Fostering Individual Creativity through Proactive Personality: A Multilevel Perspective

Sajid Rahman[*], Saima Batool[**], Naveed Akhtar[***] & Haider Ali[****]

Abstract

This paper aims to develop a model of creativity by integrating information exchange, trust and employee Proactivity in the banking organization of Pakistan. Proactive employees have resources for the purpose of implementation of changes. The authors propose that employees with proactive quality gathering and exchanging information resources in the workplace. A trust relationship is built due to this information exchange which ultimately provides psychological safety for creative endeavours. For this purpose a total of 303 managers were selected from banking sector of Pakistan. The study found that employees with proactive quality were involved to gather and share more information and, by so doing strong trust relationships were built with supervisors and colleagues. These trust relationships, in turn, increased employee creativity. Trust also mediates the significant relationship between information exchange and creativity. The authors also discussed the practical implications of the study findings for creativity research.

Keywords: Proactive personality, Information exchange, Trust, Creativity

Introduction

Generating new and useful idea is termed creativity (Amabile, 1988), and is considered important for competitiveness, and critical for job performance. A much attention was given by researchers to examine precursors of creativity. On the other hand, researchers also explored psychological safety and information exchange perspectives as well (e.g., mood and job design). Sharing work-related information, ideas, and knowledge with colleagues is termed information exchange. Such

[*] Sajid Rahman, PhD Scholar, Department of Management Sciences NUML, Islamabad. Email: sajidktk@yahoo.com

[**] Dr. Saima Batool, Assistant Professor, Qurtuba University of Science & IT Peshawar.

[***] Dr. Naveed Akhtar, Acting Dean, Department of Management Sciences NUML Islamabad,

[****] Haider Ali, Scholar, Foundation University Islamabad

exchange of information provides cognitive resources which ultimately enhances employee creativity. Researcher also used knowledge sharing and information exchange interchangeably. Also, some researchers used communication and information exchange interchangeably.

On the other side, psychological safety perspective suggests that motivation for innovation will increases in case where interactive environment is risky free for creative actions. At the team level, the term participative safety was also used by researchers which include trust and information sharing among groups. To predict creativity at organizational level, researchers like Amabile & Conti (1999) combine both trust and access to information in a single work environment instrument. The willingness to accept vulnerability is termed trust. This vulnerability is based on behaviour of another individuals' or exceptions of the intentions. Researcher like McAllister (1995) stated that emotional attachment of an individual is termed affect-based trust.

Information exchange research is mainly focused on team level, and team performance (e.g., Madjar & Ortiz-Walters, 2008). Instead, those individuals generate creative ideas and team creativity will begins with individual creativity, a little attention has been received by information exchange on individual creativity. A same case was there in psychological safety research. However few studies were found to link psychological safety with creativity.

Proactive personality is referred to the nature toward taking the initiative to effect constructive changes and to influence one's environment. Such proactive personality enhances employee creativity. Gong *et.al.* (2012) empirically tested the relationship between proactive personality and creativity. Based on proactivity process view, which suggests that proactivity as a dynamic process involving future action, preparation, and anticipation we hypothesize that proactive individuals are prepare to share information or information exchange and trust building. Such individuals are also prepared for future events in order to accumulate resources.

The current study makes several contributions to the relationship of proactive personality, information exchange, affect-based trust, and creativity link. First, this study integrates the psychological safety and the information exchange perspectives in Pakistani context, however, only Gong *et.al.* (2012) explores this relationship in Taiwan. Second, the current study used both trust and information exchange as a mediators of the relationship between proactive personality and creativity. And lastly, the current study extends psychological safety and information exchange perspectives and related research to the individual level.

Literature Review and Hypotheses Development

Proactive individuals plan in advance, anticipate future events or outcomes, and take corrective actions in order to gather resources for productive changes (Grant & Ashford, 2008). These resources including trust and information facilitate creativity. Such individuals gathered informational resources through communication with others. For risky creative actions such proactive individuals develop an environment which is supportive. To exchange information with their colleagues or supervisors, such individuals build a trust relationship with them which, in turn, promote creativity in the organization.

