

## **Role of Personal Growth Initiative as a Moderator between Stress and Mental Health among Adolescents**

**Sadia Zaman and Irum Naqvi**

Quaid-i-Azam University

In present study the relationship between stress and mental health moderated by personal growth initiative among adolescents was examined. Study comprised of sample including 330 adolescents age ranges 12 to 18 years from public and private sector educational institutions. Instruments used in present study were Stress Subscale from Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995), Personal Growth Initiative Scale – II (Robitschek et al., 2012), and Mental Health Continuum – Short Form (Keyes, 2009). Results showed that stress was negatively related with mental health and personal growth initiative, whereas mental health was positively related with personal growth initiative. Moderation of personal growth initiative reflects that adolescents with high stress have low scores on mental health, but personal growth initiative buffer this relationship and improve their mental health. However, adolescents with high scores on stress, low scores on personal growth initiative tend to have deteriorated mental health. Girls reported high levels of stress as compared to boys and gender has been viewed as a moderating factor on stress and mental health, same results were found for personal growth initiative and mental health. Girls have lower levels of mental health as compared to boys, but when girls have higher initiating tendency for growth, they compete boys in mental health.

*Keywords.* Personal growth initiative, flourishing mental health, intentional behavior, resource utilization

Adolescence is a delicate transitional phase of rapid growth where an individual is parting from childhood and developing a strong sense of individuality to enter into the adulthood. In this phase, adolescents come across certain challenges such as developing identity, meaningful relationship, locating personal directions, and

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Sadia Zaman and Irum Naqvi, National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan.

Correspondence concerning this article should be addressed to Sadia Zaman, National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan.  
E-mail: [sadiazaman.isb@gmail.com](mailto:sadiazaman.isb@gmail.com)

often end up with strains (Wisner, Jones, & Gwin, 2010). It is exceedingly vulnerable phase that affects mental health (Population Council, 2003).

Psychosocial demands in adolescence make them vulnerable to many strains. These strains naturally provoke stress and sometimes demand beyond individual's assets resulting in endangering his/her wellbeing (Lazarus & Folkman, 1984; Wisner et al., 2010). Some of the stressors have stringent requirement for initiating and planning to attain change by using resources in the environment. Arrival of some expected or sudden changes, which is stressful, demand the need to work for it psychologically or physiologically within an individual (Lovibond & Lovibond, 1995). Over-whelmness of an individual as a result of stress stirs him or her to work for better adjustment and growth. Sometimes, individual is capable to deal with these stressors, but sometimes stress is strong enough that it affects the growth mechanism of any individual (Braveman, Egerter, & Mockenhaupt, 2011).

Coping and management strategies either constructive or maladaptive, adopted by adolescents, are usually utilized on the basis of psychosocial demands (Franko et al., 2004). In the regime of constructive coping mechanisms, personal growth initiative (PGI) is a relatively new and multidimensional construct. Personal growth initiative is definitely an obtained expertise for self-improvement over variety of life domains. It provides cognitive components like focusing on how to switch and trust on the occurrence of possible changes and also conduct components, like having the particular initiative to actually enact the particular change method. The actual determining attribute of PGI is the self-change method that is actually intentional. This deliberate and willful action to change makes growth more directional and responsibility oriented (Robitschek, 1999). It comprises of four components: Readiness for change (an individual's own psychological preparedness assessment), planfullness (ability to be tactful and organized for self-change), using resources (ability for identifying and assessing external resources, such as other people and materials), and intentional behavior (actual and deliberate self-change plans and behaviors for the sake of personal growth initiativeness). All four components are notion of the individual's own willingness to do any task (Robitschek et al., 2012).

Understanding the importance of mental health on behalf of adolescents, Robitschek and Kashubeck (1999) elaborates that personal growth initiative actually serves as a preventive skill against developing distress symptoms. It decreases intensity of stress

occurrence, and further smoothes the progress of recovery from stress. When individuals attain optimum levels of subjective emotional, psychological, and social wellbeing they are considered as flourishing in life and achieving positive mental health with full of its benefits. Contrary to this, low levels of subjective well beings are indicator of poor mental health and languishing way in life. According to Keyes (2002), any individual who has languishing mental health is an easier trap of mental illness with poor subjective functioning. On the other hand, individual with flourishing mental health remains free of mental illness at first, and if encounters any illness, his/her functioning is relatively better (e.g., fewer missed days of school) than his/her fellows. Mental health comprised of three types. First is emotional wellbeing; feeling being happy, peaceful, and fulfilled in life. Second is psychological wellbeing that pertains positive attitude, acceptability of various self-features, environmental adaptability, development of positive relationing, challenge acceptance, and sense of direction in life. Last is social wellbeing, which measures the self-function, sense of belongingness, and accepting people in the way they are with strong sense of prospers growth in society (Keyes, 2009).

