

BUSN 921 Project

Back on Krypton

This assignment like all the others is a learning assignment. It is intended to teach you new things rather than just exercise what has been learned.

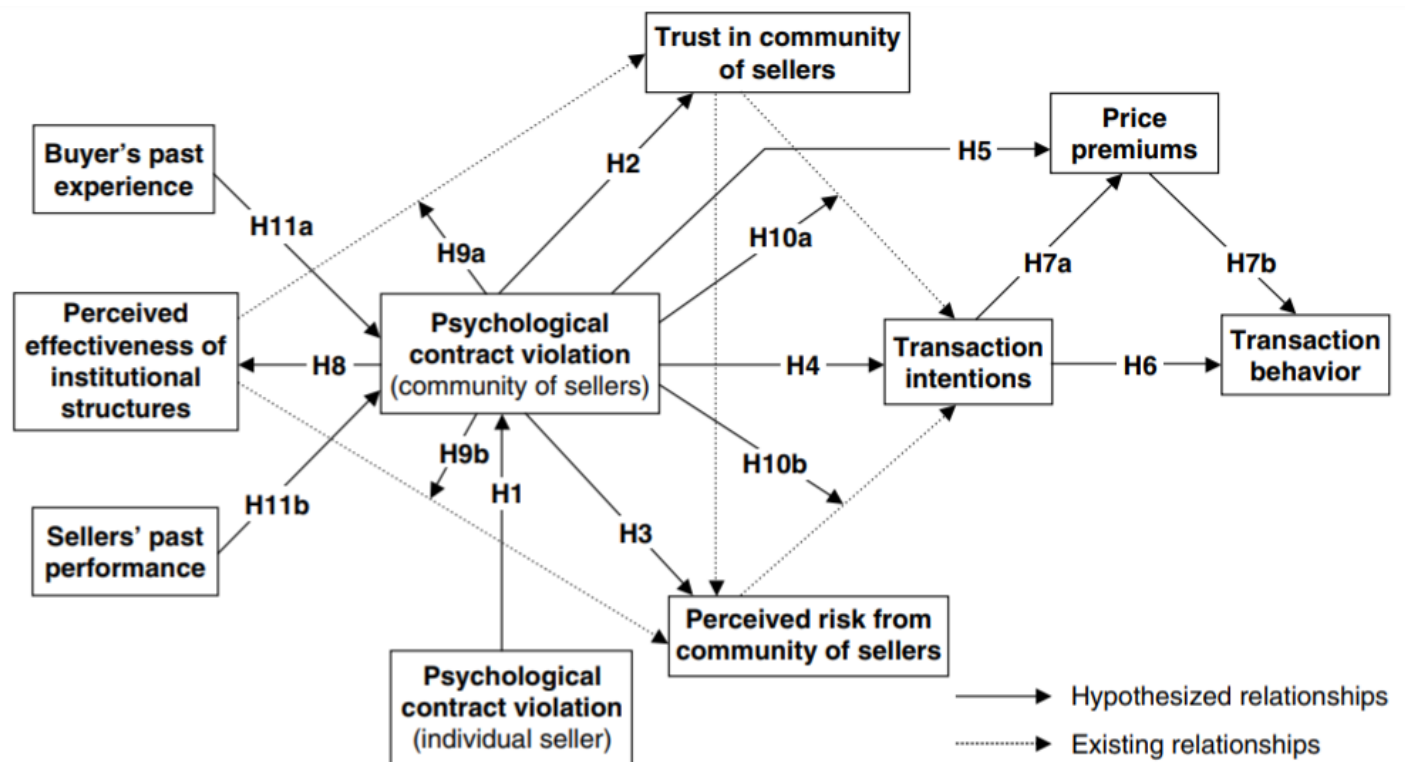
Background

Perceived Contract Violation and Broken Promises

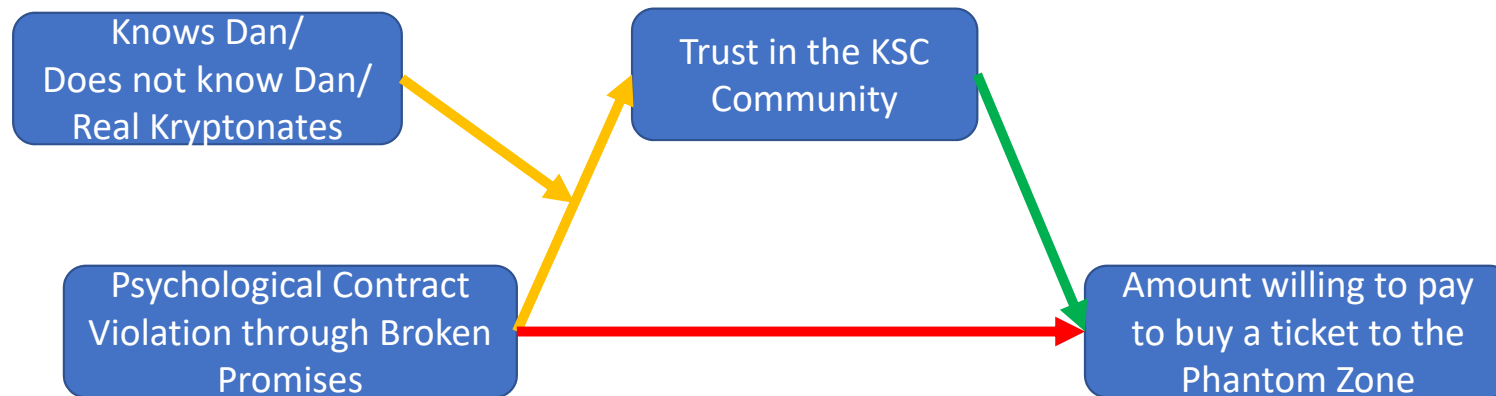
- Back on the Planet Krypton they heard of this amazing paper on **Perceived Contract Violation and Broken Promises**
 - You have a copy that paper by Pavlou and Gefen (2005) on BB Learn. It is in the folder **Paper Readings Throughout the Course** which is located in **Pre-work for Residency I**
- And, in honor of Sir William Ramsay who in 1898 discovered the birthplace of Clark Joseph Kent and in recognition of the Nobel Prize in chemistry given to Sir Ramsey in 1904 on account of it, they decided to test the conclusions of that paper
 - Clark Joseph Kent is the legendary writer for the newspaper *Daily Planet*
- There is a caveat, however. True to its name *ρυπτός* (Greek *kryptos* for "the hidden one"), there some hidden outliers
- Your mission, should you decide to accept it, and you really have no choice, is in the next slides.

Psychological Contract Violation in Online Marketplaces: Antecedents, Consequences, and Moderating Role

Read the paper so you understand the context in which to tell what you learn from the data analysis



This is the story. The logic is as in the paper.



Jor-L, an aspiring scientist, ran this survey among his colleagues at the Kryptonian Space Center, aka KSC, to study if previously broken promises by Detective Dan have any effect on their willingness to participate in an auction to buy a ticket to the Phantom Zone. He assumes this effect on their intention might be mediated by their trust in the KSC community. Unbeknown to Jor-L some of his colleagues know of Detective Dan, some do not, and some are real Kryptonates.

Your mission is to reconstruct the model, assess how strong the effect of broken promises is, verify the mediation, and through the moderation of Knowing Dan identify the real Kryptonates who could not care less about Dan.

Answers in the survey are on a 1-7 Likert scale ranging from strongly disagree to strongly agree. Missing values in the survey are marked by -1. You can leave all those as is.

