

“Relationship Between Gratitude and Perceived Stress in Students in India- The Moderating Role of Gender”

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ABSTRACT

“Gratitude” is understood as a feeling of appreciation to another person/ higher being who had helped in reducing the impact of stress in life. Past research had shown beneficial connections of “feelings of gratitude” with social assistance and it also appears to be an anti-stress buffer (Kumar, P., et. al, 2019). This research attempts to study if such a relationship is equally true for men and female population, as both may perceive it differently, especially from the social context. The present research examines the connection between gratitude and stress in participants (N = 252, 114 Females) who are university students of the Dehradun region, in India. Data had been collected on the two self-report measures, Gratitude and Perceived Stress, using ‘The 6-item Gratitude Questionnaire (GQ-6)’ (McCullough et al., 2002) and the ‘Perceived Stress Scale’ (Cohen, S., et al., 1994). SPSS 22.0 software is used to analyses the data and interpreted using tools like factor analysis and regression etc. The primary impact of gender on the relationship between perceived stress has been analyzed using, PROCESS macro (Prof A.

Hayes) and Daniel Soper's statistical tool called "Interaction" for moderation graph was employed for data examination and hypothesis analysis. The results of this study have found that the interaction of gratitude and gender to perceived coping, had positive relationship in female. Other side, interaction of gratitude and gender to perceived distress, had negative relationship in female. The managerial implications and future study have also been discussed.

Keywords: Perceived Stress Scale, Gratitude, Gender Differences, Statistical Moderation, PROCESS Macro, Stress Management

INTRODUCTION

Today, the life of a human being is complicated and existence of stress is acknowledged. It is natural that someone feels gratitude towards someone who helps in reducing that stress, and to take an opportunity to express appreciation for such help. Recently (Krejtz et al., 2016, Nezlek, J. B., et al, 2019), suggested that such attempts have enhanced psychologists' anxiety to understand the relationships between gratitude and stress, and if stress be lowered by expressing gratitude?.

Sometimes, Gratitude had reduced anxiety and stress (Wood et al., 2008) and found that the person who expresses gratitude in his life i.e. those who are grateful for their sadness, anxiety, happiness, etc. are happier than the people who do not express gratitude.

Some studies (Kraus et al., 2006) have suggested that the beneficial mental health consequences of gratitude for female can particularly affect them compared with male. In particular, Women with the highest levels of gratitude tend to demonstrate substantially decreased stress compared with males. Further, psychological correlations of gratitude and stress become increasingly important.

Dehradun, the capital city of Uttarakhand State in India, is situated between the Ganges River to the east and Yamuna in the west. It's well connected to Holi towns like Rishikesh, Haridwar, etc. Uttarakhand attracts a large number of tourists throughout India. The majority of research was non-Indian (Wood et al., 2008, Rohda, 2009, Lee et al., 2018), but there had been limited studies in India. The present research thus tries to create a model showing connection between gratitude and stress, considering gender as a moderating factor.

LITERATURE REVIEW

Gratitude

The notion of gratitude typically is split into two distinct classifications: expression and experience (Wood, Froh&Geraghty, 2010). It was shown that many faces are able to gratitude, including concrete emotions of gratitude after receipt of something of need or value, and sentiments of gratitude for more abstract, good things in life. Gratitude is to make a person understand that they are recognized for what they had contributed to the world or to what they express gratitude. So, gratefulness could be defined as part of a wider life orientation to the positive in the globe "(Wood et al 2010). Gratitude can both be understood and measured in terms of 'trait ' and 'state'. Trait gratitude means continuous emotions of gratitude experienced by the person of life and it can also be assessed with the Gratitude resentment and appreciation test (McCullough et al., 2002), which also measures gratitude intensity, frequency, duration, and density.

Many times, gratitude occurs in a social context, involving a feeling of appreciation for others and a readiness to respond to good acts. Gratitude may assist create empathy and encourage beneficial social impacts in the setting in which you live (MacCull et.al. 2001). Gratitude can

also act as a safeguard against adverse feelings and stress (Petrocchi, N. & Couyoumdjian, A. 2016). This Study adopted The Gratitude Questionnaire (GQ-6; McCullough et al., 2002) to assess gratitude.