### **Relationship between Personal Growth Initiative, Stress, and Mental Health**

Literature has detailed account of relationship between all three variables along with unique feature and characteristic. Robitschek and Keyes (2009) established a strong evidence that personal growth initiative and mental health were positively interconnected and personal growth initiative functions as a parsimonious predictor of mental health (Shorey, Little, Snyder, Kluck, & Robitschek, 2007). Joshanloo and Nosratabadi (2009) found that life is flourishing if there is presence of sound mental health, whereas deteriorated mental health determines that life is languishing. Keyes et al. (2012) found that students with flourishing mental health were not screened positive for any kind of mental disorder. Celinda, Stevic, and Ward (2008) explored that life satisfaction, personal growth initiative, and positive recognitions were positively related to each other. Chu (2010) studied that negative mental health and perceived stress were found in positive relation and high level of emotional intelligence was negatively associated with them. Results significantly depicted that depression and poorer general health were predicted by perceived stress. Additionally, the harmful effect of perceived stress on mental health was greater for women than men (Flores et al., 2008). Similarly

happiness, and perceived stress were found significantly in an inverse relationship (Schiffirin & Nelson, 2010).

Petra and Franz (2006) studied that girls level higher level of perceived interpersonal stress as compared to boys and they used comparatively more social support. Moreover, girls scored higher on maladaptive coping approaches and emotional distress. Additionally, effective and problem based coping was found to be supportive against stressful experiences (Petra & Franz, 2006). Due to stress related experiences, most often reported symptoms were fatigue, headache, difficulties to concentrate, and back and neck/shoulder pain. Contrary to this, better life quality and less stress perception were associated with lower frequency of psychological and circulatory/breathing symptoms. Profound stress perception signify poor health outcomes among young adults (Ansari, Oskrochi, & Stock, 2013). Girls experience higher stress perception as compared to boys because of experiencing pressure and demands from schools. Additionally, stress correlates strongly with reported health complaints and anxiety (Wiklund et al., 2012). Adolescents with more mental toughness and resilience adapt better in environment, while, coping stress effectively, whereas poorly functioning students report poor adjustment and more stress perception (Gerber et al., 2012).

### **Research in Pakistan**

Nature of work done in Pakistan on personal growth initiative, mental health, and stress is important to be reviewed. Ayub and Iqbal (2012) explored that personal growth initiative was significantly positive in relation with psychological wellbeing, whereas both psychological well-being and personal growth initiative were inversely associated with psychological distress. Lack of readiness to change has been found in inverse relation with perceived social barriers. Moreover, students who had reported high levels of personal growth initiative reported relatively less difficulties in career decision making (Liaquat & Rafique, 2013). Mental wellbeing and religious coping were significantly in inverse association with perceived stress among Pakistanis (Khan, Watson & Chen, 2012). Parpio et al. (2012) worked on demography related risk factors and their association with stress in Nawabshah, Pakistan. Findings revealed about young girls reporting decreased levels of stress who were aware of pubertal changes and ready to adapt before onset. However, girls reported higher level of stress as compared to boys mainly because of the sociocultural environment.

## **Conceptual Model**

Detailed review of literature helped in derivation of our conceptual model which suggested that stress has been inversely related to mental health (Ansari et al., 2013; Chu, 2010; Keyes et al., 2012, Petra & Franz, 2006; Schifffrin & Nelson, 2010; Soderstrom, Dolbier, Leiferman, & Steinhardt, 2000; Wiklund et al., 2012). In such circumstances, there are chances that additional factors such as personal growth initiative might influence the perception and exposure of stress and its outcomes with respect to mental health among adolescents. Personal growth initiative has been found helpful and resilient skill against psychological distress for improved psychological wellbeing among adolescents (Ayub & Iqbal, 2012). Therefore, it stresses on the importance of identifying the role of positive and stress managing skills such as individual's personal growth initiative, in order to actively cope with stress and attain better mental health.

## **Rationale of Study**

Pakistan's 35.4% population comprises of less than 15 years old individuals and they come under the tender age of adolescence (World Population Prospects, 2011). The social, emotional, physical, identity, and intellectual changes occur in this age very rapidly. This age is critical for the personal growth and development and in educational and academic development and success of adolescents. Adolescents as a research sample has been subject matter for researcher all around the world because of their definite significance (Albert & Steinberg, 2011; Basil, 2011; Engels, Finkenauer, Meeus, & Dekovic, 2001; Larsen & David, 2008).

Adolescents (10 to 19 years of age) face multiple stressors that cause stress. It can be anything from menarche and physiological changes among adolescents, upcoming exams, having problem with peers and family, getting into life transaction phase or having relational problems. This might stimulate either new adaptive coping or maladaptive response and unhealthy lifestyle (Franko et al., 2004). Consequences of prolonged stress include adverse mental and physical health effects. Subjective health complaints in adolescents are highly related to stress; such adolescents reported headaches, tiredness, sleeping difficulties, musculoskeletal pain, as well as sadness and anxiety (Wiklund et. al., 2012). Based on this theoretical work, it is hypothesized that a heightened perception of the mental health

hazards associated with stress may be a key factor in determining or predicting future outcomes.

Understanding the importance of flourishing mental health, personal growth initiative elaborates that if there is an urge to grow and take initiative for the self-improvement, as an adaptive coping skill, personal growth initiative leads to improved mental health. Existing literature (Ansari et al., 2013; Ayub & Iqbal, 2012; Shorey et al., 2007) provides details of the theories for stress, mental health, and personal growth initiative. Addressing the positive growth of adolescents helps in facilitation and support in order to implement healthy and productive lifestyle leading to constructive adulthood.