Promoting constructive changes is the ability or quality of proactive individual's (Crant, 1995). Such individuals are acute to 'find opportunities, take corrective action, and keep at until fruitful change will occur' (Crant, 2000). Previous studies found a positive relation among proactive personality and career success like Subramaniam & Youndt, (2005) and job performance by Crant, (1995). The relationship between individual creativity and proactive personality was previously studied by Fuller & Marler, (2009), and Gong *et.al.* (2012), and both of these studies found a positive association between these variables.

Proactive individuals have constructive goals in mind in order to change (Frese & Fay, 2001), so to bring positive change. They exchange information with others for the purpose to identify opportunities. Such informational exchange in their work units may lead to discover problems in their work units which they take as an opportunity (Frese & Fay, 2001). Every individuals or employees have different level of knowledge, skills, information, and views regarding work problems. Such employees, due to their quality of exchanging information, find new ways of thinking, introduce new ideas, and gather information from their colleagues in order to identify opportunities or to resolve the existing problems (Grant & Ashford, 2008). Such individuals may gather information from both inside and outside of their work units.

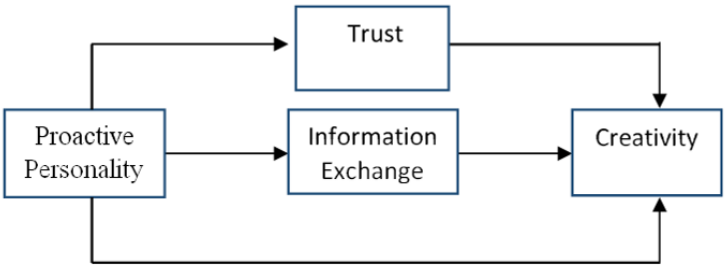
In order to achieve their goals, proactive individuals accumulate social resources and build interpersonal relations (Grant & Ashford, 2008). Such individuals shape trust relationships with their colleagues and supervisors. When employees have trust with one another, will lead to motivate and they solve one another problems (Dirks & Ferrin, 2002), and promote citizenship behaviours i.e. help and cooperate each other's (McAllister, 1995). As stated earlier, proactive individuals try to find opportunities or problems that others may not identified. In case where relationship was based on trust, they may consider other partners problems as their own (McAllister, 1995).

The question may arise that how proactive individuals develop trust relationship? To answer this question, Gong *et.al.* (2012) suggested that information exchange links these variables. Information exchange encompasses cooperative and mutually beneficial ties among workers.

Such beneficial ties enhance positive attitudes of employees toward one another (Perry-Smith, 2006). An information exchange setting, the exchange partners infer and make ascription for others behaviour and at the same time build trust relationships. Thus we hypothesize:

Amabile (1988) componential model of creativity proposes that the basic building block of creativity is informational resources. Informational resources will be achieved through sharing information with others in the workplace. According to the views of informational exchange, such exchange of information might enhance employee's creativity (Perry-Smith, 2006). Exchanging information with those having relevant jobs will increase job relevant skills and knowledge which is essential for creativity (Perry-Smith, 2006).

Figure: 1, Proposed Research Model



Hypotheses of the Study

Based on the cited literature and research model of the study the following hypotheses were developed:

H_1: Proactive personality is significantly associated with information exchange.

H_2: Proactive personality is significantly associated with trust.

H_3: Information exchange mediates the relationship between proactive personality and trust.

H_4: Information exchange is significantly associated with employee creativity.

H_5: Trust is significantly associated with employee creativity.

H_6: Trust mediates the relationship between information exchange and creativity.

H_7: The relationship between proactive personality and employee creativity are mediated by information exchange and trust.