Perceived Stress

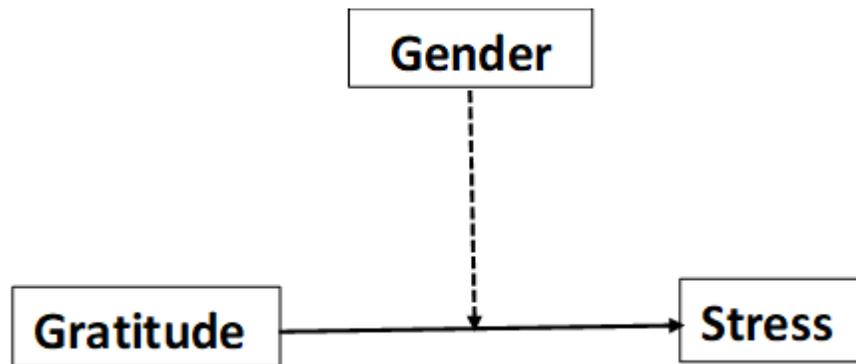
Psychological stress is, however, a broader term that covers the reactions of a person who cannot overcome a life impediment. Stress was earlier examined by the measurement of their physiological manifestations, significant life occurrences, daily troubles, and cognitive assessment. Stress has also been evaluated (Cohen et al. 1983). According to Cohen et al. (1983) "The evaluation of a person's mental stress is that there can be no doubt that the maximum development assesses the efforts of occurrences." Furthermore, if an individual extravagantly promotes values and assets by decreasing the natural potential, he answers it mentally, emotionally and naturally. PSS-10 is based on a single basic dimension while the perceived coping and distress (Hewitt et al., 1992) variables (Santiago et al., 2019) do occur independently. Although Taylor, J. M. (2015), used other terminology for these two variables, including "Perceived Helplessness" and "Perceived Self-efficacy." Limet. al., (2013) defined the coping that "the way we deal with stressful and troubling conditions is called coping. It also involves an expulsive attempt to solve issues and address issues". Carlson et al. (2010) defined distress that "distress is wide, covering a broad range of feelings and psychiatric symptoms like depression and anxiety".

This study adopted the Perceived stress scale (PSS-10), which is the most popular psychological instrument for measuring stress perception, and we have therefore used it. It is a measure of how

stressful situations are evaluated in one's life. The objects were intended to determine whether people are unpredictable, uncontrollable and overloaded.

The relationship between Gratitude and Stress

Some studies (Deutsch, C. J. 1984, Krause, N. 2006. Lee et al. 2018) have shown that the relationship between Gratitude and Stress, reported and gratitude appears to reduce stress over time. Wood et al., (2007) found that coping is partially mediating the link between gratitude and stress. The positive impact of gratitude, the typically manifest social environments of gratitude, or a number of other significant factors may contribute to this association. Kraus et al., (2006) have shown that females may be especially impacted by the positive mental health effects of gratitude, compared to males and results of this study indicate that females are protective from stress than males, even if this particular study was confined to religious background. However, another study (Rohda, D.C. 2009) also have found that the unfavorable relationship between gratitude and stress for females is similar. However, other studies (Rohda, D.C. 2009) also have found that the unfavorable relationship between gratitude and stress for females is similar. Wood et al. (2008) have established a direct model where gratitude leads to a greater perception of social support levels and less stress among young people. To this end, taking into account two sectors of the community in contemporary times, namely men and women, there is a huge effect on women with regard to the impacts of gratitude on mental health. The majority of the studies focused on non-Indian culture (Wood et al, 2007, Rohda, 2009, Lee et al. 2018), but there have been no studies in India. This study administered self-report measures of gratitude and stress to a sample of the Indian population. We supposed that gratitude and stress had zero-order links, but gender would play an important role in facilitating this relationship. [Insert Figure1 here].



(Figure 1. Conceptual Moderation Model)

To test the SPSS Process Macro hypotheses and establish a relationship, the Conditional Effect is analyzed between gratitude and Stress subject to follow-up bootstrap. On the basis of that, the current study has generated the two hypotheses.

H1: There is significant relationship between gratitude and stress

H2: The relationship between Gratitude and Stress is moderated by Gender.

NEED OF THE STUDY

Based on the available literature, it can be said that identifying the relationship between Gratitude and stress can be considered as a significant problem, and that it calls for empirical research in psychology and management research. Most of the research (Wood et al. 2007, Rohda, 2009, Lee et al. 2018) was conducted outside India, and the insights in Indian context are important. This study hence tried to create a clear relationship between gratitude and stress in the population of Indian samples in Dehradun (India), and efforts made to discuss this relationship in the Asian perspective.

SCOPE OF THE STUDY

The study is conducted to understand the relationship between how the feelings of Gratitude in a person relate with the perceived stress levels in a person. A model had been prepared and tested to establish the relationship between gratitude and stress in India, and to analyze the gender differences if any. The study had been conducted among student population from different educational backgrounds, and the results analyzed. The results of this study can be used by HR practitioners in designing Employee engagement programs differently for employees of different genders. Academicians can work further to understand the why and how of gender effect on perceived stress in further research.

METHOD

Sample and procedure: Questionnaires were administered through an online survey method using Google Forms among participants. The sample was gathered via a targeted sampling technique which was not probable. Our original sample was distributed among Dehradun students and our questionnaires and demographic information were finished. Due to the lack of information, only N=252 participants were retained after the case deletion was applied in our final sample.

Pilot study: The researchers conducted a pilot survey of 10 participants from each group in order to evaluate the prevalence and difficulty of the questions that could fully understood the questionnaire. Moreover, this study also included the same number of male and female students in each group. The answers demonstrated that the survey participants were sufficient in terms of questionnaire frequency and complexity.

Gratitude Scale: The Gratitude Questionnaire (GQ-6; McCullough et al., 2002) was adopted in order to evaluate Gratitude in this study (insert table 1 here). This measure is characterized by

Gratitude by self-reports which measure the intensity of the emotions, frequency, and density. The seven-point scale of six elements (two inverse coded-item 3 and item 6) range from 1 (highly unpleasant) to 7 (strongly agree).

