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Impact of Personal Growth Initiatives and Self-Regulation on Depression, Anxiety and Stress among University Students in Pakistan

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Abstract

Background. The present research was aimed to explore the relationship of self-regulation, symptoms of depression, anxiety and stress and socio-demographic characteristics of university students in Pakistan.

Method. A sample of 300 adolescents was collected from the different universities of Islamabad and Rawalpindi. Depression, stress and anxiety was measured by Depression Anxiety Stress Scale (DASS) by Lovibond and Lovibond (1995); Forms of Self-Regulation Formative Questionnaire was used to measure self-directive processes, cognitive behaviors, and emotions to attain goals, learn skills, and manage emotional reactions (Abar & Loken, 2010; Southam-Gerow & Kendall, 2002; Zimmerman, 2008).

Results. The result indicated self-regulation, stress, anxiety, and depression are positively and significantly correlated. Self-regulation and its constituent skills (monitoring, planning, control, and reflection) were a good predictor of symptoms of anxiety, depression, and stress in university students. Furthermore, results revealed that girls reported high levels of stress as compared to boys. Students with working women showed more depression and anxiety. Students with family income between 25,000 Rs to -65,000 Rs showed high depression, anxiety and stress, self-regulation, and its constituent skills. Additionally, adults reported higher scores for anxiety when considering their father's occupation, living conditions and Family systems.

Conclusion. The data for the present research was collected from normal population. Which indicates that these emerging adults experience profound amount of stress and anxiety in lives and may also feel depressed or low moods. The research found that self-regulation was important if university students are to deal with symptoms of anxiety, stress, and depression. The context of their lives makes some contribution to the mental health of these students.

Keywords. Psychological distress, self-regulation, depression, anxiety, stress, university students.

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Introduction

Adolescence is a sensitive developmental stage in which a person leaves childhood and develops a strong sense of individuality to enter adulthood. At this point, adolescents face certain difficulties, such as forming identity, meaningful relationships, often ending up with strain in seeking private instructions (Wisner et al., 2010). The stage that impacts mental health is extremely susceptible (Population Council, 2003). Psychosocial conditions assemble them in puberty and are vulnerable to other stresses. Such stresses are, of course, the cause of stress, and most of the time they demand beyond the capabilities of people who endanger their well-being (Lazarus & Folkman, 1984; Wisner et al., 2010).

Literature has a thorough account of factors that are major important at this stage. Robitschek and Keyes (2009) Have provided compelling evidence that personal growth initiative and mental health are strongly intertwined, and that personal growth initiative acts as a prosaic mental health predictor (Shorey et al., 2007). Joshanloo and Nosratabadi (2009) found that if mental health is healthy, life thrives, while deteriorating mental health leads to a life of languor. Keyes et al. (2012) found that there was no useful screening of psychologically disordered learners with stable mental wellbeing of any sort.

Chu (2010) researched that detrimental mental wellbeing and perceived stress were found in a positive relationship and adversely linked to elevated levels of emotional intelligence. Results showed that perceived stress predicted depression and a worse general health status. Therefore, perceived mental health, stress has had a greater adverse effect on females than males (Flores et al., 2008). In an inverse connection, joy and perceived stress have also been discovered considerably (Schiffrin & Nelson, 2010).

Mental well-being and religious coping with perceived stress were considerably reversed association with perceived stress among Pakistanis (Khan et al., 2012), worked on demography risk factors and their association related to stress in Nawabshah, Pakistan. Research disclosed that young girls reporting reduced stress levels that were conscious of pubertal modifications and compelled to adapt before starting. Girls, however, revealed higher stress levels compared to boys, mainly due to the socio-cultural setting.

The global concern regarding low mental health among university students has been underscored by a prior longitudinal analysis, which revealed higher rates of depression among this demographic compared to the general population (Duffy et al., 2022). Additionally, evidence suggests a significant prevalence of depression and anxiety among healthcare workers, both in resource-constrained and resource-rich environments. University students constitute a unique cohort transitioning from adolescence to adulthood, facing myriad challenges such as the pressure to assimilate, maintain academic excellence, prepare for the future, and cope with the distance from home, all of which often exacerbate anxiety (Eberstadt, 2011; Wisner et al., 2010). Previous research indicates a global uptick in depression among college students, highlighting the escalating incidence of this issue. Consequently, an aim of conducting this research was to examine the extent of depression among university pupils in Pakistan and its relationship with socio-demographic, cultural and health considerations.

