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Predictors of Psychological Resilience: A Cross-Sectional Study Among Adults in Nairobi and Kiambu Counties in Kenya

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ABSTRACT

Psychological resilience is the ability to "bounce back" from "setbacks" experienced by individuals due to their encounter with life events, stressors or adversity. An on-line study sought to determine the predictors of psychological resilience among 318 adults sampled from Nairobi and Kiambu counties in Kenya using convenience sampling and snowballing. The sample was made up 56.2% females, 42.8% and 1% who preferred not to state their gender, 57.7% were living in Nairobi while 42.3% were residents in Kiambu county. An investigator developed socio demographic questionnaire, the Resilience Scale and the Baruth Protective Factors Inventory (BPFI) were used to formulate a goggle form. The study findings showed that there was a significant impact of few stressors, adaptive personality and supportive environment on psychological resilience. Regression analysis result indicated that a 2% variance on psychological resilience was accounted for by few stressors, 4.2% by adaptive personality and 4.7% by a supportive environment. The regression coefficient (B = 1.02, 95% CI) indicated that when few stressors increase by one-unit, psychological resilience increased by 1.02 units, (B = 1.34, 95% CI), the regression coefficient for adaptive personality indicated that an increase in a unit corresponded to a 1.34 unit increase in psychological resilience while (B = 1.81, 95% CI) the regression coefficient for supportive environment, indicated that an increase in a unit, corresponded to a 1.81 unit increase in psychological resilience. The findings of this study are useful for mental health service providers who work with individuals with mental illnesses and are using interventions for enhancing psychological resilience. Additionally, on a policy level the government can utilize these finding to lower the number of stressors that the general public is exposed to as this predicts psychological resilience. Churches, families, work environments as well as social groups are a support environment for individuals and the level of support obtained impacts psychological resilience. Enhancing engagements in the social circles is a resource.

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INTRODUCTION

Psychological resilience refers to the result, process, or ability to satisfactorily adjust to threatening or difficult circumstances, thus maintaining personal wellbeing even in the face of stress or adversity (Chtibi et al., 2018; Favale et al., 2020). According to Favale et al. (2020), psychological wellbeing is not an "innate force", it is a dynamic process that advances throughout life as an aspect of personality that reinforces psychological wellbeing. Psychological resilience is seen as a protective factor against the effects of stress, as well as a style of functioning that includes cognitive and behavioral aspects (Graber et al., 2015).

Resilience can be demonstrated in three situations; firstly as "overcoming odds" or having a successful outcome despite experiencing high-risk status,

secondly, as stress resistance, achieving or maintaining success while under threat, and lastly as trauma recovery (Mohr, 2012). When faced with stressful stimuli, an individual's capacity to deal with it depends on five factors; personality, genetics, neurobiological factors, psychological resilience, and interdependent social determinants (Shrivastava et al., 2016). Through the process of active coping Chitayi (2018) says that individuals with high levels of psychological resilience can cope with aggravating situations, while those with low levels are more vulnerable to certain cardiovascular, psychosomatic, and neuroendocrine diseases. Psychological resilience acts as a protective factor against psychological distress which develops from exposure to stressors and traumas (Sippel et al., 2015).

Salminen et al. (2020) state that the roots of the psychological resilience are found in both the physiological aspects of stress and psychological aspects of coping. Psychological resilience is thus conceptualized as the cumulative influence of psychological attributes within the stress process context. Coping modifies or eliminates the situation, controls the meaning that an individual makes of the experience, and manages emotional expenditure of the situation (Ali-Abadi et al., 2020). Coping strategies appear to be effective when individuals feel that they have more power or control over the situation.

Psychological resilience is negatively associated with anxiety symptoms, has a negative relationship with adverse childhood experiences, emotional reactivity and depression (Goldstein et al., 2013) Poole et al., 2017 Shapero et al., 2019). Liu et al. (2024) argue that psychological resilience protects individuals from depression by acting as a compensatory and protective factor. It has also been associated with life satisfaction and subjective wellbeing; the indicators of positive mental health (Tomyn & Weinberg, 2016). In this regard, psychological resilience is a resource to individuals that helps decrease the chances of developing mental illnesses and also to keep good mental health. The question therefore is what predicts psychological resilience in adults and to what extent do the predictors influence it.

The World Health Organization (2017) indicated that adult responses are influenced to a great extent by the type of interactions that individuals have with each other and their environments as well as the availability and reliability of material and support resources. As stated by Pasqualotto et al. (2015) no one can avoid adversities and stressors entirely, but the knowledge that there is a support system in place that can be depended on lessens the impact of adversity. On the other hand, Katsiana et al. (2021) say that even as very good relationships are predictors of psychological resilience, very bad relations have been shown lead to the development of psychological resilience by hardening the individual as it places one in a survival pattern leading to development of resilience.