Coded item	statement
G1	“I have so much in life to be thankful for”
G2	“If I had to list everything that I felt grateful for, it would be a very long list”
G3 (R)	“When I look at the world, I don’t see much to be grateful for”
G4	“I am grateful to a wide variety of people”
G5	“As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history”
G6 (R)	“Long amounts of time can go by before I feel grateful to something or someone”

Note: Item G3 and G6 are reverse scored

Perceived Stress scale (PSS): Psychological instruments to measure the perception of stress are the perceived stress scale (PSS-10; Cohen et al., 1983) with 10 items (where, Item no 4, 5, 7 and 8 are reverse scored). It is a measure of the extent of the stressfulness of circumstances in one's life. Items were intended to evaluate the unpredictability, uncontrollability and overloaded respondents find their lives to be. Participants are asked to select how frequently they experienced each item within on a 5-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 2: Perceived Stress Scale (PSS)

Coded item	Statement	Short Item
S1	“In the last month, how often have you been upset because of something that happened unexpectedly?”	Been Upset
S2	“In the last month, how often have you felt that you were unable to control the important things in your life?”	Unable to control
S3	“In the last month, how often have you felt nervous and stressed? ”	Nervous-stressed
S4	“In the last month, how often have you felt confident about your ability to handle your personal problems?”	Felt confident (R)
S5	“In the last month, how often have you felt that things were going your way? ”	Things-your way (R)
S6	“In the last month, how often have you found that you could not cope with all the things that you had to do?”	Could not cope
S7	“In the last month, how often have you been able to control irritations in your life?”	Control irritations (R)
S8	“In the last month, how often have you felt that you were on top of things? ”	On top of things (R)
S9	“In the last month, how often have you been angered because of things that were outside of your control?”	Been angered
S10	“In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?”	Could not overcome

Note: Item S4, S5, S7 and S8 are reverse scored

ANALYSIS AND RESULTS

Demographic result:

More than 350 respondents who finished our surveys and demographics included this original research. Only 252 respondents in our final sample have been kept after case deletion due to the big amounts of missing information. The participant age range [insert table 3 here] will be displayed.

In above table 3, the sample consists of a majority of males (N=138) as compared to females (N=114). A total of 252 individuals were a part of this survey. A great portion of the sample consists of individuals in the age bracket of 20 to more than 30 years.

Table 3: Demographic information		
Gender		
	Frequency	percent
Female	114	45.4
Male	138	54.4
Age		
20-24	106	49.9
25-29	144	56.4
More than 30	2	.8
Area		
Urban	191	75.5
Rural	61	23.7

Reliability of the instrument: Reliability was satisfactorily high for the measures of gratitude in this sample: GQ-6 (Cronbach's alpha = 0.703). For the stress measures contained in this sample,

PSS (Cronbach's alpha = 0.713) is acceptable in social scientific studies (George and Mallery, 2003).

Validity of the Instrument:

The data collected from the respondents on both scale are subjected to factor analysis (Rotated Component Matrix) using SPSS 22.0. The large value of the item (closer to one) indicates variables to fit the factor solution better, and vice versa, loads of 0.40 or more are acceptable

Gratitude scale (GQ-6): The factor analysis was done with only 2 factors (GQ-4 and GQ-2) explaining 65.3 per cent of the total variance. The first factor (GQ-4) accounted for 36.4 per cent of the variance and second factor (GQ-2) accounted for only 28.9 per cent. Kaiser (1974) recommends accepting values greater than .5 as barely acceptable. For this scale, The Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy was .647 which is close to threshold limit 1.0 and value for Barlett's Test was significance ($p=.000$).

- a. **GQ-4:** Specifically, the Gratitude scale of factor 1, GQ-4 (G1, G2, G3, and G4) with good loading values of .677, .832, .768, .652 respectively [insert Table 4 here].
- b. **GQ-2:** Similarly, factor 2 of gratitude scale GQ-2 (G5 and G6) also loading values of .839 and .798. All values in the table are above the point of cutoff (0.4) and that two out of six indicators (G5 and G6) of gratitude recorded low loads on their respective constructs [insert Table 4 here].

Table 4: Rotated Component Matrix a of data reduced using SPSS		
	Factor 1 (GQ-4)	Factor 2 (GQ-2)
G1	.677	
G2	.832	
G3	.768	

G4	.652	
G5		.839
G6		.798

In order to represent each factor, researchers have proposed a varying item number of 3 to 5 per factor (MacCallum, Widaman, Zhang & Hong, 1999 ; Raubenheimer, 2004). The ' GQ-2 ' gratitude scale has only two points in this analysis. For further analysis, we have therefore adopted Factor 1 (GQ-4).