Self-regulated learners are motivated towards their own learning (Zimmerman, 2008). The self-regulation process can be described as drawing up a plan, monitoring that plan, making changes to keep track of what worked and what could be further improved next time (Gaumer et al., 2016). Self-regulation is necessary for the successful fulfillment of adaptive developmental duties at all phases of life. Self-regulation is necessary for the successful fulfillment of adaptive developmental duties at all phases of life. This view is captured by the seven principles of LCHD, as explained by Halfon and Forrest (2017) which also correlates to the growth of the ties. Self-regulation can be characterized as an ability to flexibly trigger, monitor, inhibit, persevere and/or adjust one's mood, focus, emotions, and cognitive strategies in line with other people's mental signals, environmental stimuli, and feedback to achieve one's own objective (Moilanen, 2007). It includes controlling one's behaviour, feelings, and ideas in the pursuit of long-term objectives in the most fundamental sense. More specifically, the capacity to handle disruptive feelings and impulses corresponds to emotional self-regulation.

Self-regulated learning differs from mental or academic effectiveness. It relates instead to a self-directed process whereby learners drag mental abilities into task-related academic abilities (Zimmerman & Schunk, 2001). Woolfolk (2004) describes the relative impact of learning self-regulation among learners as self-understanding, subject area, mission, learning strategies and context in which instruction is to be implemented; motivates students to learn where learning is important, not just performance; is intrinsically motivated and learning is self-determined

and not regulated or dependent on others; has volition or willpower, where learners can avoid distractions and comprehend how to deal with and overcome them.

Zimmerman (2002) suggests three phases of self-regulated learning and all phases require the ability to govern their development (Spruce & Bol, 2015). First phase is the *analysis of tasks;* it requires setting of objectives and strategic planning. The second phase is *self-motivation.* This process requires self-efficacy and the confidence that they can monitor the effects of their actions. The thirsts are the power to regulate the reactions. The phase of self-reaction is where the bhavioural aspect of the initiative for personal growth sets in. This is in line with a social cognitive perspective (Bandura, 1986), self-regulated learning happens as a consequence of reciprocal causation between three structures of impact: Private processes such as perceptions of ability (e.g. academic self-efficacy) and self-motivation (e.g. goals); teaching climate, including job requirements and teacher motivation and individual conduct such as performance results e.g. Prior marks or grades (Singer & Bashir, 1999; Spruce & Bol, 2015). Zimmerman et al. (2015) stated that self-motivated learning incorporates metacognitive, motivational, and behavioral direction; and self-motivated learners incorporate this learning in their own learning.

The current research examined the relationship between self-regulation, symptoms of depression, anxiety, stress; the study also explored the relationship between socio-demographic variables and self-regulation and its constituent skills (monitoring, planning, control, and reflection) of university students. The main hypotheses were as follows:

1. There will be a significant relation between high self-regulation and low scores on psychological distress of university students in Pakistan.
2. There will be a significant relation between high self-regulation and low scores on depression of university students in Pakistan.
3. There will be a significant relation between high self-regulation and low scores on stress of university students in Pakistan.
4. There will be a significant relation between high self-regulation and low scores on anxiety of university students in Pakistan.
5. Depression, anxiety, and stress and will significantly predict self-regulation and its constituent skills (monitoring, planning, control, and reflection) of university students in Pakistan.

Method

Sample

A convenient sample of 300 students from the various universities of Islamabad and Rawalpindi (the sample size was not ascertained by any formula). The research involved both male and female students. Data was collected voluntarily; no sort of compensation was offered to the participants. The following tables shows the demographic characteristics of the participants.

Table 1

Frequencies and Percentages for Demographic of the Study (N=300)

Demographics	*f*	%
Gender		
Male	166	55.3
Female	134	44.7
Birth Order		
First born.	71	23.7
Middle born.	140	46.7
Last born	89	29.7
Father's Occupation		
Working	242	80.7
Non-working	38	12.7
Other	20	6.7
Mother's Occupation		
Working	143	47.7
Non-working	141	47.0
Other	16	5.3
Family income		
Less than 25,000	10	3.3
25,000-65,000	55	18.3

Table 1 (Contimue)

65,000-250,000	183	61.0
Above 250,000	53	17.3
Current living situation		
Hostel	231	77.0
Home	69	23.0
Family system		
Joint	138	46.0
Nuclear	162	54.0

Note. The age range of the participants was 19 to 31 years; Mean age was = 23.42 years; Standard deviation was 2.22.

Instruments

Following Instruments were used in the collection of data. Descriptions of scales used in research are given below.

Depression Anxiety Stress Scale (DASS). The DASS is a set of three self-report scales designed to measure the negative emotional states of psychological distress, depression, anxiety, and stress (Lovibond & Lovibond, 1995). The DASS was constructed not merely as another set of scales to measure conventionally defined emotional states, but to further the process of defining, understanding, and measuring the ubiquitous and clinically significant emotional conditions usually described as depression, anxiety, and stress. The DASS would thus meet the criteria of both researchers and clinicians with scientific and technical qualifications.