Studies conducted among war veterans have shown that highly resilient individuals-described as having had high exposure to combat but expressing low PTSD symptoms, were more likely to be in a romantic relationship, to obtain unit support, and reported high family support and understanding (Sippel et al., 2015). In addition, those who reported high social support were 180% less likely to develop PTSD. Goodman et al. (2016) reported economic, educational demographic factors and sexual behavior as predictors of psychological resilience.

Psychological resilience is commonly conceptualized as the maintenance or rapid recovery of good mental health despite exposure to significant stress or adversity (Hofgaard & Nes, 2021). Empirical literature has identified several predictors of resilience at both affective and personality levels. For instance, Karampas et al. (2016) reported that positive emotions accounted for 29.9% of the variance in resilience, underscoring the central role of affective processes in adaptive functioning. Similarly, Eley et al., (2013) found that individual differences explained 39% of the variance in psychological resilience. Specifically, self-directedness ($\beta = .33$, $p < .001$), harm avoidance ($\beta = .19$, $p < .001$), and persistence ($\beta = .22$, $p < .001$) emerged as significant contributors. Together, these findings suggest that resilience is not merely situational, but is also shaped by relatively stable personality characteristics and emotional tendencies.

Closely related constructs such as adaptive and anticipatory capacities further illuminate the multidimensional nature of resilience. Adaptive capacity refers to an individual's ability to absorb shocks and cope effectively through management and recovery processes, drawing on available resources, assets, and skills (World Health Organization, 2018). Anticipatory capacity, by contrast, reflects the ability to predict and proactively mitigate potential risks and disturbances, thereby reducing vulnerability before stressors fully manifest. Within this framework, Sahni et al. (2021) describe three broad resilience profiles: individuals who effectively confront risks, those who sustain positive affect during adversity, and those who maintain robust mental wellbeing despite ongoing stress. Positive adaptation processes are associated with skill development, recognition of

latent strengths, enhancement of interpersonal relationships, and shifts in life philosophy and priorities De la Fuente et al. (2021), indicating that resilience may involve not only shape the recovery trajectory but also that of personal growth.

Understanding resilience also requires consideration of the nature and burden of stressors. Stressors are typically categorized into negative life events, chronic strains, and traumatic stressors (Ward et al., 2021). The cumulative number and intensity of these stressors impose psychological and physiological costs, increasing vulnerability to poor mental health outcomes. However, resilience or vulnerability is influenced not only by stressor load but also by perceived control over stressors (Wu et al., 2013). Importantly, Stainton et al. (2019) propose that the development of a healthy stress response may require initial exposure to manageable adversity, producing an inoculation effect that strengthens subsequent coping capacity. When conceptualized as a dynamic process, resilience reflects an individual's trajectory following adversity-whether they maintain functioning, recover to baseline, or experience growth beyond pre-adversity levels.

Empirical evidence suggests that the quantity and intensity of stress exposure differentiate resilient from non-resilient individuals. For example, Jaffe et al. (2007) reported that non-resilient individuals had experienced significantly more stressors than their resilient counterparts (b = .23, SE = .10, $p \leq .05$), highlighting the detrimental impact of cumulative stress burden. At the same time, the relationship between stress exposure and resilience does not appear to be linear. Pasqualotto et al. (2015) propose the existence of an optimal level of cumulative stress necessary for resilience development, whereby moderate exposure may foster adaptive coping through experiential learning, while excessive stress undermines functioning.

Further supporting this nuanced perspective, Jaffe et al. (2007) identified a significant association between individual strengths and cumulative stressors (RRR = 1.34, SE = .16, 95% CI = 1.08–1.68, p ≤ .01). The transformed relative risk ratio indicated a higher prevalence of individual strengths among those classified as more resilient. Notably, however, the protective effect of individual strengths was most evident under conditions of relatively low stress. Individuals possessing such strengths demonstrated greater resilience compared to those without them, but this advantage diminished as stress levels increased. Together, these findings suggest that resilience emerges from a dynamic interplay between stress exposure and personal resources, with both insufficient and excessive stress potentially limiting adaptive development.

Methodology

Participants

The study had 381 adult participants, aged 18 years and above, both male and female, living within the counties of Nairobi and Kiambu in Kenya, and had access to social medial platforms used to collect data.

