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Just here for moral support: A path analysis of depression and social support networks

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Introduction

Social support has been shown to be associated with lower depression scores in a variety of populations. Using a series of questionnaires, Leahy-Warren, McCarthy, and Corcoran (2011) found significant negative relationships between functional social support and postnatal depression as well as between informal social support and postnatal depression. Grav et. al, (2011) conducted a similar study on the general population, and found that perceived support was significantly correlated to depression.

Research suggests that there are gender differences in the relationship between social support and depression. Utilizing data from the Longitudinal Aging Study Amsterdam, Sonnenberg et. al, (2013) found a lack of partner in the household and a small network predicted depression in males but not in females.

There is evidence that certain types of social support changes throughout adulthood. A meta-analysis conducted by Wrzus et. al, (2013) revealed that friendship networks decrease throughout adulthood, but that family networks remained consistent.

Anxiety has been shown to be negatively correlated to certain types of social support. Using data from the Collaborative Psychiatric Epidemiology Surveys, Priest, (2012) found that, for both single and married participants, relative and friend relationship quality was associated with several different anxiety disorders.

The current study aims to empirically understand depression, anxiety and social support using a path analysis. A full and trimmed path model able to predict Depression was constructed using Gender, Age, Marital Status, Trait Anxiety, Friend Social Support, Significant Other Social Support, Family Social Support, State Anxiety, Loneliness, and Stress as predictors.

Methods

Participants included college aged and adult individuals recruited from two large Midwestern Universities and three large Midwestern Community Colleges via fliers posted outside of Introductory Psychology classrooms. 650 persons interested in the study were mailed a set of self-report questionnaires, including the Beck Depression Inventory to assess depression. 363 of these individuals (169 male) responded and were used in the analysis. A full path model for Depression was created using Gender, Age, Marital Status Trait Anxiety, Friend Social Support, Significant Other Social Support, Family Social Support, State Anxiety, and Stress as predictors. Regression analyses were performed for each possible criterion and predictor combination amongst the aforementioned variables. Then all non-significant paths were removed from the full model to create a trimmed model version.

Table 3: Model Comparison

Fit of Full Model	Fit of Trimmed Model	N	d	Q	W	p
0.960	0.957	363	20	0.927	26.038	0.165

References

Grav, S., Hellzèn, O., Romild, U., & Stordal, E. (2011) Association between social support and depression in the general population: the HUNT study, a cross-sectional survey. Journal of Clinical Nursing 21(1-2), 111-120.

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Sonnenberg, C. M., Deeg, D. J. H., van Tilburg, T. G., Vink, D., Stek, M. L., & Beekman, A. T. F. (2013) Gender differences in the relation between depression and social support in later life. International Psychogeriatrics 25(1), 61-70.

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Results

Full Model

The full model had a fit of 0.960. (See Table 1.) Gender, Trait Anxiety, Loneliness, and Stress were direct predictors of depression. The indirect predictors of depression included Gender, Age, Marital Status, Trait Anxiety, Friend Social Support, Significant Other Social Support, Family Social Support, and State Anxiety. (See Figure 1.)

Trimmed Model

The trimmed model had a fit of 0.957. (See Table 2.) Trait Anxiety, Loneliness, and Stress were direct predictors of depression. The indirect predictors of depression included Gender, Age, Marital Status, Trait Anxiety, Friend Social Support, Significant Other Social Support, Family Social Support and State Anxiety. (See Figure 2.)

Model Comparison

A total of 20 nonsignificant paths from the full model were removed to create the reduced model. There was not a significant difference between the fit of the full model (0.960) and the fit of the trimmed model (0.957), Q=0.927, W=26.038, p=0.165. (See Table 3.) So, removing the paths did not reduce the fit of the model.