Method

The current study was conducted in banking organizations of Pakistan. The population of the current study were all level of managers of banking organizations of Pakistan. State Bank of Pakistan is the central

bank of Pakistan following is the list of notable banking organizations in Pakistan (SBP, 2015).

- Government-owned Scheduled Banks
- Specialized banks
- Commercial banks
- Development Finance Institutions
- Foreign Banks
- Islamic banks
- Microfinance Banks

The sample of the study consisted of 400 managers and supervisors from banking organizations in Pakistan enlisted on State Banks website (SBP, 2015). A total of 400 questionnaires were distributed, 328 were received back with a response rate of 82%. Out of 328 questionnaires, 25 were found incorrect or incomplete and were discarded from the study and the remaining 303 questionnaires were used for further analysis.

Measurements

For proactive personality, a scale developed by Bateman & Crant's (1993) was adapted and used for this study. The proactive personality scale consists of 13 items. Previous studies including Gong *et.al*. (2012), Major *et.al.* (2006), and Brown *et.al*. (2006), also used this scale to measure proactive personality. The reliability of proactive personality was tested and found satisfactory (α = .841). For information exchange we adapted a scale developed by Subramaniam & Youndt (2005). This scale consists of 14 items. For this study only 9 items were selected based on the discussion with experts on the field and colleagues. Previous study like Gong *et.al*. (2012) also used this instrument. The reliability of the information exchange instrument was also found good (α = .901).

To measure trust a scale developed by McAllister, (1995) was adapted and used for the study. This scale contains 5 items. Gong *et.al.* (2012) also used this instrument while studying the relationship of proactive personality, trust, and creativity. We also tested the reliability of trust scale and found satisfactory (α = .838). For employee creativity a scale developed by Oldham & Cummings, (1996) was adapted and used. The scale consists of six items, and were measures on a five point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Previous studies like Khattak, (2015); and Gong *et.al.* (2009) also used this instrument. The reliability of employee creativity was tested and also found correct (α = .841).

Empirical Results

Some researchers believe that when testing mediation effect, it is not necessary to have a direct relationship between predictor and predicted variables (e.g., Mackinnon *et.al.* 2007; Mackinnon *et.al*. 2004), although, we found a positive and significant direct relationship between proactive personality and individual creativity prior to testing multilevel modelling ($b = .42$, $p < .05$). Our result is consistent with the studies conducted by Seibert *et al.,* (2001) and Gong *et al.,* (2012). These studies found significant relationship between proactive personality and employee creativity. A one unit change in our predictor variable proactive personality will bring 83% ($R^2 = 0.83$) variance in the predicted variable employee creativity. Thus the first hypothesis of the current study was accepted.

Model 1(Appendix) shows the relationship between proactive personality and trust through mediation information exchange. The results show that information exchange mediates ($b = 0.57$, $p < 0.05$) the relationship of proactive personality and trust. Thus hypothesis two of the study was accepted. The total effect of independent variable and mediating variable on dependent was 0.2628. The direct effect of proactive personality on trust 0.1419 and the indirect effect was 0.1209. The Sobel test also indicates that information exchange (effect = .1209, $p < 0.05$) mediates the relationship between proactive personality and trust.

Model 2 (Appendix) shows the relationship between information exchange and employee creativity through a mediation trust. It is evident from the results that there is a positive and significant relationship between information exchange and employee creativity ($b = .6178$, $p < .05$). Trust mediates the relationship of information exchange and creativity. The Sobel test also clarifies the mediation role played by trust (effect = .1244, $p < 0.05$). The total effect of predictor on predicted variable is 0.6178. The direct effect of predictor variable on predicted variable is (effect = 0.04924, $p < 0.05$). The indirect effect of predictor on predicted variable through mediation was 0.1244. It means that mediating variable trust bring 0.1244 or 12.44% variation in dependent variable employee creativity.

