BEYOND THE BOARD: ASSESSMENT OF PERSONALITY AND COPING AMONG CHESS PLAYERS IN GOA

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Abstract
Chess is a game of intrigue that requires a specific mindset and strategy-based cognition alongside keen observation and full-functioning capacity of the working memory. A reciprocal interaction is assumed to exist between sports functioning, performance and the sportsman's personality. The current study assesses the interplay of personality traits and coping skills among performing chess players in Goa, India. The sample comprised of 60 players categorized and matched according to gender and FIDE ranking status and were administered Multidimensional-Personality questionnaire brief form by Auke Tellegen, Christopher Patrick, John Curtin (2002); and Coping Skills inventory by Ronald Smith, Robert Schutz, Frank Smoll, John Ptacek (1995). While gender scores were comparable across personality and coping, ranking displayed significant variances. Elo ratings exhibited superior goal-setting and mental preparation skills, indicating the importance of strategic thinking and mental focus in longer chess formats. Furthermore, higher ratings across Elo Ratings (Rapid,Blitz and Bullet) were linked to the personality trait of harm avoidance, which is characterized by the tendency to avoid stress and risk. Overall, the study highlights the role of individual differences in personality and coping strategies among chess players, particularly concerning different game formats.
***Keywords**:Personality traits, Coping Skills, Chess, Gender, FIDE Ratings*

Introduction & Review

Chess provides a unique paradigm for the analysis of personality and coping mechanism studies due to its specific features. Compared to the majority of sports with a focus and measurement of physical abilities, chess is a predominantly cognitive activity, and therefore the function of cognitive abilities like attention, planning, and problem-solving abilities is crucial (Gonzalez-Burgos et al., 2024). This cognitive demand may serve as a selective factor in attracting individuals with specific personality traits (Vaci & Bilalić, 2016).

Chess is played in different formats, including Standard, Rapid, Blitz, and Bullet, each with different cognitive and psychological requirements depending on time constraints. The variation offers scope to examine the influence of time pressures on psychological factors (Burgoyne et al., 2016). These idiosyncratic attributes of chess make it a valuable performance domain for elucidating the complex interplay between personality, coping, and performance outcomes.

Chess players often display introverted tendencies, higher levels of intellectual curiosity, and a preference for solitary activities (Bilalić et al., 2009). Moreover, chess players' coping mechanisms are mainly focused on dealing with cognitive stressors such as time pressure and ambiguity rather than physical concerns or interpersonal conflict (Schunk et al., 2019). Chess poses significant psychophysiological demands owing to the prolonged training session periods, competitive matches, and tournaments (Fuentes-García et al., 2020). Chess is a game described as mental torture for the players as it involves complex cognitive processes (Kaya and Öztürk, 2015).

Studies have shown that elite chess players often exhibit distinct personality and coping profiles. For instance, Bhaskar (2020) demonstrated that higher-rated players tend to score better on athletic coping skills compared to their lower-rated counterparts. Fuentes-García et al. (2020) further described that high-performance players display higher levels of extraversion, while professional players exhibit higher neuroticism.

It is essential to investigate the complex associations between coping strategies employed by athletes and their dispositional tendencies (Moos & Holahan, 2003). The existing body of literature on coping and sports performance is extensive, marked by varied methodologies for assessing performance and diverse classifications of coping mechanisms, making it challenging to compare studies and ascertain the precise relationship between coping and performance (Nicholls et al., 2016).

Chess data are potentially useful for the analysis of demographic differences in strategic play as well as latent individual traits mentioned by Dilmaghani

(2019). Gender differences have thus also been a factor of study, with findings indicating that higher FIDE ratings in female players correlate with superior body image and self-esteem, and that men tend to achieve higher Elo ratings while women score higher on personal care measures (Bhaskar, 2021). Another research paper supported the findings of the gender differences in performance where it was found that women performed lower than men even after adjusting for relative skills levels via the Elo ratings (De Sousa and Hollard, 2022).

The present study aims to bridge the research gap by conducting a research that purports to understand personality traits along with its relation to various coping skills among chess players.

Methods

Problem Statement

To study the relationship between personality traits and sports coping skills among chess players in Goa.

Objectives

1. To study the effects of Gender and FIDE Elo ratings on Personality Traits and Coping Skills.
2. To chart out an intervention plan for the sample group based on the findings of the study.

Hypotheses

Ha 1: There are significant differences in Personality Traits of chess players with regard to gender.

Ha 2: There are significant differences in Coping Skills of chess players with regard to gender.