Perceived stress scale (PSS): For this scale, the sampling adequacy, Kaiser-Meyer-Olkins measurement (KMO) was 0.775, near the 1.0 threshold and value for the Barlett test ($p=.000$). The factor analyses was performed only two variables (perceived coping and perceived distress), which accounted for 46.8%. Perceived coping accounted for 27% of the variance, perceived distress accounted for only 19.8% and the perceived distress accounted for 50.8%. Psychometric research suggests that the PSS-10 consists of a two-factor framework (Taylor, J. M. 2015). These two-factors is consistent with Lazarus's (Lazarus, R. S. 1966) theory of stress as an appraisal and coping (Korn, L., et al., 2009), and has been called as "Perceived Distress" and "Perceived Coping".

a. **Perceived coping:** Wei, M., et al. (2003) described the perceived coping that "coping capabilities and advances to solve issues." in factor analysis show good loading values from .697, .564, .749 and .6618 respectively, for perceived coping (S4, S5, S7, and S8).

b. **Perceived distress:** Carlson et al. (2010) defined distress that "distress is wide, covering a broad range of feelings and psychiatric symptoms like depression and anxiety".

Similarly, perceived distress of PSS (S1, S2, and S3) also loading values of .860, .650

and .706, respectively. All values in the table are above the point of cutoff (0.4) [insert Table 5 here].

Table 5 shows that the total factor loaded was surpassed by a uniform value of 0.40. Only the remaining S6, S9, and S10 variables did not exceed 0.40, therefore these factors removed for further analysis.

		Perceived coping	Perceived distress
S1	Been Upset		.860
S2	Unable to control		.650
S3	Nervous-stressed		.706
S4	Felt confident (R)	.697	
S5	Things-your way (R)	.564	
S7	Control irritations (R)	.749	
S8	On top of things (R)	.618	

These results indicate that the PSS-10 is based on a single basic dimension while the perceived coping and distress (Hewitt, P. L. et al., 1992) variables (Lee, B et al., 2019) do occur independently. Although Taylor, J. M. (2015), used other terminology for these two variables, including "Perceived Helplessness" and "Perceived Self-efficacy". Ultimately, these results are consistent with those of previous studies [Wu, S. M., & Amtmann, D. (2013), Jovanović, V., & Gavrilov-Jerković, V. (2015), Santiago et al., (2019)]. This is an important result that confirms the unidirectionality of the PSS-10, which supports the initial validation report of Cohen and Williamson (1988).

Regression analysis

First, we used simple linear regression to determine the zero-order association between gratitude and stress, gender and stress, religiosity and stress. For all significance testing, a standard two-tailed alpha threshold of .05 was used.

H1: The relationship between Gratitude and Stress

H1a: There is significant relationship gratitude and perceived coping

The regression model was a negative relationship ($p < 0.05$) and indicated that gratitude accounted for 11.6 per cent of the variance in perceived coping. Gratitude was a significant predictor ($\beta = .341, p < 0.05$) with stress. These findings provided support for Hypothesis 1a.

H1b: There is significant relationship gratitude and perceived distress

The regression model was a negative relationship ($p < 0.05$) and indicated that gratitude accounted for 0.31 per cent of the variance in perceived distress. Gratitude was a significant predictor ($\beta = -.175, p < 0.05$) with stress. These findings provided support for Hypothesis 1b.

Moderation analysis

Then, we conducted a moderation analysis using the PROCESS Macro for SPSS, and to determine whether gender was a significant moderator of this relation between gratitude and stress. Analyses were subjected to follow-up bootstrap validation.

H2: The relationship between Gratitude and Stress is moderated by Gender.

H2a: The relationship between Gratitude (GQ-4) and Perceived coping is moderated by Gender.

To test the SPSS Process Macro hypotheses and establish a relationship, the Conditional Effect is analyzed between gratitude and Perceived coping subject to follow-up bootstrap. In order to record gender (0 = female, 1 = male), a dummy variable was developed.

However, it may be statistically important to explain only 22.2 per cent (insert table 6 here) of the observed Gratitude fluctuation by Perceived coping. The rest 77.8 per cent of the variation in gratitude is not clarified, meaning that the rest 77.8 per cent is connected with other factors not included in the Gratitude.

Table 6: Results of moderator analysis between gratitude and perceived coping						
Model summary		R2			F	
		.2226			23.5810	
	coeff	SE	t	p	CIL	CIU
Gratitude	.5343	.0847	6.3108	.0000	.3676	.7011
Gender	.4906	.1145	4.2845	.0000	.2651	.7162
Interaction	-.4329	.1146	-3.7774	.0002	-.6586	-.2072
Conditional effect						
	Effect	SE	t	p	CIL	CIU
Female (.000)	.5343	.0847	6.3108	.0000	.3676	.7011
Male (1.000)	.1015	.0772	1.3141	.1900	-.0506	.2536

Outcome variable: Perceived coping

The findings showed that gratitude and gender have a major effect on perceived coping, as their p-value (0.000, 00000) show lower than .005. From this analysis, with the conditional effect, we have found that significantly, there was positive relationship between gratitude perceived coping in female. That mean, women feel more stressed than male. These findings provided support for Hypothesis 2a.

For better explanation of this direct and indirect effect, Figure 2 is designed with the help of Daniel Soper's instrument called "Interaction."(Arya, V., et al., 2018), the effect was consistent with our expectations. As suggested by our interaction model, the impact of gratitude on stress was significant and positively for females Students, but was not statistically significant for males.