Gender differences in stress, mental health, and personal growth initiative are explored in present study. There have been significant gender differences on stress, especially (Charbonneau, Mezulis, & Hyde, 2009; Flores et al., 2008; Greer, Laseter, & Asiamah, 2009; Petra & Franz, 2006; Wiklund et al., 2012). Currently, research work on adolescents related to this variable is scarcely available. Gaps in related research in Pakistan has been identified that needs to be fulfilled to initiate quality steps for the betterment of adolescents.

The objectives of the present study are following:

1. To explore the relationship between personal growth initiative, stress and mental health among adolescents.
2. To explore the moderation effect of personal growth initiative on the relationship between stress and mental health among adolescents.
3. To explore the gender related differences on personal growth initiative, stress, and mental health among adolescents.

## **Hypotheses**

Following assumptions were hypothesized on the basis of literature review:

1. Personal growth initiative is positively related with mental health among adolescents.
2. Stress is negatively related with personal growth initiative and mental health among adolescents.
3. Personal growth initiative weakens the negative effect of stress on mental health among adolescents.
4. Girls have high levels of stress as compared to boys.

## Method

### Sample

The sample for this research comprised 330 adolescents with age range from 12 to 18 years ( $M = 15.12$ ,  $SD = 2.26$ ). Students were from government and private schools and colleges of Islamabad and Rawalpindi. The data were collected from the sample using convenient sampling technique. Almost equal distribution is also observed in case of gender with boys 49.7% ( $n = 163$ ) contributing to and girls 50.3% ( $n = 167$ ).

### Instruments

**Personal Growth Initiative Scale-II (PGIS-II).** Personal growth initiative is being measured by Personal Growth Initiative Scale-II (PGIS-II) (Robitschek et al., 2012). PGIS-II comprises of four distinct subscales namely Readiness for Change, Planfulness, Using Resources, and Intentional Behaviour. Scale has 16 items and all are positively worded such as “I ask for help when I try to change myself. I can tell when I am ready to make specific changes in myself.” The scale is a 6-point Likert type rating scale with score range from 0 to 80. The response options for each item range from 0 (*Disagree strongly*) to 5 (*Agree strongly*). Internal consistency for the total scale was found to be .87 (Robitschek et al., 2012).

**Mental Health Continuum-Short Form (MHC-SF).** Mental health (flourishing and languishing) was measured by MHG-SF developed by Keyes (2009). It comprises of three distinct subscales namely Emotional, Psychological, and Social. The MHC-SF consists of 14 items and all are positively worded such as “During the past month, how often did you feel that. You had something important to contribute to society. That you liked most parts of your personality. That you are confident to think or express your own ideas and opinions”. The scale is a 6-point Likert type rating scale with score range from 0 to 70. The response options for each item range from 0 (*never*) to 5 (*every day*). Internal consistency for the total scale was found to be .80 (Keyes, 2009).

**Depression Anxiety Stress Scale (DASS).** It was developed by Lovibond and Lovibond (1995) for identifying the symptoms of depression, anxiety, and stress among individuals. Out of the total of 3 subscales namely Depression, Anxiety and Stress; only Stress was used because of relevance to this research. The Stress subscale is sensitive to levels of chronic nonspecific arousal. This subscale

measures physiological symptoms of stress such as relaxation difficulty, nervousness, agitation, irritability, and lack of patience. The total items of Stress subscale are 7, and all are positively worded items such as “I found it difficult to relax. I tended to over react in situations.” The stress subscale is a 4-point Likert type rating scale with score range for this scale is 0 to 21. Higher the score on Stress subscale indicates higher the level of stress exposure. The response options for each item range from 0 (*never*) to 4 (*almost always*). Internal consistency for the stress subscale scale was found to be .87 (Lovibond & Lovibond, 1995).

## **Research Design**

The research was based on cross-sectional design aiming to investigate psychometric properties for each instrument, achieving the objectives, and empirically testing the hypotheses.

## **Procedure**

Group administration upon school and college-going students of the measures was done for data collection after approval from the heads of their institutions. Convenient sampling technique was used in order to collect data. After seeking informed consents, respondents were assured regarding confidentiality of their responses. Clear verbal and written text instruction were given to students for filling the measures and further guidance was provided on need basis. Participants were thanked and acknowledge, for their participation in the end. Later on, data collected from sample was further analyzed with the help of statistical tests using SPSS18.

## **Results**

The present study was aimed to investigate the relationship between stress and mental health along with the moderating role of personal growth initiative among adolescents. Exploration of gender related differences was also aimed. The results revealed after analysis are presented in tabular form with the required elaboration.

### **Relationship between Stress, Mental Health, and Personal Growth Initiative**

Relationship between stress, mental health, and personal growth initiative along with domains for each was computed through Pearson Product Moment Correlation (See Table 1).



