Group Identification and Social Networking Use: A Study of Ryerson University Students During the COVID-19 Pandemic

Jan Alexander Wozniak
Ryerson University

The COVID-19 virus poses serious physical health risks. However, more recently, researchers have been increasingly concerned by the toll that preventative social distancing and lockdown orders pose for mental health. According to Reger et al (2020), factors such as social isolation and decreased access to community support are associated with an increased risk of adverse mental health effects such as suicidal thoughts and behaviors in US populations. To alleviate the stress associated with stay-at-home orders, Reger et al (2020) claim that social media and telecommunications may help individuals cope with the psychological strain associated with prolonged physical distancing. Although most research studies have focused on the US and other Western countries, little research has been conducted on the impact that the COVID-19 pandemic has had on Canadian populations, especially postsecondary student populations (Hamza et al., 2021).

This research study examined the role that stay-at-home orders had on university students in Toronto, Canada, by measuring the association between self-reported Group Identification Scale (GIS) scores and Social Networking Time Use Scale (SONTUS) scores. It was hypothesized that given the significant disruption that COVID-19 had on education and socialization, university students with higher GIS scores would have greater SONTUS scores. With the inability to communicate face-to-face due to stay-at-home orders and campus closures, it was believed that those with higher GIS scores would mitigate social isolation and disconnection through increased social media use. Conversely, those with lower GIS scores, having decreased connection with their peer groups, would in turn, have less need for social media use during the pandemic. Student participants from an asynchronous online psychology course traditionally taught in person were given two rating scales to determine mean GIS and SONTUS scores. Correlational research was then used to explore the relationship between the identified two variables.

University Students, Friendship, and Social Networking Sites

One particular demographic known for high levels of mental, emotional, and financial stress is university students. Due to the rapid onset of COVID-19, few studies have been successfully conducted on Canadian university students during the pandemic. However, in conjunction with limited available Canadian research, cross-cultural studies have indicated that university student populations, in general, are finding it difficult to cope with the stresses associated with the social restrictions, closures, and widespread fear and uncertainty about the virus. According to research by Dhar et al (2020) on university students in Bangladesh, approximately 97% of the sample (n = 15,543) identified that they found themselves anxious during the COVID-19 pandemic – with upwards of 44.59% claiming that they had experienced severe anxiety. Similarly, the longitudinal research conducted by von Keyserlingk et al (2021) found that during Winter 2020 and Spring-Summer 2020 semesters, US university students showed an approximate 14.29% increase in study-related stress when compared to ratings taken before the COVID-19 outbreak. Furthermore, among university students in France, Husky et al (2020) found that over two-thirds of the sample (n = 291) reported increased anxiety and alcohol use during stay-at-home orders.

The World Health Organization (WHO) has also issued several warnings since March 2020. Specifically, the World Health Organization (WHO) (2020) disclosed the importance of maintaining contact with friends, peers, and family members to prevent feelings of isolation and thwarted belongingness. For this reason, the WHO has recommended that individuals utilize communication technologies such as phone calls, videoconferencing, emails, and social networking sites and apps to maintain cohesion and closeness. According to research by Son et al (2020), the US students in their sample (n = 195) indicated a 71% increase in stress and anxiety, and 86% reported decreased social interactions with others due to COVID-19 restrictions. In accordance with the recommendations provided by the WHO, Alzueta et al (2021) and Reger et al (2020) have also addressed the vital role that social media and video conferencing technologies can play in alleviating stress, isolation, and loneliness during the pandemic.

Despite their recommendations, not enough data has been collected on the efficacy of these technologies compared to in-person contact. Research by Seabrook et al (2016) has indicated that social networking site (SNS) use may lead to decreases in loneliness and improvements in self-esteem and life satisfaction. However, this is dependent on whether the technology is used effectively. To elaborate on the meaning of effective use, Seabrook et al (2016) indicated that problematic overuse, negative interactions, and social comparisons can be associated with increases in depression and anxiety. However, in terms of contact with friends and family, the technologies offer convenience and the capacity to transcend time, space, and geographic borders. This view has been supported by Garfin (2020), who found that online platforms have both positive and

negative dimensions. On the one hand, social networking sites can be powerful tools for social connection and interaction. On the other hand, they can also be addicting, time-consuming, and may expose individuals to negative news, which could cause additional stress and anxiety to susceptible individuals (Garfin, 2020). In the context of the COVID-19, there simply is not enough data yet to weigh the pros and cons of social media use.