Ha 3: There are significant differences in Personality Traits of chess players with regard to FIDE Elo Ratings.

Ha 4: There are significant differences in Coping Skills with regard to FIDE Elo Ratings.

Data Collection & Participants' Profile

The tools used for the study were: Personal Data Sheet - The Personal Data Sheet questionnaire was used to gain relevant information about personality traits and coping skills among chess players. The Multidimensional Personality Questionnaire Brief-Form (MPQ-BF) - developed by Patrick, C. J., Curtin, J. J., & Tellegen, A. (2002). The Athletic Coping Skills Inventory (ACSI-28) - developed by Smith et. al (1995). The data was obtained from 60 certified chess players from Goa through convenience and snowball sampling. For the inclusion criteria of this study: both male and female chess players of different age-groups were studied, the participants consisted of a mix of both novice and experienced players. Novice players included those who are relatively new to competitive chess, while experienced players have been involved in chess for an extended period. The data was further analyzed based on gender and FIDE Ratings format (Standard, Rapid, Blitz and Bullet) by using relevant and appropriate descriptive and inferential statistical methods. The statistical techniques of mean, standard deviation, correlation, t-test and one way ANOVA was employed for analysis.

Data Analysis & Findings

Table 1.1 : Indicating Mean, Standard Deviation and t-value for dimensions of Personality Traits as a function of Gender.

DIMENSIONS OF PERSONALITY TRAITS	GENDER	MEAN	STANDARD DEVIATION	t-VALUE
Wellbeing	Male	8.38	3.36	0.78
	Female	9.15	2.73	
Social Potency	Male	6.51	2.44	0.32
	Female	6.77	3.00	
Achievement	Male	7.38	2.58	0.40
	Female	7.69	2.21	
Social Closeness	Male	5.85	3.10	0.57
	Female	5.31	2.81	
Stress Reaction	Male	7.53	4.19	1.53
	Female	9.54	4.18	

Alienation	Male	6.15	4.00	0.38
	Female	6.62	3.66	
Aggression	Male	4.23	2.86	0.26
	Female	4.00	3.06	
Control	Male	8.98	2.16	1.83
	Female	10.23	2.28	
Harm Avoidance	Male	7.04	2.41	0.46
	Female	7.38	2.22	
Traditionalism	Male	8.53	2.33	0.57
	Female	8.92	1.50	
Absorption	Male	8.00	2.50	1.33
	Female	9.08	2.84	
Unlikely Virtues	Male	6.36	1.96	1.96
	Female	7.62	2.33	

Table 1.2 : Indicating Mean, Standard Deviation and t-value for dimensions of Coping Skills as a function of Gender.

DIMENSIONS OF COPING SKILLS	GENDER	MEAN	STANDARD DEVIATION	t-VALUE
Coping with Adversity	Male	7.00	2.11	0.66
	Female	6.54	2.67	
Coachability	Male	8.09	2.11	0.13
	Female	8.00	2.12	
Concentration	Male	7.06	2.34	0.48
	Female	6.69	2.90	
Confidence and Achievement Motivation	Male	7.02	2.58	0.12
	Female	6.92	2.57	
Goal Setting and Mental Preparation	Male	6.00	2.66	1.19
	Female	7.00	2.71	
Freedom from Worry	Male	6.49	3.02	1.72
	Female	4.92	2.43	
Peaking under Pressure	Male	6.26	2.33	0.45
	Female	5.92	2.36	

Based on Table 1.1 and Table 1.2 it was found that there are no significant differences in personality traits and coping skills among chess players based on gender. This lack of significant differences presents strong evidence for the view that chess ability moves beyond gender roles and stereotypes. Consistent with emerging research (Gonzalez-Burgos et al., 2024), our findings suggest that intellectual abilities relevant to expertise in chess, including pattern recognition, strategic thinking, calculation, and memory, are largely developed through personal experience, concerted training, and personal interest and are not determined by gender. The ability to acquire these sport-specific skills is clearly not limited by gender since both men and women can acquire high levels of chess proficiency with persistent effort and practice (De Sousa & Hollard, 2022). As a result, the hypothesis that there are significant gender differences in personality and coping styles among chess players is not supported.