Table 1

*Correlation between Stress Scale, Personal Growth Initiative, and Mental Health Continuum among Adolescents (N = 330)*

Sr No.	Scales	1	2	3	4	5	6	7	8	9	10
1	Stress	-	-.46**	-.49**	-.43*	-.41*	-.37*	-.41*	-.26**	-.34**	-.49**
2	Personal Growth Initiative		-	.93**	.89**	.91**	.88**	.84**	.67**	.74**	.78**
3	Planfulness			-	.81**	.83**	.80**	.80**	.64**	.69**	.76**
4	Readiness for Change				-	.79**	.70**	.75**	.61**	.69**	.67**
5	Intentional Behaviour					-	.77**	.80**	.64**	.72**	.74**
6	Using Resources						-	.76**	.58**	.66**	.72**
7	Mental Health Continuum							-	.80**	.90**	.90**
8	Emotional								-	.64**	.62**
9	Social									-	.69**
10	Psychological										-
	No. of Items	7	16	5	4	4	3	14	3	5	6
	$\alpha$	.85	.93	.76	.74	.80	.73	.89	.79	.76	.82

\*\* $p < .01$ .

In Table 1, alpha reliabilities of Stress Scale, Personal Growth Initiative Scale, and Mental Health Continuum and their sub-scales were found to be adequate representing high internal consistency.

Mental health and personal growth initiative has significant negative correlation with stress; correlation is also significantly negative for all the domains of these variables. Whereas significant positive relation of mental health and personal growth initiative is found. Table 1 also shows significant negative correlation between the stress and mental health.

### **Moderation Effects of Personal Growth Initiative on Stress and Mental Health**

Personal growth initiative as moderator has been tested to see its impact as third variable between stress and mental health. Regression analysis was done to test the relationship. Table 2 and Figure 1 represented the moderation.

Table 2  
*Moderation of Personal Growth Initiative between Stress and Mental Health among Adolescents (N = 330)*

		Mental Health		
		<i>B</i>	<i>SE</i>	$\beta$
Constant		.605***	.100	-
Stress		-.332***	0.78	-.533***
PGI		.487***	.099	.408***
Stress * PGI		.261*	.089	.350*
<i>R</i> <sup>2</sup>	.516***			
<i>F</i>	115.9***			
$\Delta R^2$	.013			
$\Delta F$	8.66			
<i>R</i> <sup>2</sup> Adjusted	.516*			

Note. PGI = Personal Growth Initiative.

\*  $p < .05$ . \*\*\*  $p < .001$ .

Table 2 shows that standardized  $\beta$  value of stress clearly indicates that stress predicts negatively mental health, whereas personal growth initiative ( $\beta = .408^{***}$ ) improves mental health among adolescents. The  $\beta$  value for the interaction term (stress x personal growth initiative) is also significant ( $p < .05$ ). Interaction of stress and personal growth initiative explains 1.3% ( $\Delta R^2 = .013, p = .003$ ) variance on the mental health whereas, Shrinkage  $R^2 = .516$  explains the generalizable variance for the overall population from which sample has been derived indicating the consistent moderating impact of personal growth initiative with stress to mental health. Results reveal agreement with our conceptual model testing stress in predictive role, mental health as an outcome, and personal growth initiative as moderator among adolescents.

Figure 1 depicts the mod-graph. Our conceptual model suggests that this inverse relation between stress and mental health is being moderated and buffered by personal growth initiative. Computation of slopes show  $t = 0.130$  ( $p > .05$ ) for high level of personal growth initiative,  $t = -1.681$  ( $p > .05$ ) for medium level of personal growth initiative, and  $t = -3.891$  ( $p < .001$ ) for low level of personal growth initiative revealing that the moderation is strong for group with low level of personal growth initiative suggesting that with low level of personal growth initiative high levels of stress deteriorates mental health or as stress increases mental health deteriorates for those who have low level of personal growth initiative.

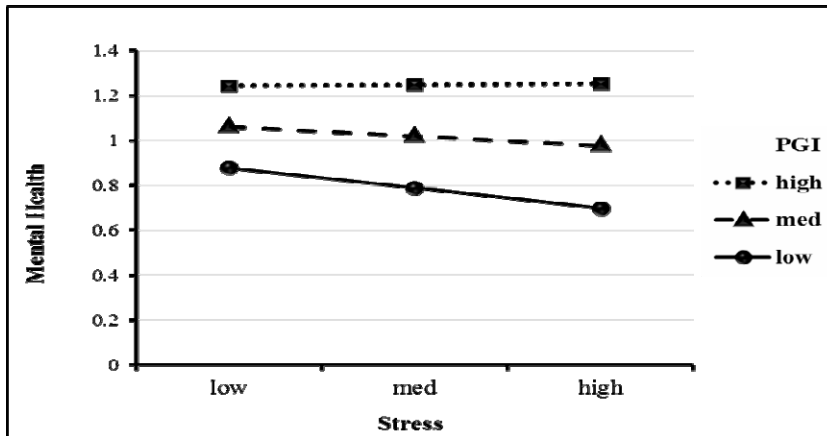


Figure 1. Moderation effect of personal growth initiative on stress and mental health.

