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Exploring the relationship of adolescents resilience with subjective well-being and general intelligence

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Abstract

In the face of risk, the framework of resilience theory offers a healthy adolescent development. Resilience is the ability to recover, to adapt and bounce back in adverse situations. To explore relationship of resilience with subjective well being and general intelligence a random sampling technique employed to select 191 adolescents studying in 8th, 9th and 10th classes of private and government schools of Rangareddy district. Results report that adolescents in both rural and urban area had below average resiliency. However, the sense of mastery, sense of relatedness and overall resilience were significantly higher among rural adolescents than urban adolescents. The positive correlation coefficient results show that with the increase in subjective well being among adolescents there was a significant increment in resilience among adolescents. Interestingly, general intelligence was significantly higher among urban adolescents than rural adolescents, but there was no significant correlation between general intelligence and resilience.

Keywords: Adolescents, resilience, subjective well being, general intelligence

Introduction

Today, there are more adolescents than ever before in the world—1.3 billion, or 16% of the total population (UNICEF, 2024). Adolescence is the stage of development and growth that occurs between childhood and maturity. Anybody between the ages of 10 and 19 is considered an adolescent according to the World Health Organization (WHO, 2022) [2].

Adolescence is recognized as a transition period from childhood to adulthood which occupies a greater portion of the life course than ever before at a time when unprecedented social forces, including marketing and digital media, are affecting health and wellbeing across these years. Adolescents frequently experiment with a range of novel behaviors in an effort to explore their social status and sense of self (Scales, 2010) [9]. However, early adolescents deal with a variety of complex difficulties, including intimacy, self-concept, independence, and identity development. To manage and combat stressors and challenges in challenging circumstances, researchers have discovered a novel strategy known as "Resilience".

Resilient people were able to maintain a healthy and relatively stable psychological functioning despite facing severe adversity during their developmental process, according to some researchers who defined resilience as a personal ability or attribute to bounce back (Smith *et al.*, 2008) [10].

The notion of resilience is also linked to a construct such as life satisfaction and subjective well-being, demonstrating the validity of early resilience scales (Wagnild and Young, 1993) [12]. Diener (1997) [3] described subjective well-being as the "quality of an individual's life with regard to one's overall satisfaction with life as well as the presence and relative frequency of both positive and negative emotions over time." Intelligence is another concept that largely corresponds with resilience. When compared to children with low IQs, Garnezy *et al.* (1984) [4] found that children with high IQs, which is an internal asset, were better able to adapt or engage socially.

Therefore, the study explores a) the relationship between resilience and subjective well-being and b) the relationship between resilience and general intelligence among adolescents.

Material and Methods

A cross sectional study includes 191 adolescents attending government and private high schools of rural and urban localities of Rangareddy district of Telangana state.

By random sampling technique boys and girls selected for the study. "General information questionnaire" is a self-structured questionnaire used to collect age, gender, class, locality and type of school of the participants. "Child and adolescents resilience scale" by Sandra Prince-Embury assess the resiliency levels among adolescents. The tool consists of 64 items, with three domains i.e., sense of mastery, sense of relatedness and emotional reactivity. The response for each question rated on four point likert scale ranges from never '0' to almost always '4'. The scores were summed up and converted to *T* scores. The score ranges from ≤ 40 to ≥ 60 and higher scores represents higher resiliency levels. "Subjective well-being inventory" by Sell determines the adolescents subjective well being. It has 40 items under eleven domains and score ranges from 40 to 120. The higher score represents high subjective wellbeing.

"Standard Raven's Progressive matrices" by J.C. Raven was employed to assess general intelligence among adolescents. The tool consists of 60 problems. It is a self administered untimed activity. After summing up the scores converted into percentiles and categorized into grade I to grade V. The study adopts correlation research design to explore the relationship of resilience with subjective well being and general intelligence.

Statistical tools

The data was analysed by using statistical tools such as frequency, percentage, mean, standard deviation, chi-square/ modified chi-square and t-test / F-test by entering data into IBM SPSS version 25.

Results

Table 1: Demographic characteristics of rural and urban sample

(N=191)

Characteristics	Category	Rural (n=96)		Urban (n=95)	
		n	%	n	%
Age	12-14	60	62.5	55	57.9
	15-17	36	37.5	40	42.1
Gender	Boys	50	52.1	49	51.6
	Girls	46	47.9	46	48.4
Ordinal position	First born	38	39.6	30	31.6
	Second born	42	43.8	45	47.3
	Later born	16	16.6	20	21.1
Class	8 th class	33	34.4	31	32.6
	9 th class	33	34.4	31	32.6
	10 th class	30	31.2	33	34.7
Type of school	Government	65	67.7	33	34.7
	Private	31	32.3	62	65.3

Figures in parenthesis indicates percentages

Table 1 shows the demographic characteristics of the sample. Majority of adolescents from rural (62.5%) and urban area (57.9%) were in 12-14 years of age. Almost equal proportion of participants were boys (52.1) and girls (47.9%), studying in eight (34.4%), ninth (34.4%) and tenth (31.2%) class in rural area. Similar distribution observed in urban area i.e., 51.6 per cent were boys and 48.4 per cent were girls. 32.6 per cent were in eight, 34.7 per cent were in tenth and 32.6 per cent were in ninth class. In both the rural and urban area's most of them were second borns (43.8%, 47.3%), followed by first (39.6%, 31.6%) and later born (16.6%, 21.1%) respectively. In rural area 67.7 per cent were government school and in urban area 65.3 per cent were in private school.

and 9.37 per cent of above average resiliency level in rural adolescents. Similarly, in urban sample, more than half of them had below average (61.05%) resilience levels followed by average (34.73%) and above average (4.21%) level of resilience.