Analyses

- Analyses

- Run descriptive stats

Part 1. Descriptive stats

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
Buy_Tickets	Amount willing to pay in an auction	1000	29.1710000	6.5680209	14.0000000	50.0000000
Kryptonate		1000	0.0030000	0.0547174	0	1.0000000
BP1	Dan failed to meet contractual obligations.	977	2.9024827	0.8639921	-0.3177561	6.0227663
BP2	Dan did little to meet his obligations	976	2.3813188	0.7256303	0.2024409	4.9021441
BP3	Dan did not do as the transaction suggested.	968	2.1789007	0.6926598	-0.2779215	4.9979184
BP4D	Dan did not gives accurate information	986	0.4149931	0.9219426	-2.2377353	3.3125253
TC1	KSC auctions are reliable	1000	1.4258782	0.8585855	-0.6160450	4.8216279
TC2	KSC auctions are competent	1000	1.4003791	0.8552834	-0.8081458	5.3049120
TC3	KSC auctions are honest	1000	1.4128589	0.8663777	-0.5581759	5.3290021
TC4	KSC auctions are trustworthy	1000	1.4158272	0.8652600	-0.6694278	5.1676241
TC5D	KSC auctions are indecent	1000	3.8893183	2.0279418	-2.2377057	11.7295947

Part 2. Show the frequency of Kryptonates

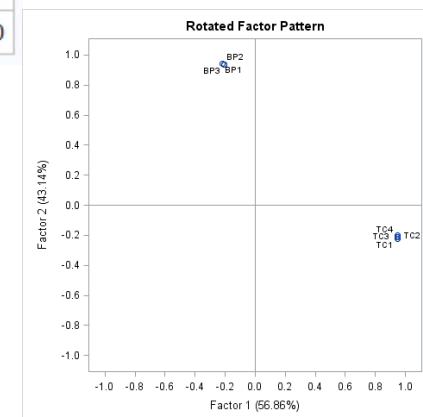
The FREQ Procedure

Kryptonate	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	997	99.70	997	99.70
1	3	0.30	1000	100.00

- Show the frequency of Kryptonates

- Run a PCA to verify which items to include in the analysis. Do not include Buy Tickets or Kryptonate in the PCA.

- Variable name prefix tells you what the grouping should be. Variable names starting with BP are Broken_Promises, starting with TC are Trust_in_Community



Analyses

- Analyses

IV. Verify that the Cronbach Alphas are okay

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.955734
Standardized	0.957645

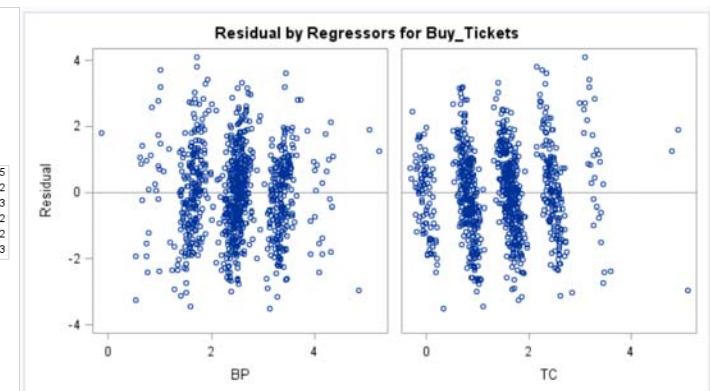
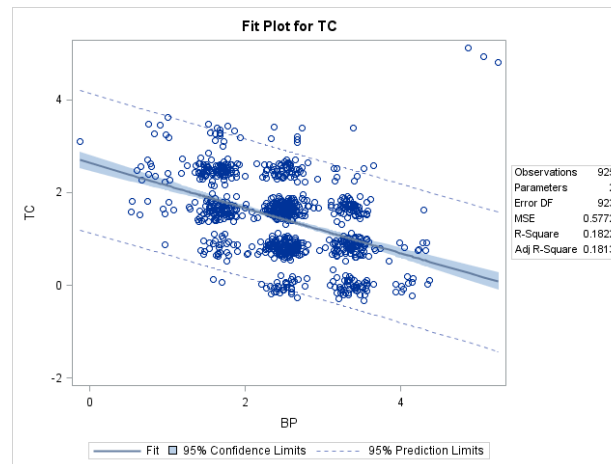
Cronbach Coefficient Alpha with Deleted Variable					
Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
BP1	0.926838	0.932424	0.923239	0.927809	Dan failed to meet contractual obligations.
BP2	0.911349	0.933156	0.903329	0.942678	Dan did little to meet his obligations
BP3	0.909426	0.938898	0.903260	0.942729	Dan did not do as the transaction suggested.

