
	alpha =	k * av r/(1+(k-1) av r)							
		10* .15/(1+(10-1)*.15)					0.638		
	alpha = ((Vt - ∑vi)/Vt)*(k/k-1)								
		((23.5 - 10)/23.5)*(10/9)					0.638		
18)	alpha =	k * av r/(1+(k-1) av r)							
		10* .2/(1+(10-1)*.2)					0.714		
	variance = k + k*(k-1) * av covariance								
		10+90*0.20					28		
	covariance with other test								
		10*10 * .1					10		
	correlation =		10/sqrt(28*23.5)				0.39		
	corrected for attenuation:								

			.39/sqrt(.714*.638)		0.578		