Instruments

The study utilized an investigator developed socio demographic questionnaire, the Resilience Scale (RS) and the Baruth Protective Factor Factors Inventory (BPFI) to collect self-report data. The socio demographic questionnaire was used to collect personal information discussed above; age range, gender, county of residence, highest education level obtained and the source of the participant's social support.

The Resilience Scale is a 25-item inventory that uses a 7-point Likert-type scale to assess resilience. The inventory score range is 25 to 175 where higher scores are indicative of higher resilience; 25 to 100 is very low resilience, 101 to 115 is low, 116 to 130 is on the low end, 131 to 145 is moderate, 146 to 160 indicates moderately high resilience while 161 to 175 indicates high resilience (Losoi et al., 2013). The Resilience Scale has an acceptable reliability of between Cronbach's alpha .87 to .95 (Centre, 2021) and validity of Cronbach's alpha .867 to .91 (Oladipo & Idemudia, 2017; Pinhiero et al., 2015).

The BPFI, a 16-item tool with four subscales measure few stressors (item 1 to 4) which are reverse scored, adaptive personality (item 5 to 8), supportive environment (item 9 to 12) and compensating experiences (item 13 to 16), using a 5-point Likert scale where a score of five indicates high resilience (Baruth & Carrol, 2002). Additionally, the BPFI has been found to have satisfactory reliability (α = .93) and validity when compared to other tools that assess similar constructs. According to Ali-Abadi et al. (2020), the factor Few Stressors gauges whether one perceives more negative or positive experiences in their finances, family and friends, health status and work or school. On the other hand, factor Supportive environment is a multi-dimensional factor that considers family, community, school, work and social networks assessing the support available and received from others. An adaptive personality factor assesses one's assessment of a difficult situation and whether they consider themselves to be in control of the situation or not.

Procedure

The study was carried out during the Covid-19 pandemic. Data were collected between late November and December 2021, when social distancing was being enforced by the Government of Kenya in order to curb the spread of Covid-19. Consequently, a quantitative online study using social media platforms; Facebook®, Telegram®, WhatsApp® and email to distribute the Google® form survey instrument was conducted. The instrument allowed access to the informed consent upon opening the link and only those who consented to taking the study were able to access the instrument, those who did not consent were sent to the last section of the study and requested to submit the survey. In order to ensure that only those who lived either in Nairobi or Kiambu counties the option of "other county" when selected led the respondent to the last section of the survey where they were asked to submit the Google® form. The study was accessible to the investigators social media contacts first who were then requested to share the study with their contacts in order to gain the required sample size. The study design utilized was cross-sectional and the sampling procedure was non-probability convenience and snowballing techniques to obtain a total of 387 participants.

Ethical Consideration

The ethical approval for this study was given by the United States International University-Africa IRB, while the license (No. NACOSTI/P/21/14626) to conduct the study, was issued by the National Commission for Science, Technology and Innovation. All the individuals who took part in the study gave the informed consent.

Results

Participant demographic characteristics are summarized in Table 1, including gender, age, county of residence, educational level, and sources of social support. This overview provides context for interpreting subsequent analyses of psychological resilience.

Table 1 Demographic Characteristics of the Sample (N = 381)

Variable	Category	n	%
Gender	Male	163	42.8
	Female	214	56.2
	Prefer not to state	4	1.0
Age (years)	18–25	42	11.0
	26–33	103	27.0
	34–41	91	24.0
	42–49	107	28.0
	50–57	38	10.0
	58 and above	2	0.5
County of Residence	Nairobi County	220	57.7
	Kiambu County	161	42.3
Level of Education	Primary school certificate	4	1.0
	High school certificate	4	1.0
	College certificate	6	1.6
	College diploma	57	15.0
	Bachelor's degree	177	46.5
	Master's degree	109	28.6
	Doctorate	24	6.3
Primary Source of Support	Spouse	142	37.3
	Parent	79	20.7
	Another adult	76	19.9
	Sibling	40	10.5
	Partner	27	7.1
	Other family member	17	4.5

Note. N = 381. Frequencies are rounded to the nearest whole number; percentages may not total exactly 100 due to rounding.

The study participants (N = 381) comprised 42.8% male participants, 56.2% female participants, and 1% who preferred not to state their gender. In terms of age distribution, 11% were between 18 and 25 years, 27% between 26 and 33 years, 24% between 34 and 41 years, 28% between 42 and 49 years, 10% between 50 and 57

years, and 0.5% were aged 58 years and above. Regarding county of residence, 57.7% of participants lived in Nairobi County, while 42.3% resided in Kiambu County. With respect to educational attainment, 1% had a primary school certificate and 1% had a high school certificate. Additionally, 1.6% held a college certificate and 15% had a college diploma. Nearly half of the sample (46.5%) had obtained a bachelor's degree, 28.6% held a master's degree, and 6.3% had acquired a doctorate. When asked about their primary source of support, 37.3% reported receiving the most support from their spouse. This was followed by parents (20.7%), another adult (19.9%), siblings (10.5%), partners (7.1%), and other family members (4.5%).