### Moderating impact of gender between stress and mental health

Independent sample *t*-test was conducted to compare boys and girls stress scores. There was significant difference in stress scores for boys ( $M = 5.98$ ,  $SD = 3.67$ ) and girls ( $M = 11.43$ ,  $SD = 4.96$ );  $t(328)=11.23$ ,  $p < .001$  with 95% CI [-6.39 to -4.50] cohen's  $d = 1.25$ . Present study explored the role of gender as moderator between stress and mental health in context of Pakistani adolescents. The results are as following:

Table 3

*Moderation of Gender between Stress and Mental Health among Adolescents (N = 330)*

		Mental Health		
		<i>B</i>	<i>SE</i>	$\beta$
Constant		.532***	.110	-
Stress		.245***	.123	.394*
Gender		.835***	.115	.754***
Stress * Gender		-.554***	.108	-1.293***
$R^2$	.297***			
$F$	45.95***			
$\Delta R^2$	.057			
$\Delta F$	26.33			
$R^2$ Adjusted	.291***			
Slope ( <i>t</i> -value ) =	2.00*			

\* $p < .05$ . \*\*\* $p < .001$ .

Table 3 shows the results of regression analysis for moderation. Interaction of stress and gender explains 5.7% ( $\Delta R^2 = 0.57$ ,  $p < .05$ ) variance on the mental health whereas, Shrinkage  $R^2 = .291$  explains the generalizable variance for overall population from which sample has been derived.

There seems to have fluctuated and larger values of standardized coefficients/ $\beta$  in comparison with unstandardized regression coefficients/ $\beta$  in table suggesting the impact of interaction between a scale (stress) and nominal (gender) variable's interaction as creating an artificial effect of prediction. In dichotomous variable category the interpretation of  $\beta$  values can be assumed as having change from one category, to another one brings the respective amount of difference in dependent variable in model (Hardy, 1993). In this model, boys and girls are two independent dichotomies interacting with stress. Change in mental health's standardized coefficients can be explained is when model entries change from boys to girls category allied with stress interaction this results in surpassed addition which could be explained cumulative variance explained by model. According to Aiken and West (1991), Carte and Russell (2003), Deegan (1978), and Field (2009) in cases of more than one predictor, these fluctuations are because of multicollinearity and it can be interpreted by overall model variance; and with the help of mod-graph, it is more clear that how role of gender in combination with stress is being manifested on mental health.

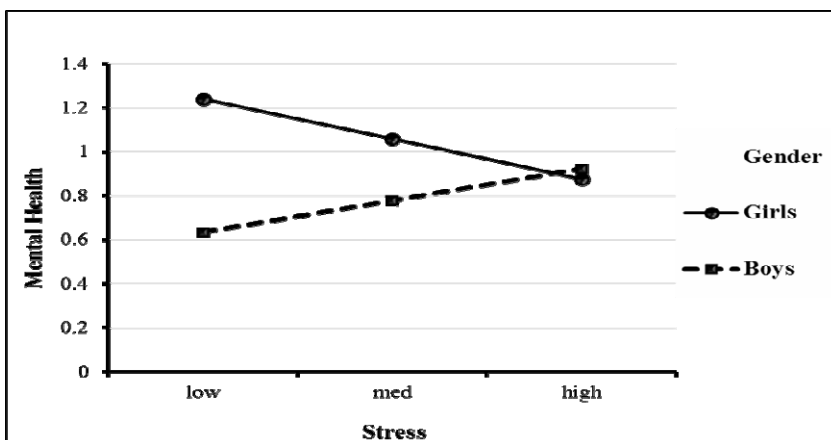


Figure 2. Moderation effect of gender on stress and mental health.

Figure 2 reveals the mod-graph for the moderation by gender on the effect of stress. Significant gender difference does exist,

especially, in stress perception. The slopes clearly elaborate that at given level of stress girls experienced much more stress have better mental health than boys. However, with increase in stress, mental health deteriorates sharply for girls than boys. Whereas boys are relatively less responsive to stress and maintain their mental health. Computed significance of slope shows  $t = 2.0004$  ( $p < .05$ ) for boys and  $t = -9.7714$  ( $p < .001$ ) for girls revealing that the moderation is significantly strong on all levels for stress on mental health (Baron & Kenny, 1986).

### **Moderating impact of gender between personal growth initiative and mental health**

Significant gender differences are found on the stress, however on mental health and personal growth initiative nonsignificant results have been found. On personal growth initiative, boys ( $M = 47.73$ ,  $SD = 14.05$ ) and girls ( $M = 45.28$ ,  $SD = 21.30$ );  $t(328) = 0.73$ ,  $p = .46$  and on mental health, boys ( $M = 39.48$ ,  $SD = 11.40$ ) and girls ( $M = 39.36$ ,  $SD = 16.96$ );  $t(328) = 0.75$ ,  $p = .94$ . It represents that both gender have almost equal levels of personal growth initiative and mental health. Role of gender as a moderator is also assessed in the relationship between personal growth initiative and mental health among adolescents to explore the interaction effects. The results are tabulated in Table 4.