Figure 1: Full Model

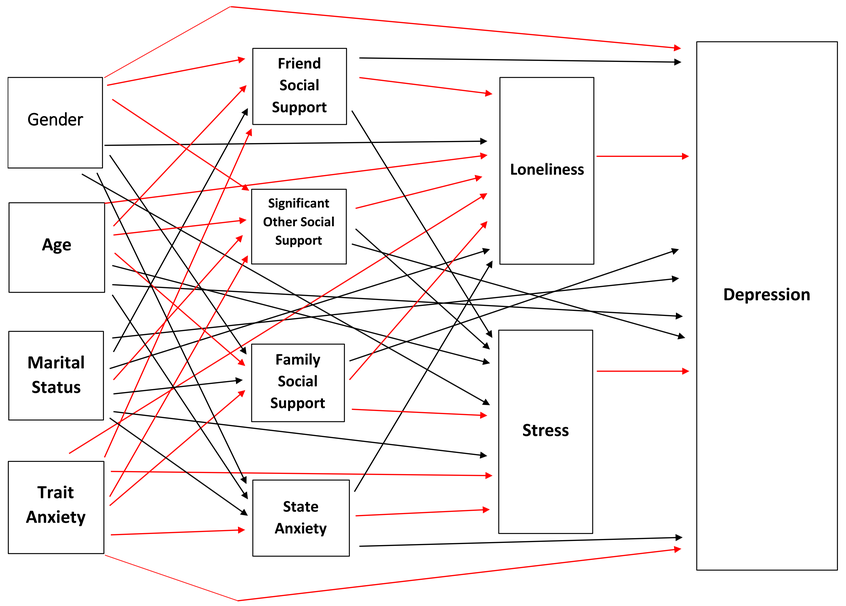
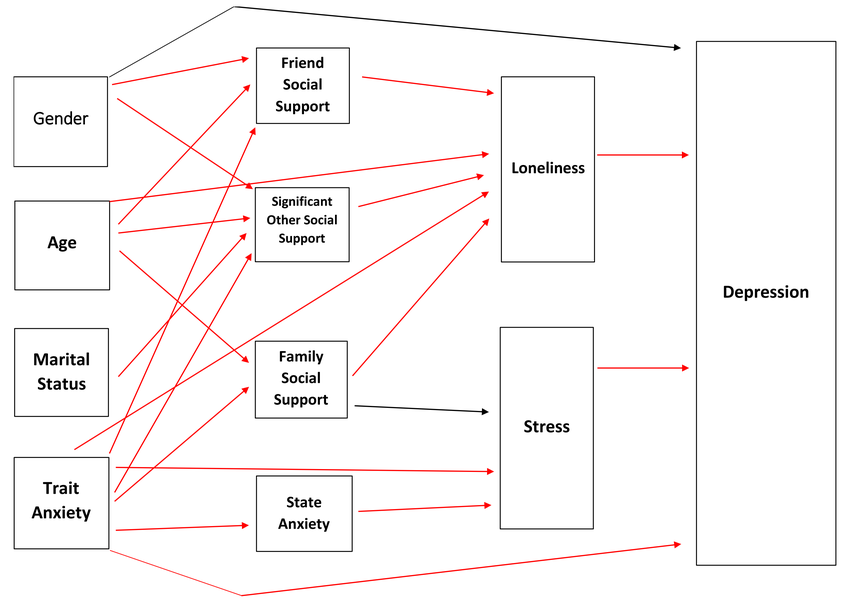


Figure 2: Trimmed Model



Red Arrow = Significant

Discussion

Twenty nonsignificant paths were dropped from the full model to create the trimmed model. However, all the predictor variables in the full model were either a direct or indirect statistically significant predictor of Depression, so none of the predictor variables were eliminated in the trimmed model. The trimmed model did not have a significantly different fit from the full model.

In future studies, it would be interesting to look at the fit of the model for different populations. Such as, seeing if the model works equally well for those in different socio-economic classes, or different ethnic backgrounds, or different sexual orientations. It would also be interesting to create a similar study in a more structured lab environment. For example, exposing participants to unpleasant video stimuli, then controlling the social support they receive afterwards by having them interact with a confederate. A study such as this with more internal validity paired with the current study, which has more external validity, would help provide a better overall understanding of the relationships involved.

