Loneliness in College Students
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The Problem:
"Felt very lonely" 60%
"Felt so depressed it was difficult to function" 31%
"Seriously considered suicide" 7%

Hypothesis: Activities that encourage direct collaboration & student interaction (such as study groups, club involvement, work on campus, etc.) will decrease student loneliness.

The Objective:
Question: Which personal, academic, and social factors affect loneliness in college students?

Loneliness scale: Developed by Dr. Dan Russell

The Study:
- 1,376 survey responses
- Survey originally sent via email to 10,000 random ISU undergraduates

Questions regarding:
- Demographics
- Living arrangement
- Study habits
- Group work
- Involvement on campus
- Social media use
- UCLA Loneliness Scale

The Data:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Coef</th>
<th>Std Err</th>
<th>t</th>
<th>P &gt;</th>
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<th>I</th>
<th>I</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>1.14</td>
<td>.583</td>
<td>1.97</td>
<td>0.049</td>
<td></td>
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<tr>
<td>Inperson</td>
<td>1.42</td>
<td>.628</td>
<td>2.29</td>
<td>0.022</td>
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<td></td>
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<tr>
<td>Gaming</td>
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<td>.838</td>
<td>4.15</td>
<td>0.000</td>
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<tr>
<td>Clubs</td>
<td>-2.39</td>
<td>.831</td>
<td>2.88</td>
<td>0.004</td>
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<td></td>
<td></td>
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<tr>
<td>Friends</td>
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<td>.497</td>
<td>5.04</td>
<td>0.000</td>
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<td>Study group</td>
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<td>.455</td>
<td>2.66</td>
<td>0.008</td>
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</tbody>
</table>

Questions regarding:
- Social media use
- Involvement on campus
- Study habits
- Living arrangement
- Demographics

Results:

Increase Loneliness:
- Spending 11+ hrs./wk. gaming (3.47)
- Constantly using social media (1.44)
- Gaming online, not in person (1.14)

Decrease Loneliness:
- Having several friends in dorm/apart (2.51)
- Being involved in clubs on campus (2.39)
- Having a regular study group (1.21)

Models:

$$\Omega: \beta_3^*+\beta_4^*socialmedia+\beta_5^*online+\beta_6^*inperson+\beta_7^*gaming+\beta_8^*job$$

$$+\beta_9^*clubs+\beta_1^*clubhrs+\beta_2^*reshi+\beta_12^*active+\beta_13^*friends+\beta_14^*oncampus+\beta_15^*overachiever+\beta_16^*chasengrp$$

$$+\beta_17^*regstudygrp+\beta_18^*greek+\beta_19^*job$$

$$H_0: \beta_1^*+\beta_2^*socialmedia+\beta_3^*online+\beta_4^*inperson+\beta_5^*gaming+\beta_6^*job$$

$$+\beta_7^*clubs+\beta_8^*clubhrs+\beta_9^*reshi+\beta_10^*active+\beta_11^*friends+\beta_12^*oncampus+\beta_13^*overachiever+\beta_14^*chasengrp$$

$$+\beta_15^*regstudygrp+\beta_16^*greek+\beta_17^*job$$

$$H_1: \beta_1^*+\beta_2^*socialmedia+\beta_3^*online+\beta_4^*inperson+\beta_5^*gaming+\beta_6^*job$$

$$+\beta_7^*clubs+\beta_8^*clubhrs+\beta_9^*reshi+\beta_10^*active+\beta_11^*friends+\beta_12^*oncampus+\beta_13^*overachiever+\beta_14^*chasengrp$$

$$+\beta_15^*regstudygrp+\beta_16^*greek+\beta_17^*job$$

H_0: $$\beta_2^*+\beta_3^*+\beta_4^*+\beta_5^*+\beta_6^*+\beta_7^*+\beta_8^*+\beta_9^*+\beta_10^*+\beta_11^*+\beta_12^*+\beta_13^*+\beta_14^*+\beta_15^*+\beta_16^*+\beta_17^*=0$$

$$t_{1356,0.05} = 1.97$$

$$\beta_1^* \neq 0, \beta_2^* \neq 0, \beta_3^* \neq 0, \beta_4^* \neq 0, \beta_5^* \neq 0, \beta_6^* \neq 0, \beta_7^* \neq 0, \beta_8^* \neq 0, \beta_9^* \neq 0$$

H_1: $$\beta_1^*+\beta_2^*+\beta_3^*+\beta_4^*+\beta_5^*+\beta_6^*+\beta_7^*+\beta_8^*+\beta_9^*+\beta_10^*+\beta_11^*+\beta_12^*+\beta_13^*+\beta_14^*+\beta_15^*+\beta_16^*+\beta_17^*=0$$

$$F_{12,1356} = 1.75$$

$$\hat{\beta}^* = (R^2(0) - R^2) / q = 1.75$$

$$\hat{\beta}^* \neq 0$$

$$F_{12,1356} = 1.75$$

$$\hat{\beta}^* \neq 0$$

Results:

Increase Loneliness:
- Participating in residence hall activities (.365)
- Being Greek (.296)
- Living on campus (.169)
- Gaming with others in person (.094)
- Having a regular study group (.071)

Decrease Loneliness:
- Having a regular study group (.071)
- Gaming with others in person (.094)
- Living on campus (.169)
- Participating in residence hall activities (.365)
- Being Greek (.296)

Friendship:

Increase Friendships*:
- claims 11+ friends in building of residence
- spent >25% of study time with a regular study group

Hypothesis: Activities that encourage direct collaboration & student interaction (such as study groups, club involvement, work on campus, etc.) will decrease student loneliness.

Process:
- Conducted literature review
- Created survey based on lit review, including UCLA Loneliness Scale (Version 3)
- Distributed survey to 10,000 random ISU undergraduates through Qualtrics
- Received 1,376 responses over 2 weeks
- Created dummy variables for regressors
- Ran multiple linear regressions using Stata
- Conducted t-tests and adjusted models accordingly

Acknowledgements:
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Loneliness scale: Developed by Dr. Dan Russell