Quiz 7

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Question A

Hypothesis 1: It is hypothesized that there will be a positive relationship with a large effect size (according to Bosco et al.2015 standards) between self-esteem and academic performance.

Hypothesis 2: It is also hypothezied that there will be a negative relationship with a medium effect size (according to Bosco et al.2015 standards) between self esteem and quality of dating relationships.

Hypothesis 3: Lastly, it is hypothesized that there will be a positive relationship, with a small effect size (according to Bosco et al.2015 standards) between self-esteem and quality of relationships.

Question B

Analysis Plan A

To test Hypothesis 1 we will use a bivariate correlation to test the relationship between self-esteem and academic performance. The effect size in previous studies is considered to be large (Bosco et. al 2015) so therefore based on a traditional power analysis with an alpha=.05 and power=.80, the projected sample size needed for this study is approximately N=28.

To test Hypothesis 2 we will use a bivariate correlation to test the relationship between self-esteem and quality of dating relationships. The effect size in a previous study is considered to be medium (Bosco et. al 2015) so therefore based on a safeguard power analysis with an alpha=.05 and power=.80, the projected sample size needed for this study is approximately N=34.

To test Hypothesis 3 we will use a bivariate correlation to test the relationship between self-esteem and quality of friendships. There is no previous research therefore we will assume a medium effect size of .16 seems reasonable (Bosco et al. 2015). Based on no previous research and a traditional power analysis with an alpha=.05 and power=.80, the projected sample size needed for this study is approximately N=303.

Therefore overall when we conduct the study we will use an N=303 to ensure we have suitable power for all bivariate correlation analyses.

Question C

Analysis Plan B

To test Hypothesis 1 we will use a bivariate correlation to test the relationship between self-esteem and academic performance. The effect size in previous studies is considered to be large(R=.50) (Bosco et. al 2015) so therefore based on a traditional power analysis with a 95% CI of [0.21,0.70] which gives a width of .49, the projected sample size needed for this study is approximately N=37.

To test Hypothesis 2 we will use a bivariate correlation to test the relationship between self-esteem and quality of dating relationships. The effect size in a previous study is considered to be medium(r=-.30) (Bosco et. al 2015) so therefore based on a traditional power analysis with a 95% CI of [-0.65,-0.20] which gives a width of .46, the projected sample size needed for this study is approximately N=50.

To test Hypothesis 3 we will use a bivariate correlation to test the relationship between self-esteem and quality of friendships. There is no previous research therefore we will assume a medium effect size of .16 seems reasonable (Bosco et al. 2015). Based on no previous research the power analysis with a 95% CI of [0.8,0.24] which gives a width of .16, the projected sample size needed for this study is approximately N=600.

Overall in order to complete the analyses of all 3 hypotheses one would require that N=600.