Table 1.3.1 : Indicating the Mean and Standard Deviations (SD) for dimensions of Personality Traits as a function of FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	RATINGS LEVEL	STANDARD		RAPID		BLITZ		BULLET	
		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
Wellbeing	Unrated	8.31	3.31	7.97	3.37	8.57	3.19	8.84	3.18
	1000 to 1600	8.50	3.53	8.73	3.33	7.50	3.98	5.40	3.58
	1601 to 1900	9.22	3.31	10.57	1.99	8.50	0.71	8.50	0.71
	1901 and above	9.25	2.50	9.33	3.06	9.33	3.06	9.00	2.65
Social Potency	Unrated	6.38	2.62	6.35	2.62	6.45	2.53	6.60	2.52
	1000 to 1600	7.21	2.19	7.07	2.25	6.70	1.53	6.20	1.92
	1601 to 1900	6.11	2.26	7.29	3.20	9.00	5.66	9.00	5.66
	1901 and above	5.25	1.71	5.33	2.08	5.33	2.08	5.00	1.73
Achievement	Unrated	7.19	2.53	7.00	2.77	7.50	2.47	7.54	2.39
	1000 to 1600	7.57	3.13	7.80	2.34	6.70	1.00	5.00	3.08
	1601 to 1900	7.44	1.59	8.29	1.50	9.00	1.41	9.00	1.41
	1901 and above	8.50	1.29	8.67	1.53	8.67	1.53	9.00	1.00
Social Closeness	Unrated	5.69	2.89	5.85	2.96	5.55	3.00	5.66	3.09
	1000 to 1600	5.00	3.11	5.20	3.41	5.20	2.31	6.80	2.86
	1601 to 1900	6.89	3.48	6.71	3.09	6.50	4.95	6.50	4.95
	1901 and above	5.00	2.45	5.67	2.52	5.67	2.52	4.67	1.53
Stress Reaction	Unrated	8.34	4.41	7.74	4.34	7.83	4.37	8.04	4.38
	1000 to 1600	6.64	4.40	8.33	4.27	9.10	3.84	7.60	4.72
	1601 to 1900	9.67	2.74	9.29	3.64	9.00	4.24	9.00	4.24
	1901 and above	6.25	4.92	4.33	3.79	4.33	3.79	6.67	0.58

Alienation	Unrated	6.47	3.69	5.94	3.98	5.95	3.74	6.18	3.83
	1000 to 1600	6.07	4.09	7.53	3.60	5.33	4.16	6.80	4.76
	1601 to 1900	5.78	4.49	5.71	3.90	10.50	0.71	10.50	0.71
	1901 and above	5.00	4.76	3.33	4.16	3.33	4.16	3.67	4.04
Aggression	Unrated	4.13	2.99	3.94	3.04	4.21	2.90	4.40	3.00
	1000 to 1600	4.07	3.13	4.73	2.99	4.70	0.58	3.40	2.07
	1601 to 1900	5.78	2.11	5.43	1.90	1.50	0.71	1.50	0.71
	1901 and above	2.00	0.82	2.33	0.58	2.33	0.58	3.67	2.08
Control	Unrated	8.78	2.25	8.68	2.33	9.19	2.26	9.34	2.20
	1000 to 1600	10.00	2.39	10.13	2.03	9.33	2.27	7.40	1.95
	1601 to 1900	8.78	1.39	9.14	1.07	12.00	1.53	12.00	1.41
	1901 and above	11.00	2.16	10.33	2.08	10.33	2.08	9.00	1.73
Harm Avoidance	Unrated	7.72	2.08	7.32	1.98	7.64	2.09	7.36	2.32
	1000 to 1600	6.07	2.43	5.93	2.55	4.70	0.58	5.60	2.07
	1601 to 1900	6.78	2.73	9.14	2.27	9.00	0.00	9.00	0.00
	1901 and above	6.25	2.75	5.33	2.52	5.33	2.52	4.33	1.16
Traditionalism	Unrated	8.38	2.41	8.32	2.36	8.69	2.23	8.66	2.22
	1000 to 1600	8.79	1.67	9.07	2.15	9.00	2.36	8.00	2.45
	1601 to 1900	9.00	2.35	9.00	1.29	9.50	0.71	9.50	0.71
	1901 and above	8.75	2.06	8.67	2.52	8.67	2.52	8.33	2.08
Absorption	Unrated	8.22	2.24	8.00	2.47	8.52	2.14	8.46	2.23
	1000 to 1600	8.36	3.46	9.07	2.99	6.67	2.08	6.60	4.72
	1601 to 1900	8.56	2.19	7.57	2.07	7.00	4.24	7.00	4.24
	1901 and above	8.25	3.10	7.67	3.51	7.67	3.51	8.00	3.61
Unlikely Virtues	Unrated	6.25	2.02	6.32	1.82	6.55	2.19	6.48	2.13
	1000 to 1600	7.21	2.52	7.47	2.42	6.60	1.53	7.60	2.19
	1601 to 1900	7.00	1.80	6.57	2.76	8.50	0.71	8.50	0.71
	1901 and above	6.25	1.50	6.63	2.09	5.67	1.16	6.33	1.16