The Need for Further Social Psychological Research

One particular concern has been how university students have coped with social distancing and stay-at-home restrictions. Attending university is a significant developmental milestone, and during this period of time, students expect to explore and develop their independence and identity. Socialization plays a vital role in this development process. Therefore, isolation and distancing measures can be particularly damaging for postsecondary students, as this demographic anticipates opportunities for personal growth and social connection (Zhai & Du, 2020). First, university students are deprived of essential forms of academic socialization such as in-person classroom experiences and on-campus activities (Lee, 2020). Second, students are denied extracurricular forms of socialization (i.e., events, socials, and networking events) that help students cope with stress and build meaningful social connections (Lee, 2020; Zhai & Du, 2020). Psychologically, friendship and socialization play pivotal roles in the maintenance of positive mental health and personal well-being in student populations (Lipson & Eisenberg, 2017). Additionally, many university students have lost jobs, research positions, and volunteer opportunities, which are essential not only for personal well-being, but also for graduate admissions and career development (Zhai & Du, 2020). Given the demands for learning and personal growth while in university, depriving students of opportunities for socialization may lead to a number of immediate and long-term problems.

Prior to COVID-19, university students already demonstrated increased rates of depression, anxiety, stress, and suicidal ideation over the past decade. According to Lipson et al (2018), mental health diagnoses in US college students have risen from 22% to 36% from 2007 to 2017. A research study conducted by the American College Health Association (ACHA) (2016) identified that 44% of postsecondary students reported periods of debilitating depression and 13% had considered suicide in the previous twelve-month period. According to Treleaven (2020), those aged 15-24 are more susceptible to adverse mental health episodes and substance use disorders than any other demographic. Furthermore, in Canada, from 2007 to 2017, emergency hospital visits for mental health increased by 75% in those aged five to twenty-four (Treleaven, 2020). Additional research on how students have managed to cope with social restrictions and COVID-related stressors should be considered a significant public health concern that requires greater attention.

The Research Problem

The present study answers the following question: During the COVID-19 era, do students with higher self-reported Group Identification Scale (GIS) scores predict higher Social Networking Time Use Scale (SONTUS) scores?

Research Hypothesis

It is hypothesized that individuals with higher Group Identification Scale (GIS) scores will be correlated with higher Social Networking Time Use Scale (SONTUS) scores. It is believed that due to COVID-19 restrictions and school closures, students with higher GIS scores will utilize social networking sites to compensate for in-person social deficits more than students with lower GIS scores.

Method

The sample (n = 44) was taken from the Spring 2021 course CPSY411 (Research Methods and Statistics I) at Ryerson University in Toronto, Canada. The psychology course was made available through the Chang School, which offers continuing education courses and certificates. The participants were predominantly undergraduate psychology and psychology certificate students, as CPSY411 is a necessary prerequisite for these programs. Due to the COVID-19 pandemic, the course was offered through an online asynchronous format.

Apparatus

Two adjusted measurement scales were used in the administration of the online survey, which consisted of eight total questions. The first adjusted scale was the Group Identification Scale (GIS) and consisted of the first four questions of the survey. The second adjusted scale was the Social Networking Time Use Scale (SONTUS) and consisted of the last four questions of the survey. The first page of the survey comprised the GIS section and the second page comprised the SONTUS section. The GIS portion asked students to answer four questions about friendship on a seven-point Likert rating scale. This section provided the participants with the ranked options (1) strongly disagree, (2) disagree, (3) slightly disagree, (4) neither agree nor disagree, (5) slightly agree, (6) agree, and (7) strongly agree. These scores were tallied to provide a total GIS score pertaining to friendship and belongingness. The scores were then summed and divided by four to provide an average GIS score. The higher the total, the higher the average GIS score. The SONTUS portion asked students to answer four questions about their use of social networking sites such as Facebook, Instagram, WhatsApp, Twitter, TikTok, Pinterest, and Reddit. The five-point Likert rating scale provided the participants with the ranked options (1) never, (2) sometimes, (3) about half the time, (4) most of the time, and (5) always. These scores were tallied to provide a total SONTUS

score. These scores allowed the researchers to determine the degree to which participants use social media to connect with friends, family members, and peers. The scores were then summed and divided by four to provide an average SONTUS score. The higher the total, the higher the average SONTUS score.