The depression sub-scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia, and inertia. The anxiety sub-scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress sub-scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. Subjects are asked to use 4-point severity/frequency scales to rate the extent to which they have experienced each state over the past week. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items; the present research employs the 21-item DASS. The overall Cronbach's alpha for the DASS-21 has been reported as .74. The DASS-21 subscales had Cronbach's alpha values of .66, .29 and .52 for depression (DASS-D), anxiety (DASS-A) and stress (DASS-S), respectively (Moya et al., 2022). Higher scores on each subscale indicated higher experiences of symptoms and vice versa.

Self-Regulation Formative Questionnaire. Self-regulation refers to the constructive application of self-directional mechanisms, cognitive habits, and emotions to accomplish targets, develop skills and control emotional reactions (Abar & Loken, 2010; Southam-Gerow & Kendall, 2002; Zimmerman, 2008). Self-regulated students are metacognitively, motivationally, and behaviorally active participants in their own learning process (Zimmerman, 2008, p. 167). The process of self-regulation can be described as drawing up a plan, tracking that plan, adjusting keep track and reflecting on what worked and what could be improved next time (Gaumer et al., 2016). The Self-regulation formative questionnaire measures a student's perceived level of proficiency in the four essential components of self-regulation: plan (1,2, 3,4,5N), monitor (6,7,8,9,10,11N), control (12,13,14 ,15,16N,17N), and reflect (18,19,20,21, 22N). For a sample of Iranian students, the Cronbach's alpha coefficient for each of the plan, monitor, control, reflect and total factors was reported to be .90, .63, .70, .74, and .68, respectively. High scores indicated higher ability to manage one's own emotions, thought and feelings and vice versa.

Procedure

The sample for the research study was taken from the universities of Islamabad. The consent for administration of the questionnaires was taken from the administration of the concerned universities. After explaining the nature and objectives of the study consent was taken from the participants. They were given instructions on how to respond to the questionnaires. They were assured of confidentiality of their responses and were informed that they could leave the research at any time during the research if they felt uncomfortable at any point during administration. Data was collected on the spot. Participants' queries were satisfied in an appropriate manner.

Results

The current work aimed to investigate negative experiences among university learners. Data was analyzed using SPSS. Data was initially cleaned and

checked for any inconsistencies. Cronbach's alpha coefficient was used to determine the precision of the scale and the subscale. The normality of data was scanned with the descriptive statistics. The correlations were calculated to determine the relation between the scales and the subscales. To verify the mean variability, independent sample *t*-test was calculated, and linear regression was calculated to see the effect of age on all variables.

Table 2

Descriptive Statistics and Internal Consistency of Study Variables (N = 300)

Variables				Range			
	α	*M*	*SD*	Actual	Potential	Skewness	Kurtosis
Psych. Distress	.79	31.09	9.07	3-5	0-63	-.48	-.33
Anxiety	.54	10.14	3.62	0-21	0-21	-.16	-.30
Stress	.53	10.41	3.60	2-19	0-21	-.11	-.60
Depression	.52	10.54	3.70	0-19	0-21	-.34	-.42
Self-Regulation	.84	77.82	11.91	43-97	43-97	-.56	-.72
Monitor	.66	22.26	4.15	9-29	6-30	-.59	-.50
Plan-fullness	.53	18.77	3.43	6-25	4-21	-.78	.25
Reflect	.53	18.72	3.55	7-24	7-24	-.58	-.41
Control	.60	21.76	3.94	11-29	4-21	-.50	-.32

Table 2 shows the alpha reliability, standard deviation, means, actual and potential range, skewness, and kurtosis. The alpha reliabilities ranged from moderate to high (.52 to .84). The values of skewness and kurtosis indicate that there are no extreme scores or outliers in the data and that we can conclude that the data is normally distributed.

Table 3

Inter-Scale Correlation Among Variables of Study (N=300)

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Psych. Distress	-	.81**	.83**	.84**	.46**	.29**	.41**	.40**	.36**
2. Depression		-	.49**	.53**	.36**	.19**	.34**	.31**	.30**
3. Anxiety			-	.58**	.37**	.27**	.32**	.32**	.29**
4. Stress				-	.41**	.27**	.35**	.37**	.32**
5. Self-Regulation					-	.76**	.87**	.83**	.81**
6. Plan						-	.61**	.53**	.48**
7. Monitor							-	.60**	.60**
8. Control								-	.55**
9. Reflect									-

Note. Underlined values indicate hypothesized relationships; bold values show significant values.
**$p < .01$; *$p < .05$.

Table 3 shows the correlation between the variables of study and their subscales. The scales and subscales are correlated at the significance level ($p < .01$, $p < .05$). self-regulation and its constituent skills were highly correlated. The three subscales of depression, stress and anxiety were also strongly correlated. There was, however, a low correlation between self-regulation and psychological stress, symptoms of stress, anxiety, and depression.