Table 1.3.2 : Indicating ANOVA calculations for dimensions of Personality Traits as a function of Standard FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Wellbeing	Within groups	8.17	4	2.04	0.19
	Between groups	606.68	55	11.03	
Social Potency	Within groups	57.24	4	14.31	2.42
	Between groups	325.50	55	5.92	
Achievement	Within groups	13.32	4	3.33	0.52
	Between groups	351.53	55	6.39	
Social Closeness	Within groups	39.97	4	9.99	1.10
	Between groups	499.76	55	9.09	
Stress Reaction	Within groups	70.75	4	17.69	0.99
	Between groups	987.18	55	17.95	
Alienation	Within groups	32.80	4	8.20	0.52
	Between groups	868.45	55	15.79	
Aggression	Within groups	46.10	4	11.75	1.46
	Between groups	441.98	55	8.04	
Control	Within groups	32.23	4	8.06	1.70
	Between groups	261.02	55	4.75	
Harm Avoidance	Within groups	34.48	4	8.62	1.61
	Between groups	293.70	55	5.34	
Traditionalism	Within groups	5.58	4	1.39	0.28
	Between groups	272.61	55	4.96	
Absorption	Within groups	19.08	4	4.77	0.70
	Between groups	377.66	55	6.87	
Unlikely Virtues	Within groups	16.83	4	4.21	0.96
	Between groups	241.11	55	4.38	

Table 1.3.3 : Indicating ANOVA calculations for dimensions of Personality Traits as a function of RAPID FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Wellbeing	Within groups	42.57	4	10.64	1.02
	Between groups	572.29	55	10.41	
Social Potency	Within groups	15.94	4	3.99	0.60
	Between groups	366.79	55	6.67	
Achievement	Within groups	18.36	4	4.59	0.73
	Between groups	346.50	55	6.30	
Social Closeness	Within groups	18.97	4	4.74	0.50
	Between groups	520.76	55	9.47	
Stress Reaction	Within groups	71.89	4	17.97	1.00
	Between groups	986.05	55	17.93	
Alienation	Within groups	69.54	4	17.39	1.15
	Between groups	831.71	55	15.12	
Aggression	Within groups	37.79	4	9.45	1.15
	Between groups	451.20	55	8.20	
Control	Within groups	40.55	4	10.14	2.21
	Between groups	252.70	55	4.60	
Harm Avoidance	Within groups	64.29	4	16.07	**3.35***
	Between groups	263.90	55	4.80	
Traditionalism	Within groups	7.14	4	1.79	0.36
	Between groups	271.04	55	4.93	
Absorption	Within groups	19.42	4	4.86	0.71
	Between groups	377.31	55	6.86	
Unlikely Virtues	Within groups	18.38	4	4.59	1.06
	Between groups	239.56	55	4.36	

* $p < 0.05$: significant

Table 1.3.4 : Indicating ANOVA calculations for dimensions of Personality Traits as a function of BLITZ FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Wellbeing	Within groups	30.90	4	7.72	0.73
	Between groups	583.95	55	10.62	
Social Potency	Within groups	18.90	4	4.72	0.71
	Between groups	363.84	55	6.62	
Achievement	Within groups	15.58	4	3.90	0.61
	Between groups	349.27	55	6.35	
Social Closeness	Within groups	51.90	4	12.97	1.46
	Between groups	487.84	55	8.87	
Stress Reaction	Within groups	58.53	4	14.63	0.81
	Between groups	999.40	55	18.17	
Alienation	Within groups	91.91	4	22.98	1.56
	Between groups	809.34	55	14.72	
Aggression	Within groups	33.98	4	8.50	1.03
	Between groups	455.01	55	8.27	
Control	Within groups	23.04	4	5.76	1.17
	Between groups	270.21	55	4.91	
Harm Avoidance	Within groups	91.11	4	22.78	**5.28****
	Between groups	237.08	55	4.31	
Traditionalism	Within groups	6.04	4	1.51	0.31
	Between groups	272.14	55	4.95	
Absorption	Within groups	16.02	4	4.01	0.58
	Between groups	380.71	55	6.92	
Unlikely Virtues	Within groups	13.30	4	3.32	0.75
	Between groups	244.64	55	4.45	