Table 4

*Moderation of Gender between Personal Growth Initiative and Mental Health among Adolescents ( $N = 330$ )*

		Mental Health		
		<i>B</i>	<i>S.E</i>	$\beta$
Constant		.515***	.112	-
PGI		.455***	.105	.488***
Gender		-.264	.097	-.239
PGI * Gender		.295***	.090	.448***
$R^2$	.720***			
$F$	279.8***			
$\Delta R^2$	.009			
$\Delta F$	10.68			
$R^2$ Adjusted	.718***			
Slope ( $t$ -value ) =	4.33***			

Note. PGI = Personal Growth Initiative.

\*\*\*  $p < .001$ .

Table 4 shows the results of regression analysis for moderation. Interaction of personal growth initiative and gender explains 0.9% ( $\Delta R^2 = .009$ ,  $p < .05$ ) variance on the mental health whereas, Adjusted  $R^2$  71.8% explains the generalizable variance for population.

Suggested by Carte and Russell (2003), reporting of interaction effect is recommended over separate standardized coefficients when main effect found to be nonsignificant, but interaction effect is showing significant results. Therefore, despite of having nonsignificant result on men effect of gender related difference on personal growth initiative and mental health, moderation shows that crossover interaction effect of personal growth initiative with gender tend to have significant impact on mental health of adolescent girls and boys.

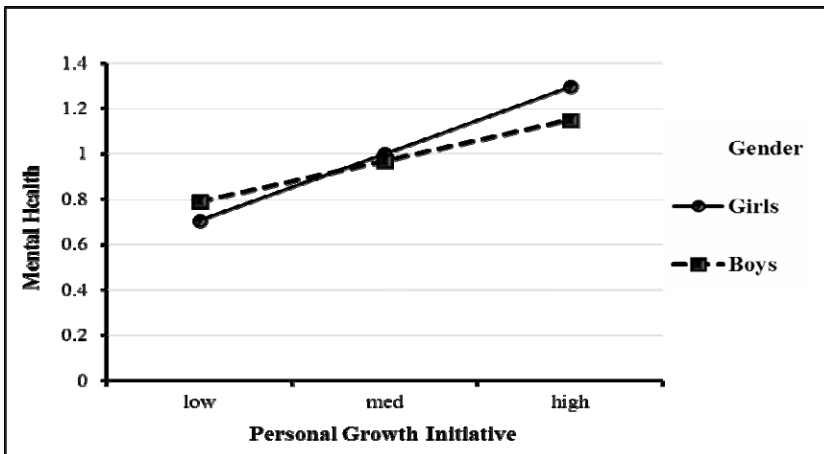


Figure 3. Moderation effect of gender between personal growth initiative and mental health.

Figure 3 reveals the mod-graph for the moderation by gender on the effect of personal growth initiative. Personal growth initiative has positive association with mental health. Interaction of personal growth initiative and gender shows the influential evidence of moderator on the association of these two variables. Mod-graph slopes are clearly indicating that these are unique in nature along gender differences on personal growth initiative, as with low personal growth initiative, girls have lower levels of mental health as compared to boys; but when girls have higher initiative tendency for growth, they compete boys in mental health. When significance of slopes was computed it shows  $t = 4.3382$  ( $p < .001$ ) for boys and  $t = 23.7170$  ( $p < .001$ ) for girls revealing that the moderation is highly strong on all levels on personal growth initiative and mental health (Baron & Kenny, 1986).

## Discussion

The present research aimed to assess moderation effect of personal growth initiative on relationship between stress and its consequences on mental health among adolescents. This means girls experience more stress as compared to boys. Enormous amount of literature has identified the influential role of gender on stress and mental health (Schlack & Petermann, 2013; Shivpuri et al., 2012; Spector & Zhou, 2014).

### **Psychometric Properties of Stress Scale, Mental Health Continuum, and Personal Growth Initiative Scale**

Stress subscale's (Lovibond & Lovibond, 1995) reliability ( $\alpha = .85$ ) has been tested several time with in Pakistani culture that depicted credible and trustworthy results providing the clearer picture of stress exposure, physiological responses, and their perception among individuals. Personal Growth Initiative Scale-II (Robitschek et al., 2012) and Mental Health Continuum-Short Form (Keyes, 2009) have been found reliable in assessment of respective constructs features among adolescents (see Table 1). All three measures were with smaller number of items yet they were capable of giving holistic picture of an adolescent's standing on given construct. Adequate reliability status of all three measures suggests that they are evidently accurate to measure the respective qualities such as stress, planfulness, resource utilization, intentional behaviors, readiness for change and emotional, psychological, and social wellbeing among indigenous adolescent sample (Field, 2009; Kline, 2000).

### **Relationship between Stress, Personal Growth Initiative, and Mental Health**

Relationship among variables (see Table 1) revealed that the relationship between personal growth initiative and mental health is significantly positive among adolescents ( $p < .01$ ). These results are confirmed by previous research work (Ansari et al., 2013; Ayub & Iqbal, 2012; Robitschek & Keyes, 2009; Shorey et al., 2007; Soderstrom et al., 2000). This indicated the fact that personal growth initiative is a potential that can definitely work parallel to sound and positive mental health. In order to attain mental health, existence of personal growth initiative is advisable. All the domains of both

constructs have been found in significantly positively related with each other. Adolescents having more personal growth initiative tendencies such as planfulness, readiness for change, intentional behaviour, and using resources have emotional, psychological and social wellbeing that leads to a better health state of mind. Personal growth initiative having action oriented features such as willness and deliberation to act or change in given situation leads to stable cognitive frame of work. This mental frame of work which is about mental health supports an individual against variety of adverse circumstances.

