

## Mental Illness Scale and Suicide

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### Abstract

In this brief paper, we undertake to establish a scale for mental pain, with suicide being the worst level. We see that AT Math provides a sufficient solution to the problem of quantifying mental anguish.

**Keywords:** Mental Pain; Suicide; Quantitative Scale

### Introduction

In addition to physical pain such as back pain or headaches, there is mental anguish. Mental anguish can be put on a quantitative basis. If we make a scale of mental pain from 0 to 10, and raise it to the power of the exponential, we get:

$e^{10}=22026$ : Suicide

$e^8=2981$ : Recurrent Attempted Suicide

$e^6=403$ : Attempted Suicide Once [1] cf. 40.8%

$e^4=55$ : Hospitalized Depression

$e^2=7.4$ : Depression

$e^0=1$ : Malaise.

Assume an equation of a line:

$y=mx+b$

$e^x=mx+0$

$x=\ln m + \ln x$ .

Let  $y=x = 45^\circ$  line  $\Rightarrow m=1$

$y=\ln x + \ln x$

$y=2\ln x$ .

A  $45^\circ$  line implies the two-pole solution.

$\cos \theta = \sin \theta$

$\cos 45^\circ = \sin 45^\circ = 1/\sqrt{2}$

$y = \cos \theta - \sin \theta = 0$ .

$x = \ln m + \ln x$

$y = \ln x + \ln x$

$y = 2\ln x$

$y/2 = \ln x$ .

$y = x \cos \theta = 2\ln x$

$= 10 \cos 45^\circ = 2\ln x$ .

$y = 5(\cos 45^\circ) / \ln x$ .

$y = 2\ln x = 5 \cos \theta / \ln x$

$2(\ln x)^2 = 5 \cos \theta$

$\cos \theta = 5/2 (\ln x)^2$ .

Sine is resistance to suicide. Cosine is attraction to suicide in our two-pole system.

$$R = \bar{P} = \cos \theta = 5/2 (2 \ln (\ln x))$$

$$= 5 \ln \ln 10$$

$$= 4170.$$

$e^{4.170} = 64.715 = 64.7\%$  cf.  $40.8\% \times 39.6\% = 40.8\% + 16.15\%$  \*Golden Mean  $= 57.3\% = 1$  rad.

Suicide rate for schizophrenia in males is reportedly approximately 60%. Our scale is a good approximation for mental anguish.

### Conclusion

We can put mental anguish on a quantitative basis.

### Bibliography

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