** $p < 0.01$: highly significant

Table 1.3.5 : Indicating ANOVA calculations for dimensions of Personality Traits as a function of BULLET FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Wellbeing	Within groups	54.43	4	18.14	1.81
	Between groups	560.42	55	10.01	
Social Potency	Within groups	19.93	4	6.64	1.03
	Between groups	362.80	55	6.48	
Achievement	Within groups	42.43	4	14.14	2.46
	Between groups	322.42	55	5.76	
Social Closeness	Within groups	10.55	4	3.52	0.37
	Between groups	529.19	55	9.45	
Stress Reaction	Within groups	8.15	4	2.72	0.15
	Between groups	1049.79	55	18.75	
Alienation	Within groups	57.90	4	19.30	1.28
	Between groups	843.35	55	15.06	
Aggression	Within groups	20.62	4	6.87	0.82
	Between groups	468.37	55	8.36	
Control	Within groups	32.83	4	10.94	2.35
	Between groups	260.42	55	4.65	
Harm Avoidance	Within groups	44.80	4	14.93	**2.95***
	Between groups	283.39	55	5.06	
Traditionalism	Within groups	3.80	4	1.27	0.26
	Between groups	274.39	55	4.90	
Absorption	Within groups	19.11	4	6.37	0.95
	Between groups	377.62	55	6.74	
Unlikely Virtues	Within groups	13.09	4	4.36	1.00
	Between groups	244.85	55	4.37	

* $p < 0.05$: significant

The different modes of time control in chess – standard, rapid, blitz, and bullet – impose different cognitive implications and therefore may have interacted differently with a player's personality factors.

Standard chess will have lenient time constraints, allowing deep calculation, strategic thought, and careful consideration of every move. Rapid chess has less time than Standard but still permits a lot of thinking and planning. Blitz chess has comparatively brief time constraints, frequently only a few minutes for each player, necessitating quick thinking and use of intuition and pattern recognition. Bullet chess has the quickest time

control, typically one or two minutes for each player, necessitating very quick reactions and frequently favoring speed and mouse proficiency. These different time controls imply that different cognitive styles and psychological traits will be beneficial in each variation. Chess players can have multiple ratings across these formats suggesting flexible usage and understanding of varied cognitive styles to accommodate these varying time constraints.

Tables 1.3.2 to 1.3.5 demonstrates that our examination of the correlation between personality traits and Standard, Rapid, Blitz, and Bullet FIDE Elo ratings yields a pattern of complexity.

In regard to Standard FIDE Elo ratings, Table 1.3.2 reveals there are no statistically significant differences between dimensions of personality traits ($p>0.05$). The implication here is that even though cognitive ability is a central determinant of acquiring chess skills (Burgoyne et al., 2016), and personality can influence the learning process (Blanch & Llaveria, 2021), the principal personality traits tested in this research do not effectively predict the acquisition of Elo ratings in standard time formats. Possibly once a person reaches a point of cognitive ability and training, the impact of these broad personality dimensions in obtaining high Standard Elo ratings becomes nil or complicated. For this reason, the hypothesis, which predicted significant personality trait differences as a function of Standard FIDE Elo ratings, is not supported.

Conversely, Rapid, Blitz, and Bullet FIDE Elo ratings analysis (included in Tables 1.3.3, 1.3.4, and 1.3.5) identifies Harm Avoidance as the most significant discriminating factor ($p<0.05$ in Rapid and Bullet formats and $p<0.01$ in Blitz format). The requirements for rapid decision-making and the greater consequences of errors characteristic of short time controls seem to enhance the effect of this particular personality trait. Participants with higher tendencies towards Harm Avoidance may therefore feel more anxiety and self-criticism due to the more frequent errors typical of rapid, blitz, and bullet events, which can lead to undermining their performance. This result is in line with the idea that a tendency to avoid negative outcomes and fear of uncertainty (Nicholls et al., 2007) can be especially undesirable in these shortening time frames, where playing on intuition and taking some degree of risk are usually beneficial (Krohne & Hindel, 1988).

