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OBSERVE, BLOCK, AND DEFEND: PERSONALITY, EMPATHY, AND BULLYING EXPERIENCES AMONG ROMANIAN ADOLESCENTS IN KEMPO TRAINING

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Abstract
This longitudinal study examined how personality traits, empathic concern, and martial arts training (Kempo) may predict bullying involvement and bystander behavior among Romanian adolescents across offline and online contexts. A total of 182 adolescents (aged 11–16) completed self-report measures at two time points, eight weeks apart. At Time 1, neuroticism and empathic concern positively predicted offline and online victimization, while conscientiousness and openness to experience acted as protective factors. Extraversion, along with empathic concern, positively predicted active defending behaviors. However, at Time 2, none of the accounted variables predicted bullying victimization or defending. These findings highlight the need for ongoing, context-sensitive interventions and suggest that martial arts training may contribute to youth development when integrated with broader prosocial education.

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Introduction

Bullying among adolescents remains a pervasive, widespread global health issue, with significant psychological and social consequences (Liu et al., 2024). Bullying is also a concerning issue in Romania, with nearly 50% of students reporting having been victims and over 80% having witnessed bullying in schools (Hau, 2024). Further, Romania ranks third in Europe for bullying prevalence among students (Rus et al., 2024). Also, cyberbullying is on the rise (in Romania and around the globe), and the growing literature on this subject draws attention to its harmful psychological impact and the urgent need for targeted prevention efforts across both traditional and digital environments (Kasturiratna et al., 2024).

Victims of bullying often experience elevated psychological distress, poor general health, and suicidal ideation and behaviours (see the meta-analysis by Moore et al., 2017), while bystanders may feel helpless or conflicted about intervening. Understanding the individual and contextual factors contributing to these experiences is highly important for developing effective prevention strategies. In this context, personal traits (Gkatsa, 2024) and engagement in structured extracurricular activities, such as martial arts, may play a very important role (Xu et al., 2024). Thus, this study aimed to investigate the relationship between practicing Kempo and bullying experiences among Romanian adolescents. It also examines how individual differences in personality traits, empathy, and psychological distress may be linked to these associations.

Martial Arts and Bullying Experiences

Structured physical activities such as martial arts training have garnered attention for their potential psychological and social benefits in youth development (Rodrigues et al., 2024; Zhang Tingxiu et al., 2025). Martial arts are not merely physical disciplines; they often incorporate philosophical teachings emphasizing respect, discipline, self-control, and responsibility (Healey et al., 2025), values that align closely with prosocial behavior and emotional regulation (Kuzhelnyi et al., 2024). A growing number of studies also suggested that martial arts practice might enhance self-esteem and foster a greater sense of empathy, moral practice, and self-control among youth (Equinet et al., 2025; Xu et al., 2024). These outcomes might suggest that martial arts could reduce the likelihood of being targeted by bullies and empower practitioners to intervene to defend others (Z. Zhou et al., 2025).

Kempo, in particular, is a hybrid martial art that blends elements of traditional Eastern martial philosophies with practical self-defense techniques from various combat systems (Robianti et al., 2024). Known for emphasizing physical prowess and mental discipline, Kempo training often includes meditation, ethical instruction, and interpersonal respect, cultivating physical resilience and psychosocial competence. Despite its growing popularity, there is still a lack of empirical research investigating the psychosocial impact of Kempo on adolescents, particularly in relation to bullying.

When discussing the relation between practicing martial arts and bullying, the available literature suggests that engaging in this kind of physical activity may reduce adolescents' vulnerability to becoming victims of bullying, as well as the odds of engaging in bullying behavior (Z. Zhou et al., 2025). Martial arts training typically enhances physical self-confidence, which might deter potential aggressors (Goldsmith, 2013); thus, adolescents practicing martial arts may be perceived as less vulnerable, decreasing the likelihood of being targeted (Moody, 2012). Moreover, martial arts often emphasize self-control over aggression, decreasing reactive behaviors that might otherwise attract bullying (Z. Zhou et al., 2025). However, not all of the available literature sustains these assertions. Some studies highlight no significant effects on aggressive behavior, advising caution in promoting martial arts as a definitive intervention for managing or reducing aggression among adolescents (B. Moore et al., 2024). Thus, more research (such as the present one) is needed to better clarify these relations.

In addition to reducing victimization, martial arts training may also encourage adolescents to assume the role of active bystanders in bullying situations. Martial arts philosophies frequently emphasize ethical behavior, respect for others, and social responsibility, values that align with the decision to intervene for someone being bullied (Tadesse, 2017). Adolescents trained in martial arts may feel more capable of stepping in, whether verbally or physically, to de-escalate a situation or support a peer. Some of the existing empirical evidence suggests that martial arts foster a sense of moral courage and civic duty, which can be highly important in promoting prosocial intervention (Mendenhall, 2006; Sarbaitinil et al., 2023). Also, some previous studies also suggested that martial arts practitioners (including children) may engage more actively in bullying situations to defend others (compared to non-practitioners), though this relation seems to be mediated by empathy (Twemlow et al., 2008).

Theoretical Framework

The present study is grounded in an integrated theoretical framework that combines the *Social-Ecological Model of Bullying* (Espelage, 2014; Jimerson et al., 2012; Merrin et al., 2018) and the *Empathy-Altruism Hypothesis* (Batson et al., 1989) to explore the interplay between individual traits, emotional responsiveness, and contextual influences in shaping adolescents' bullying experiences and bystander behavior. We chose this dual framework since it may provide a more comprehensive understanding of how internal dispositions and external environments might jointly contribute to social behavior during adolescence.