Table 4

	Male (n = 166)		Female (n = 134)				95 % CI		Cohen's
	M	*SD*	*M*	*SD*	*t*	*p*	*LL*	*UL*	*d*
Psych.Distress	32.2	8.3	29.6	9.9	2.44	.02	-6.21	-1.29	0.28
Depression	10.95	3.70	10.02	3.66	2.18	.03	-2.26	-0.24	0.25
Anxiety	10.45	3.26	9.72	4.00	1.74	.08	-1.94	0.04	-
Stress	10.77	3.50	9.90	3.64	2.11	.04	-2.53	-0.59	0.24
Self-Regulation	78.63	11.19	76.78	12.7	1.34	.18	-7.46	-0.98	-
Plan	19.27	2.96	18.12	3.86	2.91	.00	.35	1.95	0.33
Monitor	22.57	3.98	21.87	4.32	1.44	.15	-2.44	-0.18	-
Control	22.02	3.91	21.42	4.00	1.29	.20	-2.34	-0.18	-
Reflect	18.63	3.48	18.87	3.64	-0.60	.55	-1.86	0.08	-

Independent t-Test Between Study Variable and Gender (N=300)

Table 4 shows the comparison between male and female students on psychological distress, depression, and stress. The results show that there is a significant difference between male and female on anxiety and plan-fullness. Boys scored higher means scores than girls.

Table 5

One- Way ANOVA for Family Income Among Study Variables (N=300).

	Family Income (in PKR)												95% CI	
	Less than 25,000 (n = 10)		Between 25,000-65,000 (n = 55)		Between 65,000-250,000 (n = 183)		More than 250,000 (n = 52)							
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	*i-j*	*M(i-j)*	*UL*	*LL*
Psych. Distress	23.60	9.90	25.05	8.77	32.38	8.43	34.47	7.89	*16.10*	*.00*	1 < 3	-8.78	-15.87	-1.69
											2 < 3	-7.32	-10.68	-3.90
											1 < 4	-10.87	-18.63	-3.32
											2 < 4	-9.42	-13.66	-5.17
Depression	9.00	3.23	7.85	3.33	11.16	3.43	11.50	3.75	14.93	.00	2 < 3	-3.31	-4.69	-1.93
											2 < 4	-3.66	-5.40	-1.91
Anxiety	6.60	3.09	8.45	3.62	10.38	3.45	11.71	3.24	11.86	.00	1 < 3	-3.79	-6.67	-0.90
											2 < 3	-1.93	-3.30	-0.57
											1 < 4	-5.11	-8.18	-2.04
											2 < 4	-3.26	-4.98	-1.54
Stress	8.00	4.34	8.74	3.77	10.82	3.37	11.15	3.39	7.43	.00	1 < 4	-3.15	-6.26	-0.04
											2 < 3	-2.08	-3.46	-0.70
											2 < 4	-2.41	-4.15	-0.67
Self-Regulation	76.80	12.09	70.47	11.58	79.32	11.44	80.26	11.20	9.44	.00	2 < 3	-8.86	-13.40	-4.31
											2 < 4	-9.80	-15.51	-4.08
Plan	18.70	5.52	17.25	3.38	19.09	3.26	19.23	3.34	4.58	.01	2 < 3	-1.84	-3.18	-0.50
											2 < 4	-1.98	-3.66	-0.29
Monitor	22.90	5.04	20.03	3.18	22.66	4.01	23.00	4.13	6.86	.00	2 < 3	-2.63	-4.23	-1.03
											2 < 4	-2.96	-4.98	-0.95
Control	22.40	4.32	19.29	3.97	22.27	3.72	22.34	3.70	9.37	.00	2 < 3	-2.99	-4.50	-1.48
											2 < 4	-3.06	-4.96	-1.15
Reflect	16.60	3.43	17.37	3.49	19.07	3.47	19.44	3.43	5.57	.00	2 < 3	-1.74	-3.12	-0.36
											2 < 4	-2.12	-3.85	-0.38

Table 5 shows differences in sample when compared on income which show significant relationship on all study variables. The welch test for post-hoc was used to cater to unequal sizes of the categories. The results

show that in almost all cases, the third group (having family income between 65,000-250,000 Pak Rupees) and fourth group (having a family income of above 250,000 Pak Rupees) impact the group differences. These participants also showed greater mean score on the variables.

Table 6

Mean Comparisons for Mother's Occupation Among Study Variables (N = 284).