Use the scale below to indicate how much you agree or disagree with the following statements.		
#	**Question**	**Rating**
1	I feel a bond with my group of friends.	1 being strongly disagree and 7 being strongly agree
2	I feel similar to the other members of my group of friends.	1 being strongly disagree and 7 being strongly agree
3	I have a sense of belonging to my group of friends.	1 being strongly disagree and 7 being strongly agree
4	I have a lot in common with members of my group of friends.	1 being strongly disagree and 7 being strongly agree

FIGURE 1. Adjusted GIS Scale.

Use the scale below to indicate how often you have used the social networking sites Facebook, Instagram, WhatsApp, Twitter, TikTok, Pinterest, and Reddit during the past week in the following situations and places.		
#	**Question**	**Rating**
1	When you need to maintain contact with existing friends.	1 being never and 5 being always
2	When you need to communicate with your families and friends.	1 being never and 5 being always
3	When you need to find out more about people you met offline.	1 being never and 5 being always
4	When you need to find people you haven't seen for a while.	1 being never and 5 being always

FIGURE 2. Adjusted SONTUS Scale

Procedure

Students were informed by the instructor to complete the survey via their course shell D2L in May 2021. To retrieve this information, students needed access to personal computers, tablets, or smartphones in order to complete the survey. Because of the asynchronous structure, participants also maintained their anonymity when completing and submitting the survey. An announcement and link to the survey were provided on D2L. Participants were able to complete the online survey at any point within a twenty-four-hour period. When accessing the survey, students were informed that by continuing to complete the study, they were providing consent. The collected data was used for the course's major research project. However, the students were unaware of the purpose of the survey until they were debriefed, which was done through an online video. In the debrief, the measurements and intent of the research study were provided to participants.

Results

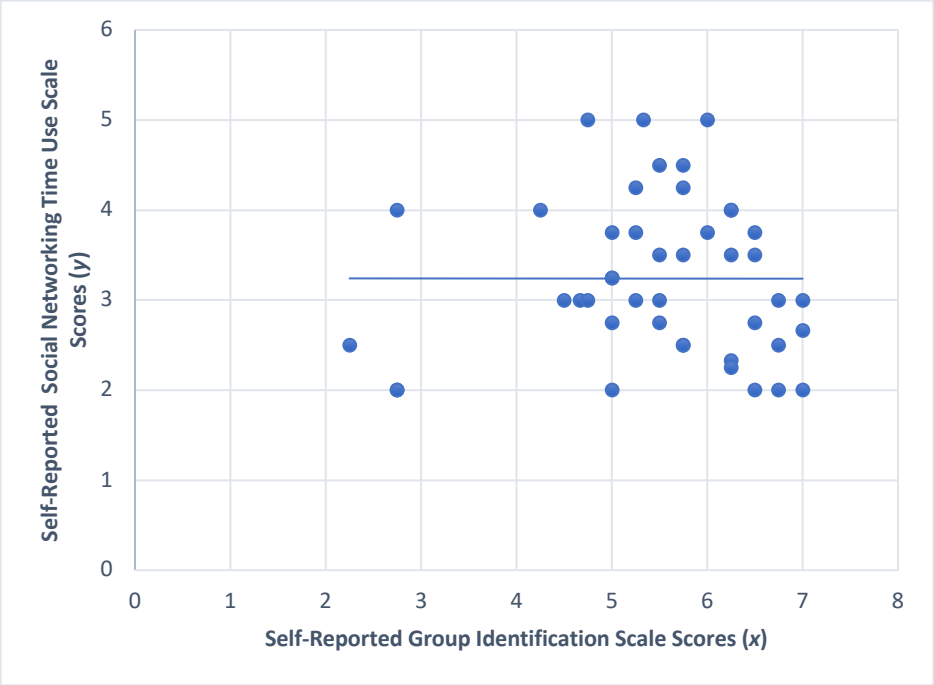

FIGURE 3. Group Identification Scale (GIS) scores vs Social Networking Time Use Scale (SONTUS) scores. Scatterplot shows the correlation between mean GIS scores and mean SONTUS scores.