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.978055
Standardized	0.978065

Cronbach Coefficient Alpha with Deleted Variable					
Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
TC1	0.946529	0.970242	0.946523	0.970259	KSC auctions are reliable
TC2	0.942120	0.971454	0.942121	0.971465	KSC auctions are competent
TC3	0.944687	0.970749	0.944691	0.970761	KSC auctions are honest
TC4	0.942449	0.971363	0.942450	0.971375	KSC auctions are trustworthy

V. Create constructs

VI. Create the model with two Proc Regs



Analyses

VIII. Looking at the moderation outliers identify the real Kryptonates.

- That is easy. Real Kryptonates do not care.
- To verify that you identified the Kryptonates correctly there is a variable named Kryptonate. Its value of 1 means that data point is a Kryptonate.
 - You are not suppose to identify Kryptonate based on that. Only to verify your answer.
- To identify the Kryptonates, run a regression to model the orange arrows. Keep as output from that regression the DFFITS values in a new dataset.
- Because Kryptonates do not care, their DFFITS values will be out of sync with the mean values of other their DFFITS values
- Identify those rows and print them. Check that in those rows the value of Kryptonate is 1.

Deliverables

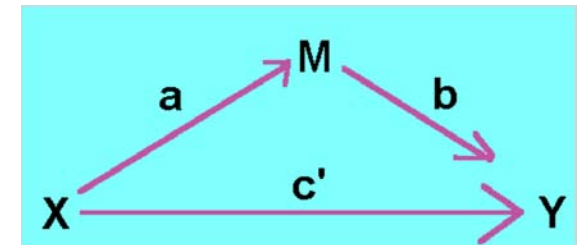
- I. The SAS code
- II. SAS Results
- III. Your interpretation of each analysis in Results
- IV. Tell the story revealed by the data analysis in the theoretical context of the paper
- V. Assess the validity of the original Pavlou and Gefen (2005) paper by proposing 2 issues of validity that could have been improved and suggesting how to do so. Limit 1000 words

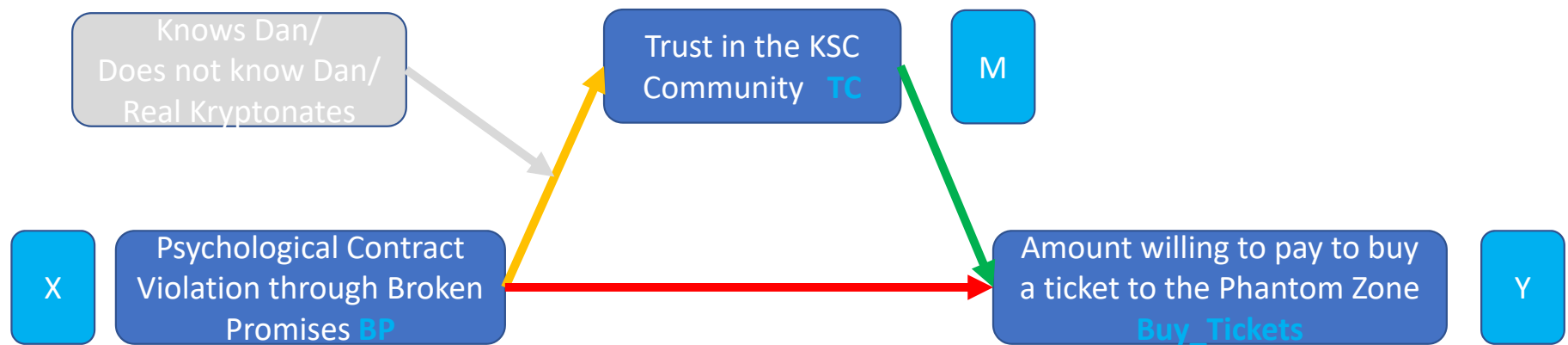
Additional Material You Need to Assess Mediation and Moderation