Model 3 and 4 (Appendix) link proactive personality and employee creativity through mediating role of both information exchange and trust. The results indicate that both information exchange and trust positively and significantly mediates the relationship between proactive personality and employee creativity. The total effect of proactive personality on employee creativity was statistically significant (effect = .4204, $p < 0.05$). The direct effect of proactive personality on employee creativity was 0.3508, and the indirect effect of proactive personality on employee creativity through informational exchange was 0.0696. Sobel test also shows that informational exchange mediates the relationship

between proactive personality and employee creativity (effect = .0696, $p < 0.05$). In case of trust as a mediating variable, the total effect of our predictor on predicted variable was 0.4204, and the direct effect of predictor on predicted variable was 0.3827, while the indirect effect of predictor proactive personality on the predicted employee creativity through mediation trust was 0.0377. Sobel test also clarify the mediating role of trust on the relationship between proactive personality and employee creativity (effect = 0.0377, $p < 0.05$). The result of the current study was in line with the study of Gong *et al*. (2012).

Discussion

The purpose of the current study was to incorporate proactive personality, information exchange, trust, and employee creativity, and to investigate how trust and information exchange relate to each other in the process leading to creativity. Our results indicated that (1) employee having a proactive personality continuously engage in more information exchange, (2) employee having proactive personality build trust relationships with their colleagues both inside and outside, and all do so partially through information exchange, (3) trust relationships among colleagues both inside and outside are conductive to creativity, and (4) due to fostering trust relationships, information exchange enhances employee creativity. Finally, a comparison of alternative forms of relationship between information exchange and trust supported the following chain of relationship: proactive personality → information exchange → trust → creativity.

Implications for Theory and Research

The current study suggested that proactive personality as an individual trait that enhances creativity. Furthermore, this study was the second one to link proactive personality and individual creativity through a complex process by incorporating trust and information exchange. Both mediators of the current study support the notion that established personality characteristic. Second, as stated above this study was the second to link trust and information exchange perspectives to study employee creativity, thus offers important implication for theory development. The focus of information exchange theory was on to continuously acquire cognitive resources (e.g. knowledge, information, and ideas) which is considered important for creativity. Finally, the current study contributes to the psychological safety theory, because in team level research trust is considered a base for psychological safety. Although trust relationship was not deeply study in promoting individual creativity (except Gong *et al.*2012). Furthermore, the current study extend the work of Gong *et al.* (2012) by conducting study in different culture and context, Madjar & Ortiz-Walters (2008) and Clegg *et al.* (2002) by studying trust

relationships among colleagues and managers instead of customers or organization in general.

Limitations and Future Research Directions

Although this study provides important insight to the psychological safety theory and creativity theory but there are some limitations as well. First, the current study only select supervisors and managers in order to relate trust and information exchange with individual creativity. It will be batter to conduct a future research by selecting colleagues and lower level employees because lower level employees have direct relationship with customers, they may have more information regarding organization's products. Second, the current study did not use any control variables like education, age, gender, and experience etc. as used by previous studies. In future one may use control variables on the relationship of proactive personality and individual creativity. Lastly, this study was conducted in Pakistan, in future one may replicate our study in other context.

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www.sbp.org.pk/f_links/index.asp

Appendixes

Table 1: Descriptive Statistics

	N	Min	Max	Mean	Std. D	Skewnes		Kurtosis	
							Std. Error		Std. Error
EC	303	8	26	18.61	5.52	-0.42	0.14	-1.34	0.28
IE	303	12	39	28.78	7.63	-0.39	0.14	-1.22	0.28
T	303	8	21	15.75	4.06	-0.43	0.14	-1.29	0.28
PP	303	11	49	34.9	11.98	-0.31	0.14	-1.54	0.28
Valid N	303								

Table 2: Correlation Matrix

Correlations					
		EC	IE	T	PP
EC	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	303			
IE	Pearson Correlation	.754**	1		
	Sig. (2-tailed)	0			
T	Pearson Correlation	.710**	.673**	1	
	Sig. (2-tailed)	0	0		
PP	Pearson Correlation	.713**	.701**	.775**	1
	Sig. (2-tailed)	0	0	0	
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 3: Reliability Statistics