On the other side significant negative relationship was revealed between stress with mental health and personal growth initiative in the adolescent sample as suggested by literature (Braveman et al., 2011; Lantz, House, Mero, & Williams, 2005; McEwen & Seeman, 2003). Adolescents who scored high on stress have low scores on mental health or vice versa. As obvious menaces of stressors among adolescents are having bulk of physical and hormonal changes, psychological, intellectual, and environmental changes that increase vulnerability to have poor mental wellbeing may and decrease mental functioning (Lantz et al., 2005).

One of the major objectives of the research has been fulfilled when personal growth initiative was revealed in significantly inverse relation with stress (see Table 1). Though literature has confirmed that personal growth initiative and mental health are positively complimenting constructs and stress is in reverse relation with mental health, but so far stress and personal growth initiative never came across as an objectively measured entity (Ansari et al., 2013; Ayub, & Iqbal, 2012; Soderstrom et al., 2000). Findings were logical as stress has been found in negative relation with personal growth initiative. Adolescents when capable of planning, intentionally acting, preparing for change and using their recourses report less scores on stress. It adds on the value to the fact that how much these skills are important to reduce stress or to even not even get in stressful situation by actively thinking ahead and planning to track of upcoming circumstances among adolescents.

### **Moderating Role of Personal Growth Initiative on Relationship between Stress and Mental Health among Adolescents**

Existing literature helped in deriving and testing a model modification explaining interplay of personal growth initiative with stress to effect mental health (Ansari et al., 2013; Ayub & Iqbal, 2012;



Robitschek & Keyes, 2009; Shorey, et al., 2007; Soderstrom et al., 2000). The model explained that stress has strong inverse relation with positive mental health, while personal growth initiative acts as a moderator resulting in a weakened relationship (see Table 2). Stress has been found as a risk factor against mental, physical, and psychological wellbeing of individuals. Theoretically, stress is negatively related to any kind of positive health (Ansari et al., 2013; Soderstrom et al., 2000; Wiklund et al., 2012) and personal growth initiative is resilient and supportive factor for the enhancement of mental health (McNeely & Blanchard, 2010; Robitschek & Keyes, 2009; Shorey et al., 2007). In this continuity, conceptual model so formulated was based on of strong relational evidences between variables that have been supporting assumed in the direction. The presence of personal growth initiative itself is highly commendable to encounter the malevolence of stress on mental health among adolescents (Ansari et al., 2013; Ayub & Iqbal, 2012; Robitschek & Keyes, 2009; Shorey, et al., 2007; Soderstrom et al., 2000). Results were significant for the group having low levels of personal growth initiative with high levels of stress yielding poor mental health (see Figure 1). This means individual having more stress and lack of growth initiation is susceptible to have poor mental health. On the other hand, adolescents having strong tendency to initiate for personal growth can encounter the pressures and strains to attain better mental health.

### **Moderating Role of Gender on Relationship between Stress and Mental Health among Adolescents**

In present study (see Table 3), gender difference elaborates and confirms that gender definitely has role in experiencing stress and resultant mental health of individuals. According to Insel and Roth (2002) and Sarafino (2007), girls as compared to boys' report that they frequently feel overwhelmed and stressed out easily leading to proneness of many mental health and physical health issues among them (Flores et al., 2008; Petra & Franz, 2006; Wiklund et al., 2012). Sociocultural environment in Pakistan has its own different shades in the upbringing of girls and boys, where girls do not get equal level of opportunities and self-expression, hence, overly internalizing the regular day to day life stressors related to education, family relations, and others environmental hassles without actively addressing and coping them. One of such concerns is puberty related physiological changes, lack of related knowledge and unpreparedness. That has been

found as a major stressor for adolescent girls as compared to boys (Parpio et al., 2012). Elaine and Nancy (1991) found that women report more physical symptomatology as compare to men in case of stress exposure. In another study, African American women revealed higher levels of perceived stress, and increased appraisals of stress with anxiety and obsessive compulsive symptoms (Greer et al., 2009). Abel (1998) elaborated that men scored relatively lower as compared to women on stress, their sense of humor serve as defensive tool against stress perception. Similarly, strong and positive association of anxiety and stress has been reported among girls as compared to boys after community violence exposure (Foster et al., 2004).