Beyond the material taught in class

Meditation

- To test mediation apply the Baron and Kenny's Method for Mediation.
 - Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- In their method, quoting <http://davidakenny.net/cm/mediate.htm>, there are 4 steps
 - **“Step 1: Show that the causal variable is correlated with the outcome. Use Y as the criterion variable in a regression equation and X as a predictor (estimate and test path *c* in the above figure). This step establishes that there is an effect that may be mediated.**
 - **Step 2: Show that the causal variable is correlated with the mediator. Use M as the criterion variable in the regression equation and X as a predictor (estimate and test path *a*). This step essentially involves treating the mediator as if it were an outcome variable.**
 - **Step 3: Show that the mediator affects the outcome variable. Use Y as the criterion variable in a regression equation and X and M as predictors (estimate and test path *b*). It is not sufficient just to correlate the mediator with the outcome because the mediator and the outcome may be correlated because they are both caused by the causal variable X. Thus, the causal variable must be controlled in establishing the effect of the mediator on the outcome.**
 - **Step 4: To establish that M completely mediates the X-Y relationship, the effect of X on Y controlling for M (path *c'*) should be zero (see discussion below on significance testing). The effects in both Steps 3 and 4 are estimated in the same equation.”**
- You do not need at this stage to reference the method beyond the four steps.





To show *mediation*

In this case it is that *Trust in the Community* mediates the path between *Broken Promises* and *Buy_Tickets*. Accordingly, your 4 steps should be

- Prepare new variables called *Broken Promises*, *BP* in short, as the average of the *BP* items,
and *Trust in the Community*, *TC* in short, as the average of the *TC* items.
1. Run a Proc Reg to show that the model $Buy_Tickets = f(BP)$ is significant
 2. Run a Proc Reg to show that the model $Trust = f(BP)$ is significant
 3. Run a Proc Reg to show that the model $Buy_Tickets = f(BP, TC)$ is significant
 4. If the result of Step 3 is that the path from *BP* is insignificant, then this is a complete mediation by *TC*. Otherwise, *TC* only partly mediates the effect of *BP* to *Buy_Tickets*

1. $Buy_Tickets = f(BP)$

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	45.03235	0.54344	82.87	<.0001
BP		1	-6.34988	0.20953	-30.31	<.0001

2. $TC = f(BP)$

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	2.63266	0.08795	29.93	<.0001
BP		1	-0.48621	0.03391	-14.34	<.0001

3. $Buy_Tickets = f(BP, TC)$

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	29.39685	0.21047	139.67	<.0001
BP		1	-3.46223	0.06392	-54.17	<.0001
TC		1	5.93905	0.05611	105.85	<.0001



To show *moderation*

1. Create a new variable *Real Kryptonates*, or *RK*, so it is 1 for the three outliers and 0 otherwise.
2. Create a new interaction variable that will be the product of *Broken Promises* and *Real Kryptonates*.
3. Run a Proc Reg to estimate the model $Trust = f(Broken Promises, Real Kryptonates, Interaction variable)$
4. If the *Interaction variable* is significant then you have a moderation effect.

Your conclusion should be that formally there is no significant moderation. Except, that you know that that is not the case, so what the regression is showing you is that the effect is too small to be detected with this method. You know there is such an effect based on the DFFITS statistic.

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	2.80733	0.08323	33.73	<.0001
BP	1	-0.56296	0.03224	-17.46	<.0001
RK	1	6.22509	13.10841	0.47	0.6350
Interaction	1	-0.24397	2.58904	-0.09	0.9249