Most particularly in Rapid chess, the prevailing role of Harm Avoidance indicates that the pressure to make quick decisions under time pressure aggravates the difficulties for those sensitive to the possibility of mistakes. In Blitz chess, the still shorter time controls and the need for more intuitive, "gambling" strategies seem to further affect those with high Harm Avoidance who are used to the more relaxed consideration of longer games. This pattern continues in Bullet chess, where the value placed on perpetual pressure and quick pattern recognition can conflict with the risk-averse tendencies that accompany high Harm Avoidance. Therefore, while most dimensions of personality traits did not correlate highly with Rapid, Blitz, and Bullet Elo ratings, our findings strongly suggest that there exist considerable differences in personality traits among chess players of varying Elo ratings in these faster time controls, especially in the Harm Avoidance dimension. This suggests the potential interaction between some personality traits and performance in chess versions with more time pressures and the requirement for rapid, often intuitive, decision-making. Future studies can examine the unique cognitive and behavior processes through which Harm Avoidance affects performance in these faster versions of chess.

Table 1.4.1 : Indicating the Mean and Standard Deviations for dimensions of Coping Skills as a function of FIDE Elo Ratings.

DIMENSIONS OF COPING SKILLS	**RATINGS LEVEL**	**STANDARD**		**RAPID**		**BLITZ**		**BULLET**	
		MEAN	**SD**	**MEAN**	**SD**	**MEAN**	**SD**	**MEAN**	**SD**
Coping with Adversity	Unrated	7.00	2.27	7.06	2.07	7.12	2.23	7.04	2.31
	1000 to 1600	6.93	2.67	6.87	2.59	5.90	2.23	6.00	1.41
	1601 to 1900	6.33	1.12	5.71	1.98	5.50	0.71	5.50	0.71
	1901 and above	7.75	2.63	8.33	2.89	8.33	2.89	7.00	2.85

Coachability	Unrated	7.88	2.03	7.88	1.98	8.10	2.03	8.16	2.08
	1000 to 1600	8.43	2.41	8.60	2.32	7.40	2.07	7.00	2.55
	1601 to 1900	7.56	1.67	6.71	1.38	7.00	1.41	7.00	1.41
	1901 and above	10.00	1.83	10.67	1.53	10.67	1.53	9.00	2.00
Concentration	Unrated	7.34	2.78	7.41	2.68	7.24	2.63	7.14	2.59
	1000 to 1600	7.00	2.22	6.47	2.23	6.10	1.91	5.80	1.92
	1601 to 1900	5.56	1.67	5.71	1.89	6.50	0.71	6.50	0.71
	1901 and above	7.50	1.29	7.67	1.53	7.67	1.53	6.67	1.16
Confidence and Achievement Motivation	Unrated	6.63	2.84	6.65	2.83	6.79	2.69	6.96	2.55
	1000 to 1600	7.57	2.07	7.47	2.00	6.70	1.89	6.80	2.39
	1601 to 1900	6.67	1.80	6.57	1.51	5.50	0.71	5.50	0.71
	1901 and above	9.00	2.94	10.33	1.53	10.33	1.53	9.00	3.61
Goal Setting and Mental Preparation	Unrated	5.72	2.56	5.85	2.50	6.02	2.62	6.08	2.64
	1000 to 1600	7.07	2.73	6.80	2.81	5.40	2.95	6.20	2.17
	1601 to 1900	5.11	2.32	5.14	2.73	7.00	1.00	8.00	1.41
	1901 and above	9.00	2.16	9.67	2.08	9.67	2.08	7.33	5.03
Freedom From Worry	Unrated	5.97	2.72	6.12	2.53	6.24	2.55	6.18	2.50
	1000 to 1600	6.57	1.99	6.33	1.99	5.80	1.93	6.00	0.71
	1601 to 1900	6.11	1.54	5.71	2.43	5.50	0.71	5.50	0.71
	1901 and above	7.00	1.83	7.33	2.08	7.33	2.08	7.00	1.73
Peaking Under Pressure	Unrated	6.13	3.25	6.12	3.11	6.19	3.13	6.28	3.13
	1000 to 1600	6.79	2.52	6.53	2.70	5.90	2.13	4.80	1.30
	1601 to 1900	4.44	1.67	5.00	2.77	7.50	3.54	7.50	3.54
	1901 and above	7.00	3.37	7.67	3.79	7.67	3.79	5.33	0.58

Table 1.4.2 : Indicating ANOVA calculations for dimensions of Coping Skills as a function of Standard FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Coping with Adversity	Within groups	9.721	4	2.430	0.47
	Between groups	283.679	55	5.158	
Coachability	Within groups	24.583	4	6.146	1.44
	Between groups	235.151	55	4.275	
Concentration	Within groups	24.542	4	6.136	1.02
	Between groups	330.441	55	6.008	
Confidence and Achievement Motivation	Within groups	27.071	4	6.768	1.04
	Between groups	356.929	55	6.490	
Goal Setting and Mental Preparation	Within groups	67.897	4	16.974	**2.62***
	Between groups	356.929	55	6.478	
Freedom from Worry	Within groups	7.697	4	1.924	0.34
	Between groups	309.386	55	5.623	
Peaking under Pressure	Within groups	49.571	4	12.393	1.46
	Between groups	466.079	55	8.474	