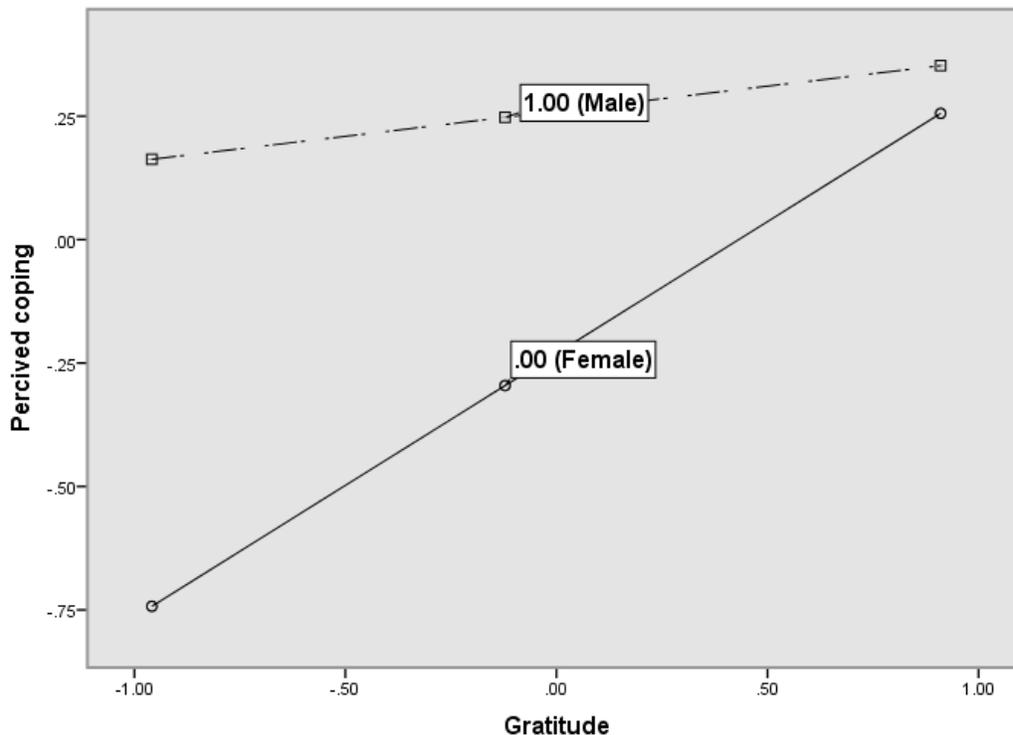


Figure 2: Interaction effect derived by "interaction – Daniel Soper"

H2b: The relationship between Gratitude (GQ-4) and Perceived distress is moderated by Gender.

To test the SPSS Process Macro hypotheses and establish a relationship, the Conditional Effect is analyzed between gratitude and Perceived distress subject to follow-up bootstrap. In order to record gender (0 = female, 1 = male), a dummy variable was developed.

However, it may be statistically important to explain only 11.8 per cent (insert table 7 here) of the observed Gratitude fluctuation by Perceived coping. The rest 88.2 per cent of the variation in gratitude is not clarified, meaning that the rest 88.2 per cent is connected with other factors not included in the Gratitude.

Table 7 : Results of moderator analysis between gratitude and perceived distress

Model summary		R2			F	
		.1187			11.0940	
	coeff	SE	t	p	CIL	CIU
Gratitude	-.3786	.0902	-4.1997	.0000	-.5562	-.2010
Gender	-.4034	.1219	-3.3083	.0011	-.6435	-.1632
Interaction	.4387	.1220	3.5952	.0004	.1983	.6790
Conditional effect						
	Effect	SE	t	p	CIL	CIU
Female (.000)	-.3786	.0902	-4.1997	.0000	-.5562	-.2010
Male (1.000)	.0601	.0822	.7304	.4658	-.1019	.2220

Outcome variable: Perceived distress

The findings showed that gratitude and gender have a major effect on perceived coping, as their p-value (0.000, 0011) show lower than .005. From this analysis, with the conditional effect, we have found that significantly, there was negative relationship between gratitude and perceived distress in female. These findings provided support for Hypothesis 2b.

For better explanation of this direct and indirect effect, Figure 3 is designed with the help of Daniel Soper's instrument called "Interaction." (Arya, V., et al., 2018), the effect was consistent with our expectations. As suggested by our interaction model, the impact of gratitude on perceived distress was significant and positively for females Students, but was not statistically significant for males.