	Working (*n* = 143)		Non-working (*n* = 141)				95% CI		Cohen's
	M	*SD*	*M*	*SD*	*t*	*p*	LL	UL	*d*
Psych. Distress	33.53	7.99	28.82	9.37	4.55	.00	2.67	6.74	0.54
Depression	11.28	3.37	9.87	3.89	3.25	.00	0.56	2.26	0.39
Anxiety	10.84	3.35	9.44	3.77	3.30	.00	0.57	2.23	0.40
Stress	11.37	3.33	9.50	3.53	4.58	.00	1.06	2.67	0.54
Self-Regulation	79.45	11.14	76.14	12.54	2.35	.02	0.53	6.08	0.28
Plan	19.33	3.04	18.19	3.73	2.83	.01	0.35	1.94	0.34
Monitor	22.75	3.85	21.65	4.36	2.24	.03	0.13	2.06	0.27
Control	22.09	4.00	21.31	3.94	1.64	.10	-0.16	1.70	-
Reflect	19.13	3.44	18.50	3.62	1.50	.13	-0.20	1.45	-

Note. Respondents who report their mothers working status as other (n=16) were excluded from analysis.

Table 6 shows the results when we consider mothers occupation status. Almost all the variables are significant; barring control and reflect elements of self-regulation. The results indicate that children working mothers has significant mean scores. This is to be noted that respondents who report their mothers working status as other (*n* = 16) were excluded from analysis. This was because the group size was low.

Table 7

Mean Differences Across Family System Along Study Variables (N=280).

	Joint System (*n* = 138)		Nuclear System (*n* = 162)				95% CI		Cohen's
	M	*SD*	*M*	*SD*	*t*	*p*	*LL*	*UL*	*d*
Psych. Distress	32.75	8.71	29.67	9.16	2.97	.00	1.04	5.13	0.34
Depression	11.01	3.75	10.13	3.62	2.05	.04	0.04	1.72	0.24
Anxiety	10.78	3.47	9.58	3.66	2.89	.00	0.38	2.01	0.34
Stress	10.95	3.35	9.93	3.73	2.46	.01	0.38	2.01	0.29
Self-Regulation	80.21	11.18	75.70	12.15	3.32	.00	0.21	1.82	0.39
Plan	19.03	3.13	18.30	3.61	2.53	.01	1.85	7.16	0.22
Monitor	22.97	3.94	21.62	4.23	2.84	.01	0.23	1.76	0.33
Control	22.57	3.63	21.04	4.09	3.39	.00	0.42	2.28	0.40
Reflect	19.21	3.50	18.32	3.54	2.19	.03	0.65	2.41	0.25

Table 7 (below)shows the comparison between individuals living in joint and nuclear family systems. The results showed highly significant results for all variables. Those living in the joint family system scored higher mean scores as compared to those living in nuclear family system.

Table 8

Mean difference across Father's Occupation Among Study Variables (N=300).

	Working (*n* = 242)		Non-working (*n* = 38)						Cohen's
	M	*SD*	*M*	*SD*	*t*	*p*	LL	UL	*d*
Psych.Distress	31.29	9.03	31.38	7.92	-.054	.96	-3.18	3.01	-
Depression	10.69	3.61	10.70	3.61	-.020	.98	-1.27	1.24	-
Anxiety	10.12	3.59	10.15	3.43	-.054	.96	-1.26	1.19	-
Stress	10.47	3.61	10.44	3.20	.051	.96	-1.19	1.26	-
Self-Regulation	77.64	12.09	77.34	11.18	.143	.89	-3.82	4.41	-
Plan	18.75	3.47	18.23	3.46	.849	.40	-0.68	1.71	-
Monitor	22.15	4.26	22.44	3.86	-.395	.69	-1.74	1.16	-
Control	21.71	4.04	21.39	3.63	.454	.65	-1.05	1.69	-
Reflect	18.70	3.54	19.07	3.34	-.606	.55	-1.58	0.84	-

Note. People who report their fathers working status as other (n=20) were excluded from analysis.

Table 8 shows the comparison related to father's occupation. It is not showing any significant results on any scale and their subscale. The result shows that presence or absence of the father around the house or their income doesn't have any impact on the psychological distress or self-regulation of university students.

Table 9

One- Way ANOVA for Birth Order Among Study Variables (N=300).

	First order (*n* = 71)		Second order (*n* = 140)		Last order (*n* = 89)							
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	i-j	M(i-j)	UL	LL
Psych.Distress	28.54	9.467	31.98	9.10	31.75	8.40	3.80	.02	1 < 2	-3.44	-6.60	-.29
Depression	9.73	3.80	11.02	3.81	10.43	3.35	2.93	.06	-	-	-	-
Anxiety	9.15	3.73	10.35	3.52	10.58	3.58	3.59	.03	1 < 3	-1.40	-2.81	-.05
Stress	9.64	3.87	10.58	3.52	10.73	3.43	2.13	.12	-	-	-	-
Self-Regulation	76.69	11.93	78.78	12.38	77.07	11.12	.95	.40	-	-	-	-
Plan	18.25	3.37	19.10	3.54	18.65	3.27	1.51	.22	-	-	-	-
Monitor	21.64	4.23	22.65	4.39	22.08	3.62	1.50	.23	-	-	-	-
Control	21.63	3.08	21.89	4.16	21.60	3.77	.18	.84	-	-	-	-
Reflect	18.73	3.48	18.95	3.15	18.39	3.66	.67	.51	-	-	-	-

Table 9 shows the comparison between the birth order of the individuals. It is showing significant results on overall psychological distress and its dimension of anxiety; second and last birth order group appeared to have exerted impact.