The self-reported GIS score averaged 5.47 and had a standard deviation of 1.16 among the sample (n = 44). The range of GIS scores was 4.75 with a minimum of 2.25 and a maximum of 7. The self-reported

SONTUS score averaged 3.24 and had a standard deviation of 0.87. The range of SONTUS scores was 3 with a minimum of 2 and a maximum of 5. The line of best fit in Figure 3 indicates that there is a minimal correlation between GIS and SONTUS scores. As the self-reported GIS scores increase, self-reported SONTUS scores decrease. This is a poor accuracy predictor ($r = -0.00080246$). The r^2 value is 0.000000644 and 0.0000644% of the changes in self-reported GIS scores are associated with changes in self-reported SONTUS scores. These findings are not significant ($r_{calc} = -0.00080246$ is less than $r_{crit} = 0.288$).

Discussion

The data reveals a negative correlation ($r = -0.00080246$) between GIS and SONTUS scores. These findings contradict the original hypothesis made by the researcher, which predicted that as GIS scores rise, SONTUS scores would also rise. It was theorized that with COVID-19 restrictions, closures, and stay-at-home orders, students with higher GIS scores would need to compensate for reduced socialization and face-to-face interactions through the increased use of social networking sites. Unfortunately, this topic has been challenging to investigate, as little research has addressed these concerns. Most studies that have explored mental health, socialization, and social networking usage have come from other countries and demographics.

Although researchers can identify and extrapolate cross-cultural data and research results, the governmental response and preventative measures (i.e., social distancing, closures, and stay-at-home orders) have differed not only from country to country, but also by region and city. Therefore, there can be considerable variance from area to area. This makes COVID-19 a particularly challenging social phenomenon to study. In the province of Ontario, Toronto had some of the strictest COVID-19 measures and restrictions. Given that Ryerson University is located in one of the busiest and most densely populated areas in the city of Toronto, one could expect that its students are exposed to larger peer groups and social networks based on population and opportunity. Therefore, those with particularly high GIS scores would plausibly have higher social networking site usage, especially if they had intended to maintain their social connections during closures and stay-at-home orders. As such, the social deficit could feel more substantial for such individuals. However, there may have been several reasons why there was no significant correlation between GIS scores and SONTUS scores.

First, as Garfin (2020) and Zhao and Zhou (2020) have identified, individuals may have limited social networking site usage to mitigate the influx of negative information about the pandemic. Although news reports and information can be helpful, too much exposure could also be linked to higher anxiety and stress levels (Garfin, 2020; Zhao & Zhou, 2020). As Alzueta et al (2021) and Reger et al (2020) recognized, many members of the US population have experienced elevated stress, anxiety, and

depression during the pandemic. Being able to remain positive and limit information consumption may have been a strategy used by various individuals. Second, participants may have utilized other forms of communication with family, friends, and peers. Due to limited resources, this study did not ask participants which additional forms of communications technology they used. Instead, it focused primarily on major social media apps and websites. It is important to note that technologies such as video conferencing dramatically increased in 2020 and 2021 and were employed in various employment and education settings. It could be hypothesized that video conferencing technologies may have provided preferable personal and intimate forms of connection than social networking sites. Third, due to COVID-related restrictions and lockdowns, university student populations living in the General Toronto Area (GTA) may have moved home during the pandemic, especially as many lost jobs and may not have had the resources to afford independent housing. Moreover, the participants in this study may have chosen this option, as CPSY411 was fully online and asynchronous and could therefore be completed remotely. Returning home, students may have found better social support and been less prone to needing social media if they left the city and moved home with family members. Furthermore, university residences closed in 2020, which would have increased the likelihood of students returning home.

There were several limitations in this research study. First, due to limited time and educational resources, this study was restricted by expediency and convenience. The researcher would have expanded the design if the opportunity had been there. Specifically, additional survey questions and rating scales would have yielded a more accurate representation of student populations during COVID-19. Furthermore, this would have provided greater ranges and differentiating factors to be tested in the research. Second, the study could have utilized a larger sample size by collecting data from multiple courses. This small and limited sample size makes replication and generalizability difficult, as the data only accounts for participants from a single course at Ryerson University. Third, sample details such as age, sex, faculty, and year of study could have been accounted for, as this information could have helped the researchers better understand the demographics of the sample participants. Fourth, the research did not determine the actual time spent on social networking sites, which is a significant limitation. The researcher hopes these concerns can be addressed and improved in future studies.