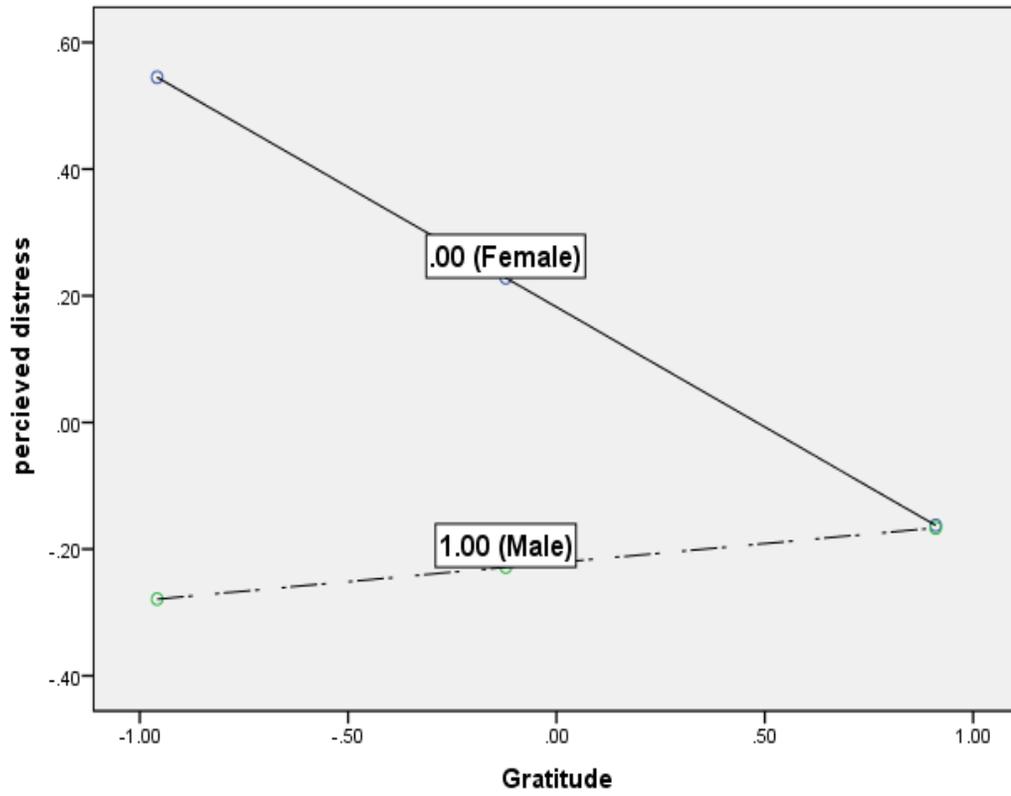


Figure 3: Interaction effect derived by "interaction - Daniel Soper"

DISCUSSION

This research discovered that stress factors have an important connection (see table 8 here), which are a sponsor by gratitude and gender.

Table 8: Status of the hypothesis			
Hypothesis	Hypothesis Statement	Status	Remark
H1: There is significant relationship gratitude and stress			
H1a	Gratitude-Perceived coping	Supported	positive relationship
H1b	Gratitude-Perceived distress	Supported	negative relationship
H2: The relationship between Gratitude and stress is moderated by Gender.			
H2a	The relationship between Gratitude	Supported	positive relationship

	and perceived coping is moderated by Gender		in female students
H2a	The relationship between Gratitude and perceived distress is moderated by Gender	Supported	negative relationship in female students

The table above signify that Gratitude have positive relationship with perceived coping (H1a) and negative relationship with perceived distress (H1b). Similarly, the results of this study have found that the interaction of gratitude and gender to perceived coping, had positive relationship in female. Other side, interaction of gratitude and gender to perceived distress, had negative relationship in female.

Current findings suggest that Gender and gratitude are both significant predictors of perceived stress levels and that their statistical interaction is also incrementally useful in predicting levels of stress. Our findings of statistical moderation also lead to the conclusion that gratitude may be a more useful predictor of stress (perceived coping and perceived distress) for female Students, compared to male students. Lastly, all the hypotheses were verified, because we found a favorable impact of gratitude on perceived cope and a adverse impact of gratitude in perceived distress. Last but not least, although explicitly hypothesized, our analysis suggests that female students are more stressful than male students.

The protective function of gratitude in tamping against stress can be particularly to women for several theoretical reasons. Gentry, L.A. et al. (2007) noted that females more often report using adaptive coping strategies while males report using preventative approaches and found that the general level of stress was greater in the female. Froh and Kashdan et al. (2009) found that

females generally express gratitude more freely and honestly than males, perhaps helping facilitate the strong negative relation demonstrated between gratitude and stress, for those females who are able to express their gratitude most freely. This is in line with established theories of the female mode of navigating the world through a tendency to tend and befriend (Taylor et al., 2000). If women express appreciation more often and are socially accepted, this would naturally lead to beneficial emotional advantages and stress reductions. However, on the contrary, the relation of men to gratitude is very distinct.

Furthering the possibility for gender-moderated effects, males are often more reluctant to express gratitude (Kring & Gordon, 1998; Nito, Wangwan, and Tani, 2005; Simon & Nath, 2004). Many males may demonstrate a hesitancy to outwardly express thanks, for fear of appearing weak or lacking in self-sufficiency (Somers and Kosmitzki, 1988). Gentry, L. A., et al., (2007) found that male perceived more stress from personal factors. Perhaps, while expressing gratitude in certain situations could be very beneficial for males, the demonstration of gratitude in other situations might actually increase insecurity and stress, due to social pressures and their attitudes.