Table 10

Mean Comparisons for Current Living Status Among Study Variables (N=300).

	Living in home (n = 66)		Living at hostel (n = 234)				95% CI		Cohen's
	M	*SD*	*M*	*SD*	*t*	*p*	LL	UL	*d*
Psych.Distress	30.30	9.28	34.02	7.68	-2.98	.00	-6.18	-1.26	0.44
Depression	10.28	3.75	11.52	3.41	-2.41	.02	-2.25	-0.23	0.35
Anxiety	9.94	3.61	10.88	3.62	-1.87	.06	-1.93	0.05	-
Stress	10.08	3.61	11.62	3.29	-3.12	.00	-2.52	-0.57	0.45
Self-Regulation	76.89	11.74	81.08	12.11	-2.54	.01	-7.43	-0.94	0.35
Plan	18.60	3.52	19.41	3.07	-1.70	.09	-1.75	0.13	-
Monitor	21.99	4.16	23.27	3.92	-2.24	.03	-2.41	-0.15	0.32
Control	21.47	3.87	22.73	4.19	-2.29	.02	-2.34	-0.17	0.31
Reflect	18.53	3.52	19.42	3.61	-1.81	.07	-1.86	0.08	-

Table 10 shows that the living situation of students also appears to affect their ability to self-regulate. More specifically, it affects their ability to monitor and control their actions. Results also indicate that living situations may also affect the amount of stress, psychological distress, or depression that they encounter. Higher mean scores were achieved by those living at hostels.

Table 11

Multiple Regression Analysis of Self-regulation and its subscales and psychological distress and its symptoms (N=300)

	Model	*B*	*SE*	*β*	*t*	*p*	*F*	*p*	R^2	ΔR^2
				Self-Regulation						
1	(Constant)	67.82	6.09	-	11.14	.00	2.80	.06	0.02	0.22
	Age	0.53	0.25	0.12	2.12	**.04**				
	No. of Siblings	-0.59	0.53	-0.06	-1.11	.27				
2	(Constant)	49.07	5.84	-	8.40	.00	**27.88**	**.00**	**0.02**	**0.22**
	Age	0.49	0.22	0.11	2.20	**.03**				
	No. of Siblings	-0.26	0.48	-0.03	-0.54	.59				
	Psych. Distress	0.59	0.07	0.45	8.75	**.00**				
				Plan						
1	(Constant)	16.67	1.75	-	9.52	.00	3.92	.02	0.03	0.03
	Age	0.14	0.07	0.11	1.98	**.05**				
	No. of Siblings	-0.31	0.15	-0.12	-2.04	**.04**				
2	(Constant)	13.32	1.81	-	7.37	.00	**11.33**	**.00**	**0.10**	**0.71**
	Age	0.13	0.07	0.11	1.96	**.05**				
	No. of Siblings	-0.25	0.15	-0.10	-1.71	.09				
	Psych. Distress	0.11	0.02	0.28	5.05	**.00**				
				Monitor						
1	(Constant)	18.65	2.13	-	8.76	.00	1.96	.14	0.01	0.01
	Age	0.17	0.09	0.11	1.94	**.05**				
	No. of Siblings	-0.08	0.19	-0.03	-0.45	.66				
2	(Constant)	12.81	2.10	-	6.11	.00	**20.88**	**.00**	**0.18**	**0.16**
	Age	0.16	0.08	0.10	1.96	**.05**				
	No. of Siblings	0.02	0.17	0.01	0.12	.91				
	Psych. Distress	0.19	0.02	0.40	7.61	**.00**				
				Control						
1	(Constant)	19.31	2.02	-	9.58	.00	3.01	.05	0.01	0.02
	Age	0.15	0.08	0.11	1.87	.06				
	No. of Siblings	-0.29	0.18	-0.10	-1.65	.10				
2	(Constant)	13.89	1.99	-	6.97	.00	**20.68**	**.00**	**0.17**	**0.15**
	Age	0.14	0.08	0.10	1.87	.06				
	No. of Siblings	-0.20	0.16	-0.06	-1.20	.23				
	Psych. Distress	0.17	0.02	0.39	7.41	**.00**				
				Reflect						
1	(Constant)	15.89	1.83	-	8.71	.00	1.32	.27	0.01	0.01
	Age	0.12	0.07	0.09	1.62	.11				
	No. of Siblings	0.01	0.16	0.00	0.06	.95				
	(Constant)	11.37	1.83	-	6.21	.00	**16.17**	**.00**	**0.14**	**0.13**
2	Age	0.11	0.07	0.09	1.59	.11				
	No. of Siblings	0.09	0.15	0.03	0.60	.55				
	Psych. Distress	0.14	0.02	0.37	6.75	**.00**				

Note. Bold figures indicate significant predictions.