Conclusion

To conclude, more research needs to be conducted on the psychological impact of COVID-19 in Canadian university student populations. Additional studies would be beneficial for several reasons. First, before the added stress of COVID-19, university students were already showing increasing signs of emotional and psychological distress over the past

decade. Due to their susceptibility to adverse mental health risks and stressors, priority should be given to postsecondary students in both Canadian and US populations. However, unlike the US, Canada has fallen substantially behind in student research studies during the pandemic. For this reason, researchers and health agencies know very little about how Canadian students have been coping with factors such as social isolation, stay-at-home orders, closures, and overall life disruption, which means there may be underlying concerns that have yet to be identified.

Second, in learning more about the impacts of COVID-19, researchers can explore effective coping strategies for university students and better understand the role that relationships and socialization serve in personal well-being. One concern is that students may be grieving and not know how to properly cope with the difficulties that COVID-19 has had on their lives.

Third, with the significant changes to student life during the pandemic, there is an opportunity to explore new questions on the efficacy of social networking sites and technologies. Given that face-to-face interactions have been severely restricted at various time intervals, future research should examine whether the benefits of social media outweigh potential disadvantages in populations that experience significant social isolation. Thus far, research on social media use has been divided. However, with the implications and outcomes of COVID-19, social networking sites may serve an integral role in helping individuals maintain their relationships and group cohesion. These technologies may become increasingly valuable with the emergence of new COVID-19 variants including Delta and Omicron, which continue to pose global challenges and leave the future of the pandemic unclear.

This research study investigated how university populations in Canada have dealt with social isolation, stay-at-home orders, and school closures during COVID-19 by evaluating group identification and social media use. Although the research posed limitations, its primary aim was to investigate an ongoing problem widely overlooked by Canadian researchers. This study has suggested that a clearer understanding of postsecondary student experiences can help Canadian universities, policymakers, and health organizations make better-informed decisions on how to support this vulnerable demographic in these challenging and uncertain times.

References

Alzueta, E., Perrin, P., Baker, F. C., Sendy, C., Ramos-Usuga, D., Yuksel, D., & Arango-Lasprilla, J. C. (2021). How the COVID-19 pandemic has changed our lives: A study of psychological correlates across 59 countries. *Journal of Clinical Psychology*, 77 (3), 556-570. https://doi.org/10.1002/jclp.23082

American College Health Association (ACHA). (2016). *National college health assessment: Ontario Canada reference group.* http://oucha.ca/ncha.php

Dhar, B. K., Ayittey, F. K., & Sarkar, S. M. (2020). Impact of COVID-19 on psychology among university students. *Global Challenges*, 4 (11), 1-5. https://onlinelibrary.wiley.com/doi/10.1002/gch2.202000038

Garfin, D. R. (2020). Technology as a coping tool during the coronavirus disease 2019 (COVID-19) pandemic: Implications and recommendations. *Stress and Health*, 36, 555-559. https://doi.org/10.1002/smi.2975

Hamza, C. A., Ewing, L., Heath, N. L., & Goldstein, A. L. (2021). When social isolation is nothing new: A longitudinal study on psychological distress during COVID-19 among university students with and without preexisting mental health concerns. *Canadian Psychology*, 62*(*1), 20-30. https://doi.apa.org/fulltext/2020-66840-001.html

Husky, M. M., Kovess-Masfety, V., & Swendsen, J. D. (2020). Stress and anxiety among university students in France during Covid-19 mandatory confinement. *Comprehensive Psychiatry*, 102, 1-3. https://doi.org/10.1016/j.comppsych.2020.152191

Lee, J. (2020). Mental health effects of school closures during COVID-19. *Lancet*, 4(6), 421, https://doi.org/10.1016/S2352-4642(20)30109-7

Lipson, S. K., & Eisenberg, D. (2018). Mental health and academic attitudes and expectations in university populations: results from the healthy minds study. *Journal of Mental Health*, 27(3), 205-213. https://doi.org/10.1080/09638237.2017.1417567

Lipson S. K., Lattie, E. G., & Eisenberg D. (2018). Increased rates of mental health service utilization by US college students: 10-year population-level trends (2007-2017). *Psychiatric Services*, 70(1), 60-63. https://doi.org/10.1176/appi.ps.201800332

Reger, M. A., Stanley, I. H., & Joiner, T. E. (2020). Suicide mortality and coronavirus disease 2019 – a perfect storm? *JAMA Psychiatry*, 77 (11), 1093-1094. http://doi:10.1001/jamapsychiatry.2020.1060