Interestingly, gender has been found significant moderator when it comes about stress related construct. Similarly, mod-graph (see Figure 2) in present study was also highly explanatory, the slopes clearly elaborated that girls with more stress experience deterioration in mental health. Whereas, boys are relatively less responsive to stress and maintain their mental health in context of external stressors. It highlights the same feature that has been identified by researches. Like Charbonneau et al. (2009) studied gender as a moderator in emotional reactivity, stress and depression; significant gender differences have been found as girls scored higher on stress, depression, and emotional reactivity. Girls reported higher somatic problems after violence exposure as compared to boys (Schlack & Petermann, 2013). Earlier, Shivpuri et al. (2012) and Spector and Zhou (2014) found significant gender difference do exist, especially, in stress perception, as girls score higher on stress. It stresses upon the fact that boys and girls have their own distinct developmental needs that should be addressed on the basis of unique individual needs and requirements to reduce stressors and attain optimal subjective functioning and mental health.

### **Moderating Role of Gender on Relationship between Personal Growth Initiative and Mental Health among Adolescents**

Gender difference exists potentially in initiating personal growth among girls and boys. Boys showed higher self-sufficiency, self-awareness of self-worth, and its utility and autonomy than girls (Fleming, 2005). Further, Pipher (1994) found that men have relatively more awareness as compared to women, thus they are more growth oriented. Contrasting findings suggested that there is need to explore more in area of gender differences with respect to personal growth initiative. Therefore, on such foundations, it was intended in

present study to explore the gender differences on Pakistani sample. Earlier Fujita, Diener, and Sandvik (1991), Roothman, Kirsten, and Wissing (2003), and Ryff, Lee, Essex, and Schmutte (1994) found significant gender difference do exist, especially, in mental health and personal growth initiative. In our study, group differences on personal growth initiative and mental health were not found, but their interaction with respective gender revealed interesting findings. Gender difference elaborated and confirmed that gender has definitely strong influence on initiating for personal growth tendency and resultant mental health of individuals (see Table 4). Moreover, mod-graph (see Figure 3) showed unique gender differences on personal growth initiative as with low personal growth initiative, girls have lower levels of mental health as compared to boys; however, when girls have higher initiating tendency for growth, they compete boys in mental health. Findings highlight the fact that being a girl and relatively more weak at pubertal phase, there is need of conducive, supportive, and thriving environment of girls especially. It not only enhances their individual capacities, but also makes them capable of functioning even better than boys in various domains of life with improved and health mental wellbeing.

### **Limitations and Suggestions**

Despite of the sound research design study has its own shortcoming due to shortage of time and limitation of resources.

1. Foremost limitation was that sample comprised of adolescents and permission was only sort from boys and girls themselves and institutional heads, but not from their guardians and parents. Such ethical consideration are recommended for future work with adolescents.
2. Data were generated from specific regions because fewer number of educational institutions consented for their participation in research. If governing bodies in education give consent and cooperate in the data collection for the purpose of research and development then these issues can be addressed.
3. Another important weakness was that questionnaires used in study were in English language and time related constraints did not permit to translate and validate measures in native language. For future researches, translation and adaptations of assessment tools could serve to more productively address the comprehension issues.

4. Approaching adolescents from Islamabad and Rawalpindi between certain age range limits its generalizability to respective sample group only. Adolescents' sample from other cities of Pakistan if incorporated in future work can provide with external validity of findings.

## **Implications**

This research work would be aid in adding to existing body of literature for community benefits and holds beneficial implications for respective stakeholders such as educational institutions, researchers, subject matter experts, NGO's, and other healthcare professionals to devise and implement interventions and initiate capacity building programs for Pakistani adolescents.

Current study highlights certain important features. The most crucial feature rotates around the basic theme that personal growth initiative can be an achievable and learned skill and driving force to cope stress and sustain personal integrity with sound mental health (Robitschek et al., 2012). In this regard, findings play major role in establishing a personal growth initiative as a therapeutic tool against stress to obtain optimal level of functioning and flourishing mental health among adolescents. This understanding is must and vital that family and school both are important for development of such skills in which an individual can plan intentionally, adapt successfully, and utilize purposefully his or her resources in a constructive and healthy manner. Given the stress levels experienced by girls, training and management skills should be imparted to parents, so that they could provide more comfortable and supportive environment to girls. It also highlights the need to adapt the need specific upbringing patterns because of the distinct developmental needs of boys and girls. Individual level capacity building and stress coping by enhancing personal growth initiative as a set of skills by pertinent stakeholders such as educational institutions, foster houses, NGO's, and mental health hospitals were also particularized by findings of this study. Nevertheless, current study attempted to explore the needed topic with its application worth by confirming and validating significant results in indigenous context and sample of current study.

## **Conclusion**

The research assessed the moderating impact of personal growth initiative on the relationship between stress and mental health among

adolescents. Influence of gender between variables has been assessed also. Stress has been negatively related with mental health and personal growth initiative, whereas mental health has been positively related with personal growth initiative. Moderation of personal growth initiative reflects that adolescents' low levels of personal growth initiative with high levels of stress make them vulnerable to have languishing or deteriorated mental health. Additionally, high level of stress was reported among girls that affected their mental health adversely, whereas boys are relatively less responsive to stress to have any consequent impact on their mental health. Further, girls with higher growth initiative tendencies exhibited more flourishing mental health as compared to boys. These findings emphasized the importance of learning and acquiring initiative oriented self-management and self-growth skills for Pakistani adolescents to manage variety of stressors successfully and maintain flourishing mental health.

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