Table 11 shows the regression analysis, which generates a statistical model to estimate the relation between variables. Multiple linear regression was used to see how much variance in self-regulation can be predicted by psychological distress and its constituent symptoms. For each prediction two models were

generated. Model one was concerned with predicting the effects of age and no. of siblings in current sample. The rest of the demographics were excluded by the regression analysis generated through SPSS. The second model added only psychological distress as a valid predictor, even though its subscales were also entered in the equation. Psychological distress was a salient predictor of self-regulation, plan, monitor, control and reflect. Age was found to be a significant predictor of planning and self-regulation. Number of siblings was a salient predictor of planning.

Discussion

The current research explored the relationship between self-regulation, psychological distress and socio-demographic characteristics of students getting education in universities in Pakistan. Psychological stress was measured through three components: depression, anxiety and stress. The sample responded well to the questionnaires and the study obtained good to excellent range of alpha reliabilities. The data was found to be normally distributed.

The first objective of the study was to explore the ability to self-regulate. It is an ability to enhance one's ability to respond to different situations in an adaptive manner. It involves developing alternate meanings of experiences and regulating one's own emotions in face of psychological distresses in our daily lives. Psychological distress can cause a person to feel sad, anxious and eventually depressed if they do not find a way out of their distressing situations. Despite all efforts to maintain optimum mental health, adolescents may sometimes get stuck in a schism of negative experiences and this may impede their ability to work in a stable and prosperous manner. The process of self-regulation is necessary for healthy physical, mental, and social health (Chu, 2010; Pastey & Aminbhavi, 2006). Thus, it is important to study the relationship between psychological distress and self-regulation.

The social and other demographics status of adolescents relates to the ability of a person to determine the number of psychological resources that a person may have to deal with adverse life situations. These factors are important in determining not only the possibility of stress, but they may also serve as protective factors that may help with dealing with adverse psychological effects. At present very little is known what specific contextual factors play a role, if any, in the personal habits of adolescents that may protect them from falling prey to unwanted experiences. The present study aims to study just that.

The present research hypothesized an inverse relationship between psychological distress and its subcomponents (including depression anxiety and stress) and self-regulation. although the relationship was found to be statistically significant, the relationship was direct ranging from .19 to .46 (see Table 3). These results were unexpected. Both self-regulation and depression have a self-evident negative relation in most cases. However, for the present sample it was surprising to find that the correlations were positive. One explanation could be that the data was collected from emerging adults. This age is said to be the age of raging emotions and hormones. The older ones are more likely o be dealing with relations relating to identity development and identity needs. This age group may also be considered as a transient population. Thus, their feeling of distress may be a natural phenomenon that may be perceived as inner turmoil rather than a reaction to adverse events. Also, considering the fact that Pakistani society isa collectivistic society, each child is raised by a family; where each family comprises of very close relations and those who are loosely associated like distant family, neighbors and role models in the adolescent's life. Thus, giving rise to vicarious or modulated self-regulation. However, more research is needed to understand these factors further (Ooi et al., 2022). As evident from the regression analysis, the R^2 values and ΔR^2 values of the predicted models are also low. There to develop a predictive model, maybe future research needs to collect data about the socio-cultural and demographic characteristics on a Nationally representative sample.

The present research also researched into the differences between boys and girls on the study variable. The research found statistically significant results on psychological distress, depression and stress among boys and girls. Only

the planning aspect of self-regulation was found to be significantly different between boys and girls. Another objective of the research was to explore the gender-based differences on the study variables. The study discovered that, despite having a comparable sample, there was a difference in mean scores for psychological distress, anxiety, and stress. There was a significant difference for plan aspect of self-regulation. Boys/men scored higher mean scores than girls/women. This was also a surprise finding. Generally, girls are bound to express more stress in Pakistani culture (Graves et al., 2021; Rizvi et al., 2014). An explanation for this could be that developmental challenge for boy and younger men is to undertake the role of a care giver, a husband and a father. Sometimes the societal pressure to settle down may cause them to feel distressed. Thus, this may also be the reason that they cope by planning (Hamilton & Fagot, 1988; Rosario et al., 1988; Ptacek et al., 1992).