* p< 0.05: significant

Table 1.4.3 : Indicating ANOVA calculations for dimensions of Coping Skills as a function of RAPID FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Coping with Adversity	Within groups	17.69	4	4.42	0 .88
	Between groups	275.71	55	5.01	
Coachability	Within groups	38.51	4	9.63	2.39
	Between groups	221.23	55	4.02	
Concentration	Within groups	22.92	4	5.73	0.95
	Between groups	332.06	55	6.04	
Confidence and Achievement Motivation	Within groups	46.12	4	11.53	1.88
	Between groups	337.88	55	6.14	
Goal Setting and Mental Preparation	Within groups	54.00	4	13.50	2.01
	Between groups	370.19	55	6.71	
	Within groups	6.03	4	1.51	

Freedom from Worry	Between groups	310.96	55	5.65	0.27
Peaking under Pressure	Within groups	19.72	4	4.93	0.55
	Between groups	495.93	55	9.02	

Table 1.4.4 : Indicating ANOVA calculations for dimensions of Coping Skills as a function of BLITZ FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Coping with Adversity	Within groups	22.26	4	5.57	1.13
	Between groups	271.14	55	4.93	
Coachability	Within groups	27.05	4	6.76	1.60
	Between groups	232.69	55	4.23	
Concentration	Within groups	15.30	4	3.82	0.62
	Between groups	339.69	55	6.18	
Confidence and Achievement Motivation	Within groups	49.00	4	12.23	2.01
	Between groups	335.01	55	6.09	
Goal Setting and Mental Preparation	Within groups	52.14	4	13.04	1.93
	Between groups	372.04	55	6.76	
Freedom from Worry	Within groups	6.60	4	1.65	0.30
	Between groups	310.39	55	5.64	
Peaking under Pressure	Within groups	25.11	4	6.28	0.71
	Between groups	490.54	55	8.92	

Table 1.4.5 : Indicating ANOVA calculations for dimensions of Coping Skills as a function of BULLET FIDE Elo Ratings.

DIMENSIONS OF PERSONALITY TRAITS	SUM OF VARIANCES	SUM OF SQUARES	Df	MEAN SQUARE	F-RATIO
Coping with Adversity	Within groups	8.98	4	3.00	0.59
	Between groups	284.42	55	5.08	
Coachability	Within groups	11.01	4	3.67	0.83
	Between groups	248.72	55	4.44	
Concentration	Within groups	9.00	4	3.00	0.49
	Between groups	345.99	55	6.18	

Confidence and Achievement Motivation	Within groups	16.78	4	5.59	0.85
	Between groups	367.22	55	6.56	
Goal Setting and Mental Preparation	Within groups	11.04	4	3.68	0.50
	Between groups	413.15	55	7.38	
Freedom from Worry	Within groups	3.10	4	1.03	0.19
	Between groups	313.88	55	5.61	
Peaking under Pressure	Within groups	15.60	4	5.20	0.58
	Between groups	500.05	55	8.93	

The effectiveness of coping abilities on performance and rating development will vary between the forms of chess. In Standard chess, where the pressure of time limitations is less extreme, the capacity to keep concentrating for longer periods, grapple with complex strategic issues, and recover from intermittent mistakes may be of greatest importance. Effective management of time is always useful, but becomes of critical concern in rapid, blitz, and especially bullet chess, where a momentary lapse can be fatal. The ability to recover from mistakes quickly and remain emotionally stable (McKay et al., 2023), sometimes termed resilience, is arguably of most concern in these variants of speed chess, where minimal time is available to worry about mistakes and the pace of the game can cause extreme pressure. Emotional regulation and mindfulness abilities are important in all forms, though perhaps particularly tested in the hectic and high-stress conditions of blitz and bullet.

From the analysis of Tables 1.4.2 to 1.4.5, our investigation of the relationship between coping skills and Standard, Rapid, Blitz, and Bullet FIDE Elo ratings provides a different pattern from our analysis of personality traits.