Table 3: Comparison of rural and urban adolescents of Rangareddy district on overall resilience and on its dimensions

(N=191)

Dimensions of Resilience	Rural		Urban		t-Value	P value
	Mean	SD	Mean	SD		
Sense of mastery	45.98	9.69	42.98	9.59	2.149*	<0.05
Sense of relatedness	44.79	8.05	42.14	9.38	2.090*	<0.05
Emotional reactivity	54.95	10.61	54.26	10.06	.464 ^{NS}	0.321
Over all resilience	45.18	8.67	42.11	9.28	2.363*	<0.05

**Significant at 0.01 level, *Significant at 0.05 level, NS indicates non-significant

Table 2: Level of resilience among rural and urban adolescents

(N=191)

Resilience	Rural		Urban	
	n	%	n	%
Above average	9	9.37	4	4.21
Average	38	39.58	33	34.73
Below average	49	51.04	58	61.05
Total	96	100	95	100

Figures in parenthesis indicates percentages

Table 2 presents levels of resilience among rural and urban adolescents. Half of the participants were in below average (51.04%) level of resilience, 39.58 per cent with average

Table 3 shows a significant difference between rural and urban adolescents with regards to dimensions of resiliency i.e., sense of mastery and sense of relatedness (i.e. $t=2.149$; $p=0.05$ and $t=2.090$; $p=0.05$ respectively). While there was no significant difference observed on emotional reactivity. However, on overall resilience both rural and urban adolescents significantly differed at 5 per cent probability level ($t=2.363$). The mean scores reveal that rural adolescents had better sense of mastery, sense of relatedness and overall resilience compared to urban adolescents.

Table 4: Comparison of rural and urban adolescents of Rangareddy district on overall subjective well-being and on its dimensions

(N=191)

Dimensions of subjective well being	Rural		Urban		t Value
	Mean	SD	Mean	SD	
General well-being positive affect	6.47	1.23	6.45	1.42	.137 ^{NS}
Expectation-achievement congruence	6.35	1.02	6.06	1.15	1.841 ^{NS}
Confidence in coping	6.48	1.03	6.21	1.21	1.705 ^{NS}
Transcendence	6.59	1.03	6.50	.98	.605 ^{NS}
Family group support	7.39	1.11	7.28	1.40	.608 ^{NS}
Social support	6.86	1.43	6.85	1.56	.055 ^{NS}
Inadequate mental mastery	14.48	2.27	14.50	2.11	-.049 ^{NS}
Perceived ill-health	12.60	1.85	12.62	2.66	-.051 ^{NS}
Deficiency in social contacts	5.84	1.35	5.50	1.72	1.508 ^{NS}
General well-being negative affect	6.73	1.29	6.80	1.39	-.319 ^{NS}
Overall subjective well-being	79.85	5.12	78.80	7.72	1.112 ^{NS}

**Significant at 0.01 level, *Significant at 0.05 level, NS indicates non-significant

Table 4 shows comparison of rural and urban adolescents on subjective well-being. The findings reveal that adolescents from both the areas did not differ significantly with regards to overall subjective well-being (t=1.112) and also on its dimensions such as general well-being positive affect, expectation-achievement congruence, confidence in coping,

transcendence, family group support, social support, inadequate mental mastery, perceived ill-health, deficiency in social contacts and general well-being negative affect. However, similar mean scores obtained by both rural and urban adolescents on overall subjective well-being and on its dimensions.

Table 5: Comparison of rural and urban adolescents of Rangareddy district on general intelligence

(N=191)

	Rural		Urban		t-Value	P value
	Mean	SD	Mean	SD		
General intelligence	35.73	5.83	38.56	6.38	-3.197**	<0.01

**Significant at 0.01 level, NS indicates non-significant

Table 5 shows the comparison between adolescents from rural and urban area with regards to general intelligence. A significant difference found between rural and urban

adolescents (t=-3.197; p<0.01). The mean scores shows that urban adolescents (M=38.56) had high general intelligence than rural adolescents (M=35.73).