Seabrook, E. M., Kern, M. L., & Rickard, N. S. (2016). Social networking sites, depression, and anxiety: A systematic review. *JMIR Mental Health*, 3(4), 1-19. https://mental.jmir.org/2016/4/e50/

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet Research*, 22(9), 1-14. https://www.jmir.org/2020/9/e21279/

Treleaven, S. (2020, October 8). *Inside the mental health crisis at Canadian universities: Students are at increasing risk of mental health problems, and universities are struggling in their efforts to respond.* Macleans. https://www.macleans.ca/education/inside-the-mental-health-crisis-at-canadian-universities/

von Keyserlingk, L., Yamaguchi-Pedroza, K., Arum, R., & Eccles, J. S. (2021). Stress of university students before and after campus closure in response to COVID-19. *Journal of Community Psychology*, 1-17. https://doi.org/10.1002/jcop.22561

World Health Organization. (2020, March 18). *Mental health and psychosocial considerations during the COVID-19 outbreak.* https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf

Zhai. Y., & Du. X. (2020). Addressing collegiate mental health amid COVID-19 pandemic. *Psychiatry Research*, 288, 1-2. https://www.sciencedirect.com/science/article/pii/S0165178120308398?via%3Dihub

Zhao, N., & Zhou, G. (2020). Social media use and mental health during the COVID-19 pandemic: Moderator role of disaster stressor and mediator role of negative affect. *Applied Psychology: Health and Well-Being*, 12(4), 1019-1038. https://doi.org/10.1111/aphw.12226

Appendix

GIS and SONTUS Data

GIS (x)	*SONTUS (y)*
5.25	3
6	3.75
5	2.75
5.75	4.25
6.25	3.5
5.5	3.5
5	3.75
6.75	3
5	2
6.25	2.333333333
5.75	4.5
6.5	2.75
5.5	3
5.5	2.75
6.25	4
2.75	2
2.75	2
5	3.25
5.75	3.5
6.75	2.5
2.75	4
5.5	4.5
2.25	2.5
6.25	4
6.5	3.5
7	3
4.75	5
6.25	2.25
4.666666667	3
5.25	4.25
6.5	2
5.25	3.75
4.75	3
5.75	2.5
5	3.25
4.25	4
4.5	3
7	2.666666667
6.75	2

5.333333333	5
6.5	3.75
7	2
5.75	2.5
6	5

Descriptive Statistics Summary

GIS Descriptive Statistics		*SONTUS Descriptive Statistics*	
Mean	5.471590909	Mean	3.238636364
Standard Error	0.17527419	Standard Error	0.131666569
Median	5.625	Median	3
Mode	5	Mode	3
Standard Deviation	1.162637447	Standard Deviation	0.873377216
Sample Variance	1.351725834	Sample Variance	0.762787761
Kurtosis	1.27930791	Kurtosis	-0.697837874
Skewness	-1.153296515	Skewness	0.347171377
Range	4.75	Range	3
Minimum	2.25	Minimum	2
Maximum	7	Maximum	5
Sum	240.75	Sum	142.5
Count	44	Count	44
Confidence Level (95.0%)	0.353474092	Confidence Level (95.0%)	0.265530943

Correlation Table

	GIS (*x*)	*SONTUS* (y)
GIS (x)	1	
SONTUS (y)	-0.00080246	1
R Crit	0.288	

Regression Summary Output

Regression Statistics	
Multiple R	0.00080246
R Square	6.43941E-07
Adjusted R Square	-0.023808865
Standard Error	0.883713116
Observations	44

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.11212E-05	2.11212E-05	2.70456E-05	0.995875216
Residual	42	32.79985262	0.780948872		
Total	43	32.79987374			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	3.241934696	0.648070828	5.002438861	1.05617E-05	1.934074815	4.549794576
X Variable 1	-0.00060281	0.115913165	-0.005200534	0.995875216	-0.234525049	0.233319428

t-Test: Paired Two Sample for Means

	GIS	*SONTUS*
Mean	5.471590909	3.23863636
Variance	1.351725834	0.76278776
Observations	44	44
Pearson Correlation	-0.00080246	
Hypothesized Mean Difference	0	
df	43	
t Stat	10.18201395	
P(T<=t) one-tail	2.48938E-13	
t Critical one-tail	1.681070703	
P(T<=t) two-tail	4.97876E-13	
t Critical two-tail	2.016692199	