With respect to Standard FIDE Elo ratings, Table 1.4.2 reports a statistically significant finding of the coping skills factor of Goal Setting and Mental Preparation ($p < 0.05$). Since the standard FIDE rating is an accepted metric of chess skill (Burgoyne et al., 2016), this finding underscores the critical role of proactive coping skills in achieving higher ratings. It suggests that chess performance is not necessarily a function of inborn talent or theoretical expertise but is highly a function of a player's capability to set strategic goals and undertake frequent mental preparation, particularly in competitive settings (Gonzalez-Burgos et al., 2024). Thus, players who set goals consciously and undertake mental preparation regularly appear to be better equipped to utilize their chess skill in enhanced tournament performance, as evidenced by their Standard FIDE Elo rating. Thus, while most coping skills factors did not show a high correlation with Standard Elo ratings, the hypothesis of significant differences in chess players' coping skills based on Standard FIDE Elo ratings is supported with respect to Goal Setting and Mental Preparation.

By contrast, the comparison of Rapid, Blitz, and Bullet FIDE Elo ratings (Tables 1.4.3, 1.4.4, and 1.4.5, respectively) shows the lack of statistically different differences in the coping ability dimensions ($p > 0.05$ in all instances). For Rapid chess, it is plausible to assume that there is a minimum level of competent coping skills needed in order to obtain any certain Elo rating in any competitive chess environment. This would imply that rapid chess performance might be based mostly on instant cognitive capacities and reactive tendencies determining risk estimation and pressure-related anxiety management, as opposed to the more reflective coping styles under examination in this study (Moos et al., 2003). Therefore, the hypothesis assuming significant differences in the coping skills of chess players according to Rapid FIDE Elo ratings is not supported.

Likewise, in the case of Blitz chess, the lack of considerable differences in coping ability sizes can be explained by the very short time limits inherent in this variation. Under such high-pressure conditions, players tend to work in a "survival mode," where they concentrate on short-term actions to prevent time loss or lethal mistakes

(Kaya & Öztürk, 2015). Under such conditions, the intentional application of more sophisticated coping strategies, such as goal setting, general mental preparation, and anxiety management, may be overshadowed by the necessity to respond promptly to the quickly changing dynamics of the game. Therefore, the hypothesis regarding significant differences in coping capacities of chess players in terms of Blitz FIDE Elo ratings does not find support.

The Bullet chess format also supports this pattern. The extremely short duration in bullet chess provides little space for the intentional application of coping skills better adapted to longer time patterns. Mistakes are unavoidable, and game dynamics can shift precariously depending on reckless tactical choices (McKay et al., 2023). Under these circumstances, quickly compensating for mistakes and sustaining focus during the frenetic tactical struggles might be more important than the possible application of the coping skills under study (Nicholls et al., 2016). Thus, the hypothesis of distinct differences of coping skills among chess players depending on Bullet FIDE Elo ratings is not supported.

Finally, the findings of our study indicate the possibility of a dichotomy: proactive coping skills, in the form of Goal Setting and Mental Preparation, are essential to achieving superior skill levels in the more formal variant of Standard chess. In contrast, the fleeting intellectual and reactive nature of the game appears to dominate in the faster variants of Rapid, Blitz, and Bullet chess, over the role of such higher-order coping abilities in variance in Elo rating system.

Recommendations and Conclusion

Conducting longitudinal studies can help examine how personality traits and coping skills evolve over time and their long-term impact on chess play. Incorporating qualitative research methods, such as interviews and focus group discussions, to gain a deeper understanding of chess players' experiences and thought processes. Educating the coaches, trainers, and chess players about the role of personality and coping in performance and its impact on psychological factors (Stambulova & Schinke, 2025).Training interventions that focus on enhancing coping skills, emotional regulation, and stress management can be especially helpful for players with specific personality profiles (Shuai et al., 2023).

This study sheds light on the interaction between personality, coping ability, and chess performance under different time controls. Although active psychological involvement seems to be essential for success in regular chess, the quicker variants of rapid, blitz and bullet chess, more emphasis is placed on the role of certain personality traits concerning risk aversion (harm avoidance) and the possibility of rapid cognitive abilities dominating over deliberately used coping mechanisms. In addition, the results also emphasize that the psychological inclinations for the game are not substantially gender-differentiated.

In summary, these results highlight the multidimensional nature of chess performance. It brings out the subtle interaction of the way we think, the way we respond to pressure, and our deep-seated personality. The study demonstrates how the shifting demands of various time controls shift the relative importance of these factors, and how it gives us rich insight into the psychology of the game. It also challenges us to look beyond simplistic explanations of chess talent and to value the rich tapestry of psychological forces in action.

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