Table 6: Relationship of overall subjective well-being, dimensions of subjective well-being and general intelligence with resiliency and its components

(N=191)

Variables	Overall resilience	Resilience dimensions		
		Sense of mastery (r)	Sense of relatedness (r)	Emotional reactivity (r)
Dimensions of subjective well-being				
General well-being positive affect	.224**	.261**	.105	.026
Expectation-achievement congruence	.175*	.202**	.096	-.001
Confidence in coping	.307**	.252**	.277**	.107
Transcendence	.097	.084	.080	.007
Family group support	.077	.043	.122	-.058
Social support	.170*	.092	.253**	.071
Inadequate mental mastery	.119	.115	.068	-.427**
Perceived ill-health	.191**	.192**	.136	-.170*
Deficiency in social contacts	.059	.138	-.041	-.184*
General well-being negative affect	.024	.056	-.007	-.345**
Overall subjective well being	.322**	.322**	.238**	-.284**
General intelligence	-.095	-.088	-.035	-.047

*Significant at 0.05 level, **Significant at 0.01 level

Table 6 depicts the relationship of subjective well-being, its dimensions and general intelligence with resilience. A significant positive correlation exists between resilience and overall subjective well-being (r=.322**) and also with dimensions of subjective well-being i.e., positive significant correlation with general well-being positive effect (r=.224**), expectation-achievement congruence (r=.175**), confidence in coping (r=.307**), social support (r=.170**) and perceived ill health (r=.191**).

Resilience dimensions also showed a significant positive correlation with subjective well-being and with its

dimensions such as sense of mastery is positively and significantly correlated with overall subjective well-being (r=.322**), general well-being positive affect (r=.261**), expectation achievement congruence (r=.202**), confidence in coping (r=.252**) and perceived ill-health (r=.192**). Similarly, a significant positive correlation observed between sense of relatedness and overall subjective well-being (r=.238**), and also with confidence in coping (r=.277**), social support (r=.253**). The emotional reactivity is negatively and significantly correlated with overall subjective well-being (r= -.284**) as well as with its

dimensions such as inadequate mental mastery ($r = -.427^{**}$), perceived ill health ($r = -.170^{**}$), deficiency in social contacts ($r = -.184^{**}$) and general well-being negative affect ($r = -.345^{**}$).

However, the data shows that general intelligence of adolescents was not significantly correlated with adolescent's resilience and also with its dimensions.

Discussion

High scores on sense of relatedness which suggest that adolescents from rural areas could get good support from reliable people (table 3). Similarly, higher scores on sense of mastery show that rural adolescents were more cautious to tackle with any problem, had good self-efficacy which drives individuals to confront obstacles actively and build effective problem-solving attitudes, and also, they were able to learn from their own experiences. However, similar scores on emotional reactivity signifies that rather than locality other personal and familial factors might have influence in developing emotional reactivity.

Although there is no statistically significant difference between the subjective well-being of adolescents living in rural and urban areas in the Rangareddy region (table 4), those who live in rural areas were found to have greater levels of self-assurance in their ability to cope, as well as more transcendent, healthy family group support, better general well-being positive affect, and expectation achievement congruence, while those in urban areas were found to have inadequate mental mastery, perceived ill health, and negative affect related to general well-being. The findings also suggest that personality traits, as compared to location, may have an impact on adolescents' subjective well-being.

There was a substantial difference in general intelligence between rural and urban adolescents in the Rangareddy region (table 5), with urban adolescents scoring higher than rural adolescents. This could be the result of a unique genetic component that has strengthened each person's intellectual potential. The location is important as well since, in comparison to adolescents in rural areas, those in urban areas would have easier access to resources, engage more actively in educational activities, and explore a wider range of experiences at home and in schools.

The findings were consistent with those of Huang *et al.* (2015)^[5], who found that there was a significant disparity in the IQs of adolescents living in rural and urban areas. Urban adolescents had higher IQs than adolescents living in rural areas due to environmental variables. In addition to contextual impacts, an individual's ability to reason and solve problems is influenced by genetic and parental factors. Adolescents with higher subjective well-being have higher levels of resilience, relatedness, and mastery while lower levels of emotional reactivity (table 6). Increased sense of mastery and resilience are also brought about by the rise in positive aspects of subjective well-being in teenagers, such as improved perceived health, general well-being positive affect, confidence in coping, and expectation achievement congruence. Adolescent resilience and a sense of relatedness grow as they get more social support and coping confidence. Higher emotional reactivity is a result of adolescents' perceived illness, lack of social connections, inferior mental mastery, and overall unpleasant affect. It suggests that resilience is increased in adolescents who have higher levels of positive affect, coping mechanisms, and social support.

These findings are consistent with a study by Vinayak and Judge (2018)^[11], which found that adolescents with higher levels of resilience are better able to sustain higher levels of wellbeing. Resilience serves as an individual protective factor, aids in the development of self-confidence and a sense of self, and empowers adolescents to effectively manage stress and negative emotions.

Conclusion

In the face of adversity resilient adolescents actively bounce back to normal state. The study concludes that adolescents from rural area had effective problem solving capability and optimistic attitude. Due to genetic factor along with environmental and cultural exposure the urban adolescents exhibited greater levels of general intelligence. Adolescent with higher subjective well being leads to better resilience level, thus emphasises the importance of being satisfied with life.

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