Table 5 shows the variation in the sample's income, and it shows that there was a significant difference with study variables. To overcome the unequal sizes of income groups, post-hoc analysis using the Welch test was utilized. The findings show that the third group, whose family incomes range from 65,000 to 250,000 Pak Rupees, and the fourth group, whose family incomes exceed 250,000 Pak Rupees, almost always have an impact on the inequalities between the categories. This is an expected result; prior studies have indicated that mental health issues could be made worse by income (Fergusson et al., 2007; Zimmerman et al., 2015).. When we talk about socialization, future success is an essential feature. Individuals who belong to higher income groups are more likely to feel pressured by their parents to maintain the status quo. Thus, emerging adults are, as indicated by the sample, more likely to experience anxiety psychological distress and consequently develop more adaptive coping skills like planning, reflecting, monitoring and control.

The present research explored if parents' professional status affected the ability of emerging adults in regulating their feelings and emotions and the experience of psychological distress. The results for the mother's occupation status are shown in Table 6. Except for control, almost all variables show significance, suggesting elements of self-regulation. The findings showed that children of working mothers had higher psychological discomfort and self-regulation scores. Thus, when mothers have a full-fledged career, they might not be able to be at the beck and call of their children all the time. Considering the age of the sample, this bracket itself is very volatile and not having a fallback plan may cause adolescents to feel psychologically distressed. However, the mothers who are working may compensate their absence by teaching their children coping skills to deal with their developmental and emerging needs. This is a complex relationship that needs further exploration. Working mothers are more likely to be sensitized and aware pf practical skills needed by their children. Such skills may not be important or of concern for non-working women. The impact of fathers' work status did not have any impact on the study variables (see Table 8). This is a surprise finding. Fathers are said to be important for the intellectual development of young adults. However, present research did not find any significant difference between the comparison groups. This suggests that the father-child relationship is a complex phenomenon and should be studied in further detail. Perhaps the fathers in today's time have a weak role in the upbringing of their children, or maybe the specific age bracket is not looking for support or role models in their fathers. As stated earlier maybe same age peers or people in professional line-ups maybe playing a significant role in the daily lives.

Another objective of the research was to explore how the living status of the university students affected their experiences. The research assessed if their family was living in nuclear or joint family system (see Table 7). The study indicates that there are distinct differences in psychological distress and self-regulation experiences between individuals in joint and nuclear family setups. It shows that individuals from joint family systems experienced more psychological distress. This may be due to the experience of constant interference in daily routines and the need to share personal ad physical resources with others. Incidentally, coping with distress in terms of self-regulation was also found to be high in those living in joint family system.

Thus, being in a stressful condition may be a cause for these individuals to develop effective coping. A joint family is generally marked with greater expectations, increased interpersonal dynamics, a need to adjust within a larger family. So emerging adults are taught the art of coping by primary and secondary parenting figures. Living in nuclear families is generally equated to a protective environment, where secondary parenting maybe controlled (Bilal et al., 2013; Khatoon, 2008). Such parenting is more permissive and may not put emerging adults through testing situations. Interestingly this factor of protection was also indicated by studying the birth order among respondents. It was found that the last born were more likely to experience psychological distress and anxiety (see Table 9).

In addition to varying family types, the present research also focused on studying how to hostelites (student living in hostels) fare against students living at homes. The study found that those living at home reported experiencing less distress than those living in a hostel (see Table 10). These hostelites were more likely to show better self-regulation (Bashir et al., 2019; Chacón et al., 2019). The reason seems evident. When a person has to live on their own, they may experience a lot of stress and anxiety. This may be related to adjusting one's expectations, adjusting with demands of the hostel life and self-regulation to fit into the social environment. That may be distressing. And to survive and adjust to these demands, it is necessary to develop coping skills. Self-regulation is one of them. The present research indicates that the sample was using monitoring and control to regulate their behaviors in their daily experiences.

Conclusion and Recommendations

In summary, the research investigated the relationship between psychological distress, its subscales, and self-regulation among university students. Surprisingly, the results showed a positive correlation between psychological distress and self-regulation, contradicting the expected inverse relationship. This unexpected outcome suggests a need for further exploration into the complex nature of emotional regulation during adolescence and the potential influence of environmental factors. Moreover, the study examined gender differences in psychological distress and self-regulation, revealing significant variations between male and female students. Male students exhibited higher levels of anxiety and planning compared to their female counterparts, highlighting the importance of considering gender-specific factors in mental health interventions. Income disparities were also found to influence emotional dysregulation among students, with higher family incomes correlating with heightened distress levels. Maternal employment was associated with both increased distress and enhanced self-regulation among offspring, indicating a multifaceted relationship that warrants further investigation. Interestingly, the research found no significant impact of paternal employment status on students' mental health outcomes, suggesting the need to explore additional familial dynamics and coping mechanisms. Additionally, differences in living arrangements, such as joint versus nuclear families, and living at home versus in a hostel, were associated with distinct experiences of psychological distress and self-regulation. Overall, these findings underscore the complex interplay of individual, familial, and societal factors in shaping university students' mental health and emotional regulation abilities. Further research is needed to elucidate these dynamics and inform targeted interventions aimed at promoting the well-being of diverse student populations.

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