Variables	No. of Items	Reliability
Employee Creativity	6	0.875
Information Exchange	9	0.901
Trust	5	0.838
Proactive Personality	14	0.841

Proactive Personality Information Exchange and Employee Creativity

********** PROCESS Procedure for SPSS Release 2.13 **********
Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3
****

Model = 4
Y = EC
X = PP

```
   M = IE
Sample size     303
************************************************************
Outcome: IE
Model Summary
      R        R-sq     MSE         F              df1       df2              p
   .9012    .8122    10.9690    1301.4045    1.0000   301.0000      .0000
Model         coeff        se          t              p       LLCI      ULCI
constant    8.7575     .5868    14.9248      .0000     7.6028     9.9121
PP              .5737     .0159    36.0750      .0000      .5424      .6050
************************************************************
Outcome: EC
Model Summary
    R        R-sq       MSE         F             df1       df2             p
  .9158    .8387     4.9428   780.1280     2.0000   300.0000      .0000
Model
             coeff         se         t              p       LLCI      ULCI
constant     2.8745  .5196     5.5325      .0000     1.8521     3.8970
IE           .1212      .0387     3.1336      .0019      .0451      .1974
PP           .3508      .0246    14.2417     .0000      .3023      .3993
*************** TOTAL EFFECT MODEL ******************
Outcome: EC
Model Summary
    R       R-sq        MSE         F              df1       df2             p
  .9129    .8335     5.0876    1506.3021    1.0000   301.0000      .0000
Model
                 coeff         se         t              p       LLCI      ULCI
constant     3.9363      .3996     9.8503      .0000     3.1499     4.7227
PP               .4204      .0108    38.8111      .0000      .3991      .4417
******** TOTAL, DIRECT, AND INDIRECT EFFECTS *********
Total effect of X on Y
    Effect        SE         t              p       LLCI      ULCI
     .4204      .0108    38.8111      .0000      .3991      .4417
Direct effect of X on Y
    Effect        SE         t              p       LLCI      ULCI
    .3508      .0246    14.2417      .0000      .3023      .3993
Indirect effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
IE      .0696      .0282      .0158      .1249
Partially standardized indirect effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
IE      .0126      .0051      .0028      .0230
Completely standardized indirect effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
IE      .1511      .0611      .0352      .2733
Ratio of indirect to total effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
IE      .1655      .0676      .0370      .2973
```

```
Ratio of indirect to direct effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
IE      .1983      .1008      .0384      .4230
R-squared mediation effect size (R-sq_med)
         Effect    Boot SE   BootLLCI   BootULCI
IE      .7244      .0257      .6673      .7697
Preacher and Kelley (2011) Kappa-squared
         Effect    Boot SE   BootLLCI   BootULCI
IE      .1617      .0618      .0372      .2793
Normal theory tests for indirect effect
      Effect         se          Z          p
      .0696      .0223     3.1206      .0018
************ ANALYSIS NOTES AND WARNINGS ***********
Number of bootstrap samples for bias corrected bootstrap confidence intervals:
1000
Level of confidence for all confidence intervals in output:    95.00
------ END MATRIX -----
Proactive Personality Trust and Employee Creativity
Run MATRIX procedure:
******* PROCESS Procedure for SPSS Release 2.13 ************
         Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************
Model = 4
   Y = EC
   X = PP
   M = T
Sample size
       303
**************************************************************
Outcome: T
Model Summary
      R       R-sq        MSE        F             df1        df2           p
   .7753     .6011     6.6038   453.6681     1.0000   301.0000     .0000
Model
                 coeff        se           t           p       LLCI       ULCI
constant     6.5752      .4553    14.4419      .0000     5.6792     7.4711
PP               .2628      .0123    21.2995      .0000      .2386      .2871
**************************************************************
Outcome: EC
Model Summary
      R       R-sq       MSE        F        df1        df2         p
   .9154     .8379     4.9684   775.3303     2.0000   300.0000     .0000
Model
coeff        se        t          p       LLCI       ULCI
constant     2.9938      .5138     5.8265      .0000     1.9826     4.0049
T                .1433      .0500     2.8673      .0044      .0450      .2417
PP               .3827      .0169    22.5802      .0000      .3493      .4160
*************** TOTAL EFFECT MODEL ****************
```