LIMITATIONS AND FUTURE SCOPE

While our research and interesting results are presented, there are some constraints that are worth noting. For example, we could have increased the number and duration of our individual differential measures. Likewise, the sample size used for this research area is probable to be adequate but not optimal. Future work could address these issues by using bigger samples and adding additional gratitude measures, coping perceived, distress perceived and related factors. Longitudinal designs which monitor these buildings over time could be especially useful. Also noteworthy is that while present study discovered that the connection between gratitude and

stress can be moderated by gender on Indian students, it may also involve other variables like the level of age, culture, religion etc. Though the present research offers a useful insight into the role of gender can play in the moderation of the gratitude-stress relationship, we concluded that the woman has a positive connection between gratitude and perceived coping, a likewise negative relationship between gratitude and perceived distress. Though these are again interesting routes for future work, the current findings can suggest a female-specific effect of gratitude on stress. Future studies can also do suggest that find out the reasons why there is an insignificant relationship between gratitude and stress, in male?

CONCLUSION AND MANAGERIAL IMPLICATIONS

Researchers have attempted to validate the relationship between gratitude and stress in this research. In other words, it was first verified whether gratitude and stress are related to the Indian sample. In addition, it was examined whether the relationship is the same for people from different genders. While the current study and the work done before us indicate we should consider the universalize of gratitude and its application for the advantage of our mental health, although gratitude may seem like a universally helpful instrument for alleviating stress and building social relationships. In applying these principles to organizational management, managers should notice the current thankfulness ability to help a big number of women reduce their stress by helping to promote an atmosphere in which thanks are welcomed and encouraged instead of disappointed.

In addition we can and should work to change our organizational structures so as to generate jobs where people can be comfortable expressing their appreciation in an open and frank manner free from stigma and that does not lead to insecurity or self-doubt. In addition, our study indicates

thanks may not be as usually efficacious a coping strategy for women at present. In short, it can be a strong instrument for decreasing stress and improving our life to provide gratitude but we must not enable conceptions of good reason and generalization of why and how we determine how we implement this principle in our lives and organizations. The research is important for both professionals and scholars, as professionals can plan to develop better human resources programs and commitments that will give staff on their job a feeling of gratitude, as this helps them to experience less stress and more happiness.

References

1. Krejtz, I., Nezlek, J. B., Michnicka, A., Holas, P., & Rusanowska, M. (2016). Counting one's blessings can reduce the impact of daily stress. *Journal of Happiness Studies*, 17(1), 25-39. <https://doi.org/10.1007/s10902-014-9578-4>
2. Nezlek, J. B., Krejtz, I., Rusanowska, M., & Holas, P. (2019). Within-person relationships among daily gratitude, well-being, stress, and positive experiences. *Journal of Happiness Studies*, 20(3), 883-898. <https://doi.org/10.1007/s10902-018-9979-x>
3. Wood, A. M., Joseph, S., & Maltby, J. (2008). Gratitude uniquely predicts satisfaction with life: Incremental validity above the domains and facets of the five factor model. *Personality and Individual Differences*, 45(1), 49-54. <https://doi.org/10.1016/j.paid.2008.02.019>
4. Krause, N. (2006). Gratitude toward God, stress, and health in late life. *Research on Aging*, 28(2), 163-183. <https://doi.org/10.1177/0164027505284048>
5. Rohda, D. C. (2009). The Mediating/Moderating Effects of Intrinsic Religiosity on the Gratitude-Health Relationship.

6. Lee, J. Y., Kim, S. Y., Bae, K. Y., Kim, J. M., Shin, I. S., Yoon, J. S., & Kim, S. W. (2018). The association of gratitude with perceived stress and burnout among male firefighters in Korea. *Personality and Individual Differences*, 123, 205-208. <https://doi.org/10.1016/j.paid.2017.11.010>
7. Wood, A. M., Froh, J. J., & Geraghty, A. W. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical psychology review*, 30(7), 890-905. <https://doi.org/10.1016/j.cpr.2010.03.005>
8. McCullough, M. E., Emmons, R. A., & Tsang, J. A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82, 112–127. <http://dx.doi.org/10.1037/0022-3514.82.1.112>
9. Petrocchi, N., & Couyoumdjian, A. (2016). The impact of gratitude on depression and anxiety: the mediating role of criticizing, attacking, and reassuring the self. *Self and Identity*, 15(2), 191-205. <https://doi.org/10.1080/15298868.2015.1095794>
10. Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*; 24, 385-396. [10.2307/2136404](https://doi.org/10.2307/2136404)
11. Hewitt, P. L., Flett, G. L., & Mosher, S. W. (1992). The Perceived Stress Scale: Factor structure and relation to depression symptoms in a psychiatric sample. *Journal of Psychopathology and Behavioral Assessment*, 14(3), 247-257. <https://doi.org/10.1007/BF00962631>
12. Santiago, P. H. R., Roberts, R., Smithers, L. G., & Jamieson, L. (2019). Stress beyond coping? A Rasch analysis of the Perceived Stress Scale (PSS-14) in an Aboriginal population. *PloS one*, 14(5), e0216333. <https://doi.org/10.1371/journal.pone.0216333>