Table 1: Full Model

Criterion	Friend Social Support (FRSS) R² for the model = 0.166 error associated with FRSS = 0.913				Significant Other Social Support (SOSS) R² for the model = 0.181 error associated with SOSS = 0.905				Family Social Support (FASS) R² for the model = 0.131 error associated with FASS = 0.932				State Anxiety R² for the model = 0.587 error associated with State Anx = 0.643			
Predictor	Gender	Age	Marital	Trait Anx	Gender	Age	Marital	Trait Anx	Gender	Age	Marital	Trait Anx	Gender	Age	Marital	Trait Anx
β	*0.18	*-0.239	-0.084	*-0.288	*0.156	*-0.406	*0.416	*-0.271	0.003	*-0.244	0.133	*-0.334	-0.029	-0.065	0.055	*0.766
p	<0.001	0.002	0.284	<0.001	0.001	<0.001	<0.001	<0.001	0.955	0.002	0.097	<0.001	0.391	0.237	0.318	<0.001

Criterion	Loneliness R² for the model = 0.545 error associated with Loneliness = 0.675								Stress R² for the model = 0.230 error associated with Stress = 0.877							
Predictor	Gender	Age	Marital	Trait Anx	FRSS	SOSS	FASS	State Anx	Gender	Age	Marital	Trait Anx	FSS	SOSS	FASS	State Anx
β	-0.001	*0.216	-0.011	*0.376	*-0.236	*-0.147	*-0.112	0.085	0.027	-0.115	-0.008	*0.176	0.031	0.061	*-0.125	*0.272
p	0.974	<0.001	0.857	<0.001	<0.001	0.006	0.02	0.131	0.581	0.142	0.926	0.018	0.637	0.377	0.044	<0.001

Criterion	Depression R² for the model = 0.539 error associated with Depression = 0.679									
Predictor	Gender	Age	Marital	Trait Anx	FRSS	SOSS	FASS	State Anx	Loneliness	Stress
β	*0.080	-0.055	-0.045	*0.358	-0.092	0.038	0.000	0.069	*0.219	*0.232
p	0.035	0.373	0.479	<0.001	0.083	0.486	0.995	0.233	<0.001	<0.001

* = Significant

Table 2: Trimmed Model

Criterion	Friend Social Support (FRSS) R² for the model = 0.163 error associated with FRSS = 0.915			Significant Other Social Support (SOSS) R² for the model = 0.181 error associated with SOSS = 0.905				Family Social Support (FASS) R² for the model = 0.124 error associated with FASS = 0.936		State Anxiety R² for the model = 0.584 error associated with State Anx = 0.645
Predictor	Gender	Age	Trait Anx	Gender	Age	Marital	Trait Anx	Age	Trait Anx	Trait Anx
β	*0.178	*-0.303	*-0.281	*0.156	*-0.406	*0.416	*-0.271	*-0.141	*-0.345	*0.764
p	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.005	<0.001	<0.001

Criterion	Loneliness R² for the model = 0.542 error associated with Loneliness = 0.677					Stress R² for the model = 0.209 error associated with Stress = 0.889		
Predictor	Age	Trait Anx	FRSS	SOSS	FASS	Trait Anx	FASS	State Anx
β	*0.202	*0.439	*-0.244	*-0.150	*-0.111	*0.194	-0.058	*0.269
p	<0.001	<0.001	<0.001	0.003	0.019	0.009	0.246	<0.001

Criterion	Depression R² for the model = 0.528 error associated with Depression = 0.687			
Predictor	Gender	Trait Anx	Loneliness	Stress
β	0.059	*0.427	*0.224	*0.252
p	0.107	<0.001	<0.001	<0.001

* = Significant