Outcome: EC
Model Summary

R	R-sq	MSE	F	df1	df2	p
.9129	.8335	5.0876	1506.3021	1.0000	301.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.9363	.3996	9.8503	.0000	3.1499	4.7227
PP	.4204	.0108	38.8111	.0000	.3991	.4417

********* TOTAL, DIRECT, AND INDIRECT EFFECTS *********
Total effect of X on Y

Effect	SE	t	p	LLCI	ULCI
.4204	.0108	38.8111	.0000	.3991	.4417

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
.3827	.0169	22.5802	.0000	.3493	.4160

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
T	.0377	.0191	-.0007	.0752

Partially standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
T	.0068	.0035	-.0004	.0136

Completely standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
T	.0818	.0410	-.0047	.1609

Ratio of indirect to total effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
T	.0896	.0455	-.0049	.1777

Ratio of indirect to direct effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
T	.0985	.0556	-.0049	.2161

R-squared mediation effect size (R-sq_med)

	Effect	Boot SE	BootLLCI	BootULCI
T	.5579	.0364	.4805	.6256

Preacher and Kelley (2011) Kappa-squared

	Effect	Boot SE	BootLLCI	BootULCI
T	.1326	.0586	.0117	.2434

Normal theory tests for indirect effect

Effect	se	Z	p
.0377	.0133	2.8386	.0045

********** ANALYSIS NOTES AND WARNINGS **********
Number of bootstrap samples for bias corrected bootstrap confidence intervals:
1000
Level of confidence for all confidence intervals in output: 95.00
------ END MATRIX -----

Information exchange trust and EC
Model = 4
Y = EC
X = IE

```
   M = T
Sample size
      303
************************************************
Outcome: T
Model Summary
      R       R-sq      MSE         F          df1         df2          p
  .7731     .5976    6.6620   447.0713     1.0000   301.0000     .0000
Model
              coeff       se          t          p       LLCI       ULCI
constant     3.9008     .5796     6.7299     .0000     2.7601     5.0414
IE            .4116     .0195    21.1441     .0000     .3733      .4500
************************************************************
Outcome: EC
Model Summary
      R       R-sq      MSE         F          df1         df2          p
   .8658     .7496    7.6736   449.1189     2.0000   300.0000     .0000
Model
              coeff       se          t          p       LLCI       ULCI
constant     -.3537     .6672     -.5302     .5964    -1.6668     .9593
T             .3023     .0619     4.8871     .0000     .1806      .4241
IE            .4934     .0329    14.9786     .0000     .4286      .5582
********** TOTAL EFFECT MODEL ******************
Outcome: EC
Model Summary

R          R-sq       MSE         F          df1         df2          p
  .8542     .7297    8.2570   812.5780     1.0000   301.0000     .0000
Model
              coeff       se          t          p       LLCI       ULCI
constant      .8255     .6453     1.2793     .2018     -.4443     2.0954
IE            .6178     .0217    28.5058     .0000      .5752      .6605
****** TOTAL, DIRECT, AND INDIRECT EFFECTS ********
Total effect of X on Y
    Effect        SE         t          p       LLCI       ULCI
     .6178     .0217    28.5058     .0000      .5752      .6605
Direct effect of X on Y
    Effect        SE         t          p       LLCI       ULCI
     .4934     .0329    14.9786     .0000      .4286      .5582
Indirect effect of X on Y
       Effect    Boot SE   BootLLCI   BootULCI
T      .1244     .0374          .0468      .1919
Partially standardized indirect effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
T      .0226      .0068      .0094          .0354
Completely standardized indirect effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
T      .1721      .0507      .0656      .2662
Ratio of indirect to total effect of X on Y
```

```
        Effect    Boot SE   BootLLCI   BootULCI
T      .2014      .0612       .0819      .3215
Ratio of indirect to direct effect of X on Y
        Effect    Boot SE   BootLLCI   BootULCI
T      .2522      .0977       .0892      .4739
R-squared mediation effect size (R-sq_med)
       Effect    Boot SE   BootLLCI   BootULCI
T      .5425      .0321       .4781      .6051
Preacher and Kelley (2011) Kappa-squared
       Effect    Boot SE   BootLLCI   BootULCI
T      .2132      .0579       .0860      .3165

Normal theory tests for indirect effect
        Effect         se          Z          p
       .1244      .0262     4.7565     .0000
********* ANALYSIS NOTES AND WARNINGS ***********
Number of bootstrap samples for bias corrected bootstrap confidence intervals:
1000
Level of confidence for all confidence intervals in output:    95.00
------ END MATRIX -----
```