13. Taylor, J. M. (2015). Psychometric analysis of the Ten-Item Perceived Stress Scale. *Psychological assessment*, 27(1), 90. <http://dx.doi.org/10.1037/a0038100>
14. Carlson, J. M., Dikecligil, G. N., Greenberg, T., & Mujica-Parodi, L. R. (2012). Trait reappraisal is associated with resilience to acute psychological stress. *Journal of Research in Personality*, 46(5), 609-613. <https://doi.org/10.1016/j.jrp.2012.05.003>
15. Lim, Y. M., Tam, C. L., & Lee, T. H. (2013). Perceived stress, coping strategy and general health: A study on accounting students in Malaysia. *Researchers World*, 4(1), 88.
16. Deutsch, C. J. (1984). Self-reported sources of stress among psychotherapists. *Professional Psychology: Research and Practice*, 15(6), 833. <http://dx.doi.org/10.1037/0735-7028.15.6.833>
17. Kraus, R., Desmond, S. A., & Palmer, Z. D. (2015). Being thankful: Examining the relationship between young adult religiosity and gratitude. *Journal of Religion and Health*, 54(4), 1331-1344. <https://link.springer.com/article/10.1007/s10943-014-9923-2>
18. Lee, J. Y., Kim, S. Y., Bae, K. Y., Kim, J. M., Shin, I. S., Yoon, J. S., & Kim, S. W. (2018). The association of gratitude with perceived stress and burnout among male firefighters in Korea. *Personality and Individual Differences*, 123, 205-208. <https://doi.org/10.1016/j.paid.2017.11.010>
19. Wei, M., Heppner, P. P., & Mallinckrodt, B. (2003). Perceived coping as a mediator between attachment and psychological distress: A structural equation modeling approach. *Journal of counseling psychology*, 50(4), 438. <http://dx.doi.org/10.1037/0022-0167.50.4.438>
20. Wu, S. M., & Amtmann, D. (2013). Psychometric evaluation of the perceived stress scale in multiple sclerosis. *ISRN Rehabilitation*, 2013. <http://dx.doi.org/10.1155/2013/608356>

21. Jovanović, V., & Gavrilov-Jerković, V. (2015). More than a (negative) feeling: Validity of the Perceived Stress Scale in Serbian clinical and non-clinical samples. *Psihologija*, 48(1), 5-18.
22. Arya, V., Sethi, D., & Verma, H. (2018). Are emojis fascinating brand value more than textual language? Mediating role of brand communication to SNS and brand attachment: An insight from India. *Corporate Communications: An International Journal*, 23(4), 648-670. <https://doi.org/10.1108/CCIJ-03-2018-0036>
23. Hayes, A. F. (2015). Hacking PROCESS for estimation and probing of linear moderation of quadratic effects and quadratic moderation of linear effects. Unpublished White Paper). Ohio State University.
24. Froh, J. J., Yurkewicz, C., & Kashdan, T. B. (2009). Gratitude and subjective well-being in early adolescence: Examining gender differences. *Journal of adolescence*, 32(3), 633-650. <https://doi.org/10.1016/j.adolescence.2008.06.006>
25. Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E. & Gruenewald, T. L. 2000 Psychological resources, positive illusions, and health. *Am. Psychol.* 55, 99–109. <http://dx.doi.org/10.1037/0003-066X.55.1.99>
26. Kring, A. M., & Gordon, A. H. (1998). Sex differences in emotion: expression, experience, and physiology. *Journal of personality and social psychology*, 74(3), 686.10.1037//0022-3514.74.3.686
27. Sommers, S., & Kosmitzki, C. (1988). Emotion and social context: An American—German comparison. *British Journal of Social Psychology*, 27(1), 35-49. <https://doi.org/10.1111/j.2044-8309.1988.tb00803.x>

28. Simon, R. W., & Nath, L. E. (2004). Gender and emotion in the United States: Do men and women differ in self-reports of feelings and expressive behavior?. *American journal of sociology*, 109(5), 1137-1176. <https://doi.org/10.1086/382111>
29. Gentry, L. A., Chung, J. J., Aung, N., Keller, S., Heinrich, K. M., & Maddock, J. E. (2007). Gender differences in stress and coping among adults living in Hawaii. *Californian journal of health promotion*, 5(2), 89-102.
30. Suh, E., Diener, E., & Fujita, F. (1996). Events and subjective well-being: Only recent events matter. *Journal of personality and social psychology*, 70(5), 1091. <http://dx.doi.org/10.1037/0022-3514.71.5.842>
31. Kumar, P., Verma, H., & Dube, P. (2019). Moderating role of the gender and religiosity on the relationship between Gratitude and Stress. *International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN*, 2278-3075.
32. Jain, V., Kumar, D., & Dube, P. (2019). Examining the Role of Social Capital, Sustainability Orientation and Self-efficacy in Entrepreneurial Intention among Indian Students. *International Journal of Recent Technology and Engineering (IJRTE) ISSN*, 2277-3878.