Descriptive statistics for psychological resilience and protective factors are summarized in Table 2. The table presents mean scores, standard deviations, and ranges, offering an overview of the sample's resilience profile and the distribution of relevant protective factors.

Table 2 Descriptive Statistics for Resilience and Protective Factors (N = 381)

Variable	M	SD	Min	Max
Total Resilience Score	141.25	21.97	38	175
BPFI Total Score	63.16	8.02	-	-
Few Stressors	12.18	3.08	-	-
Adaptive Personality	16.18	3.36	-	-
Supportive Environment	18.33	2.62	-	-

Note. N = 381. BPFI = Brief Protective Factors Index. The total BPFI score has a maximum possible score of 80, while each subscale has a maximum possible score of 20. Dashes (-) indicate that minimum values were not reported.

As shown on Table 2 the mean psychological resilience score was 141.25 (SD = 21.97), with observed scores ranging from 38 to 175, indicating moderate levels of psychological resilience within the sample. For protective factors, participants obtained a mean total BPFI score of 63.16 (SD = 8.02) out of a possible 80. Among the subscales, the lowest mean score was observed for Few Stressors (M = 12.18, SD = 3.08), while Adaptive Personality had a mean of 16.18 (SD = 3.36). The highest mean score was recorded for Supportive Environment (M = 18.33, SD = 2.62), suggesting that environmental support was the strongest protective factor reported in this sample.

The study sought to identify the predictors of psychological resilience and determine the extent to which each protective factor influenced resilience outcomes. To address this objective, three separate simple linear regression analyses were conducted using Few Stressors, Adaptive Personality, and Supportive Environment as predictors of total psychological resilience. The results are presented on Table 3.

Table 3 Simple Linear Regression Analyses Predicting Psychological Resilience (N = 381)

Predictor	*B*	β	*t*	*F*	R^2	*p*
Few Stressors	1.02	.14	2.83	7.84	.020	< .005
Adaptive Personality	1.34	.21	4.07	16.54	.042	< .001
Supportive Environment	1.81	.22	4.31	18.57	.047	< .001

Note. *B* = unstandardized regression coefficient; β = standardized coefficient; R^2 = proportion of variance explained. All models were significant at $p < .01$. Each predictor was entered separately in a simple linear regression model.

As shown in Table 3, Few Stressors significantly predicted psychological resilience, $F(1, 379) = 7.84$, $p < .005$, accounting for 2% of the variance ($R^2 = .020$). The regression coefficient ($B = 1.02$) indicates that a one-unit increase in Few Stressors was associated with a 1.02-unit increase in psychological resilience. Similarly, Adaptive Personality emerged as a significant predictor, $F(1, 379) = 16.54$, $p < .001$, explaining 4.2% of the variance in resilience ($R^2 = .042$). The unstandardized coefficient ($B = 1.34$) suggests that a one-unit increase in Adaptive Personality corresponded to a 1.34-unit increase in psychological resilience. Supportive Environment also significantly predicted psychological resilience, $F(1, 379) = 18.57$, $p < .001$, accounting for 4.7% of the variance ($R^2 = .047$). The regression coefficient ($B = 1.81$) indicates that each one-unit increase in Supportive Environment was associated with a 1.81-unit increase in psychological resilience. Overall, all three protective factors significantly predicted psychological resilience, with Supportive Environment demonstrating the strongest explanatory power among the individual predictors.

DISCUSSION

The findings of this study indicate that adults residing in Kiambu and Nairobi counties demonstrated moderate levels of psychological resilience (M = 141.25, SD = 21.97). This suggests that, even in the absence of targeted intervention, the general adult population exhibits a reasonably healthy capacity to adapt to adversity. However, the moderate mean score also indicates potential for enhancement through structured and contextually relevant interventions. Comparable levels of resilience have been reported in other populations. For example, university students recorded a mean resilience score of 70.41 (SD = 9.91) out of a possible 95 (Wu et al., 2020), while a healthy general population sample obtained a mean of 27.2 (SD = 5.84) out of 40 on the CD-RISC-10 (Afek et al., 2021). These comparisons suggest that resilience levels among adults in the present study are broadly consistent with findings from other community and student samples.