Proactive Personality Information Exchange and Trust

```
**************************************
Model = 4
   Y = T
   X = PP
   M = IE
Sample size
       303
************************************************************
Outcome: IE
Model Summary
     R      R-sq       MSE          F          df1       df2          p
  .9012    .8122   10.9690   1301.4045     1.0000   301.0000     .0000
Model
              coeff       se         t          p       LLCI      ULCI
constant     8.7575    .5868   14.9248     .0000     7.6028    9.9121
PP            .5737    .0159   36.0750     .0000      .5424     .6050
************************************************************
Outcome: T
Model Summary
      R      R-sq       MSE          F          df1       df2          p
  .7941    .6306    6.1372   256.0251     2.0000   300.0000     .0000
Model
              coeff       se         t          p       LLCI      ULCI
constant     4.7298    .5790    8.1695     .0000     3.5905    5.8692
IE            .2107    .0431    4.8874     .0000      .1259     .2956
PP            .1419    .0274    5.1714     .0000      .0879     .1960
```

********** TOTAL EFFECT MODEL **********
Outcome: T
Model Summary

R	R-sq	MSE	F	df1	df2	p
.7753	.6011	6.6038	453.6681	1.0000	301.0000	.0000

Model

coeff	se	t	p	LLCI	ULCI
constant	6.5752	.4553	14.4419	.0000	5.6792	7.4711
PP	.2628	.0123	21.2995	.0000	.2386	.2871

******** TOTAL, DIRECT, AND INDIRECT EFFECTS *********
Total effect of X on Y

Effect	SE	t	p	LLCI	ULCI
.2628	.0123	21.2995	.0000	.2386	.2871

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
.1419	.0274	5.1714	.0000	.0879	.1960

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
IE	.1209	.0339	.0583	.1872

Partially standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
IE	.0298	.0083	.0144	.0460

Completely standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
IE	.3566	.0978	.1759	.5512

Ratio of indirect to total effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
IE	.4600	.1344	.2161	.7205

Ratio of indirect to direct effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
IE	.8517	79.7754	.2757	2.5783

R-squared mediation effect size (R-sq_med)

	Effect	Boot SE	BootLLCI	BootULCI
IE	.5682	.0296	.5110	.6241

Preacher and Kelley (2011) Kappa-squared

	Effect	Boot SE	BootLLCI	BootULCI
IE	.2447	.0597	.1252	.3545

Normal theory tests for indirect effect

Effect	se	Z	p
.1209	.0250	4.8413	.0000

********* ANALYSIS NOTES AND WARNINGS **********
Number of bootstrap samples for bias corrected bootstrap confidence intervals:
1000
Level of confidence for all confidence intervals in output: 95.00
------ END MATRIX -----