Inferential analyses further revealed that Few Stressors, Adaptive Personality, and Supportive Environment significantly predicted psychological resilience, although the magnitude of explained variance was modest. Few Stressors accounted for 2% of the variance in psychological resilience, Adaptive Personality explained 4.2%, and Supportive Environment accounted for 4.7%.

Few Stressors significantly predicted psychological resilience, $F(1, 379) = 7.839$, $p = .005$, $R^2 = .020$. The regression coefficient (B = 1.02, 95% CI) indicated that a one-unit increase in Few Stressors corresponded to a 1.02-unit increase in psychological resilience. This finding aligns with previous research demonstrating that resilient individuals tend to report fewer stressors, whereas vulnerable individuals report greater stress exposure (Hildon et al., 2010). The results therefore support the view that lower stress burden is a meaningful, though modest, predictor of resilience.

Adaptive Personality also emerged as a significant predictor, $F(1, 379) = 16.54$, $p < .001$, $R^2 = .042$, explaining 4.2% of the variance in resilience. The unstandardized coefficient (B = 1.34, 95% CI) indicates that each one-unit increase in adaptive personality traits was associated with a 1.34-unit increase in psychological resilience. This finding is consistent with prior research linking personality-related constructs such as developmental and adaptive coping styles (Hildon et al., 2010), self-directedness, harm avoidance, and persistence (Eley et al., 2013), as well as hardiness (Mohatashami et al., 2015), to resilience outcomes. Collectively, these findings underscore the importance of personality-based factors in resilience processes and suggest that intervention strategies should consider how enduring personality characteristics may either facilitate or constrain adaptive functioning.

Supportive Environment demonstrated the strongest predictive value among the three factors, $F(1, 379) = 18.57$, $p < .001$, $R^2 = .047$, accounting for 4.7% of the variance in psychological resilience. The regression coefficient (B = 1.81, 95% CI) indicated that a one-unit increase in supportive environment corresponded to a 1.81-unit increase in resilience. This result is consistent with findings by Hildon et al. (2010) who reported that high-quality relationships and community integration attenuated the adverse effects of stress exposure. The present findings reinforce the protective role of environmental and relational resources and provide empirical support for incorporating social and contextual components into resilience-enhancing interventions.

Overall, while each predictor accounted for a relatively small proportion of variance, the findings highlight the multidimensional nature of psychological resilience, reflecting the combined influence of stress exposure, personality characteristics, and environmental support systems.

CONCLUSION

The findings of this study indicate that adults in the sampled counties demonstrated moderate levels of psychological resilience, suggesting the presence of an existing adaptive capacity within the general population. Importantly, psychological resilience was significantly predicted by Few Stressors, Adaptive Personality, and Supportive Environment. Although the proportion of variance explained by each predictor was modest, their consistent statistical significance underscores the multifactorial nature of resilience.

These findings have practical implications for intervention design and public mental health strategies. Efforts to strengthen psychological resilience in the general population may benefit from a comprehensive approach that includes reducing stress burden where possible, fostering adaptive personality traits and coping styles, and strengthening supportive environmental and relational networks. The identified predictors appear to function as protective buffers, mitigating or transforming the potential negative impact of stress and adversity. By targeting these modifiable factors, resilience-enhancing interventions may not only promote recovery in the face of adversity but also strengthen individuals' overall psychological functioning and long-term wellbeing.

RECOMMENDATIONS

Based on the findings of this study, several actionable recommendations can be made to enhance psychological resilience in the general population.

First, reducing the number and intensity of everyday stressors—particularly in urban environments—may contribute to higher levels of resilience. Central and local governments can play a key role by ensuring the availability of clean and safe public transport, affordable housing, access to potable water, and quality healthcare. Such structural interventions can lower exposure to environmental and social stressors, thereby creating conditions conducive to adaptive functioning at a population level.

Second, supportive environments are critical for resilience development. Institutions such as families, workplaces, churches, and social groups should foster cohesion, mutual support, and positive interpersonal interactions. Community-based initiatives that encourage social connectedness and inclusive participation can strengthen these protective networks.

Third, fostering adaptive personality traits and coping styles can enhance individual resilience. Mental health practitioners should implement targeted interventions that promote adaptive cognitive appraisal of stressors and encourage effective coping strategies. Psychoeducation programs in accessible public settings-such as community centers, places of worship, and barazas-can raise awareness of resilience-building strategies, provide practical coping skills, and strengthen community support systems simultaneously.

Collectively, these recommendations highlight the value of a multi-level approach-integrating structural, relational, and individual interventions-to promote psychological resilience. Furthermore, these findings can inform policy development within the Ministry of Health and guide the design of school curricula where psychological resilience can be nurtured from an early age, contributing to healthier populations across the lifespan.

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