Generally, socio-ecological frameworks posit that human behavior is shaped by the dynamic interaction between individuals and their surrounding systems, ranging from immediate contexts like family and peers (microsystem) to broader cultural and institutional influences (macrosystem) (Kilanowski, 2017; Reupert, 2017). In bullying research, this model emphasizes the importance of considering both individual characteristics (e.g., personality traits, emotional regulation, empathy) and contextual factors (e.g., school climate, peer norms, structured extracurricular activities) (Espelage, 2014). In the current study, personality traits and empathic concern were considered as intrapersonal factors that may play an important role in the bullying dynamics among adolescents (Jiang & Shi, 2024), regardless of the role considered (i.e., aggressor, victim, passive or active witness/bystander). At the same time, we considered participation in Kempo classes/training as a microsystemic influence that may buffer negative outcomes and promote prosocial action.

To deepen the understanding of bystander behavior, particularly the factors motivating adolescents to intervene in bullying situations, we also considered the *Empathy-Altruism Hypothesis* (Batson et al., 1989). This theory suggests that individuals who experience empathic concern for others in distress might be more likely to engage in altruistic, helping behaviors (Persson & Kajonius, 2016). In the context of bullying, this means that adolescents who feel genuine compassion for a peer being harmed might be more inclined to defend the victim or seek support on their behalf (Smith & O'Higgins, 2021). This hypothesis is especially relevant to differentiating *active* from *passive* bystanders, offering a potential psychological explanation for why some adolescents defend peers while others remain uninvolved. More importantly, in the context of the present research, we considered that participation in Kempo classes/training may amplify this empathic motivation (Twemlow et al., 2008) by reinforcing moral values and emotional self-awareness, creating specific conditions that may foster the expression of empathically driven prosocial behavior.

The Link Between Personality Traits and Bullying Experiences

Personality traits, particularly those conceptualized within the Big Five model (Goldberg, 1990), have been shown to play a significant role in adolescents' involvement in bullying (Mitsopoulou & Giovazolias, 2015), both in offline (traditional, face-to-face) and online (cyberbullying) contexts (Van Geel et al., 2017). The Big Five dimensions, i.e., *openness to experience, conscientiousness, extraversion, agreeableness*, and *neuroticism*, reflect stable behaviors, cognitions, and emotions that shape how individuals interact with their social environments. These traits can influence not only the likelihood of becoming a victim of bullying but also how adolescents respond when witnessing bullying (i.e., whether they choose to intervene or remain passive).

The available literature suggested that high levels of neuroticism, characterized by emotional instability, anxiety, and vulnerability to stress, seem to be positively associated with increased risk of victimization (see the review of Hansen et al., 2012) in both offline and online settings (Dong et al., 2022), as well as with the risk of witnessing situations of bullying (Y. Zhou et al., 2019). However, some studies suggested no significant relations between neuroticism and bullying victimization (Calvete et al., 2016), which calls for further research such as the present one. In contrast, extraversion, which encompasses sociability, assertiveness, and energy, tends to be negatively associated with bullying victimization, especially in offline environments (Mitsopoulou & Giovazolias, 2015).

Similarly, conscientiousness, associated with self-discipline and impulse control, seems to be a protective factor against being victimized and reacting aggressively to provocation (Lesmana et al., 2025). Further, agreeableness and openness to experience seem to be negatively related to bullying victimization, perpetration, or witnessing situations of bullying (Plopa et al., 2017; Y. Zhou et al., 2019). When it comes to witnessing bullying, personality traits also influence whether an adolescent will act as an active bystander or remain passive. Agreeableness, for instance, has been consistently linked to prosocial bystander behavior (Janošová et al., 2018).

Therefore, based on the available literature, we can argue that victims of bullying often exhibit high neuroticism, which reflects emotional sensitivity and vulnerability, and low extraversion, indicating social withdrawal or shyness. They may also score low on assertiveness, making them less likely to defend themselves. Passive bystanders, who witness bullying but do not intervene, typically show low levels of openness and conscientiousness, suggesting a preference for avoiding conflict and a lack of proactive behavior. They may also have moderate to high agreeableness, which could contribute to their desire to avoid confrontation and

maintain group harmony. In contrast, active witnesses, who stand up for the victim or report the incident, might demonstrate high extraversion, openness, and conscientiousness, indicating social confidence and willingness to act. Active witnesses might also demonstrate high extraversion, openness, and high agreeableness.

Empathic Concern and Bullying Experiences

Empathic concern, i.e., the affective component of empathy that involves feeling compassion and emotional resonance with others' distress, seems to have an important role in how individuals experience and respond to bullying (Pozzoli et al., 2017). This socio-emotional ability enables individuals to recognize and emotionally connect with the suffering of others, often motivating prosocial behavior (Guidi & Traversa, 2021). The available literature suggests that, in both offline and online settings, higher levels of empathic concern seem to be associated with a decreased likelihood of bullying perpetration and an increased tendency to help victims. Thus, empathic concern seems to be significantly predictive of active bystander behavior in bullying scenarios. Adolescents who experience strong empathic reactions toward peers in distress might be more likely to engage in defending behaviors, such as comforting the victim, seeking adult support, or confronting the aggressor, both in traditional and cyberbullying contexts (though the online environments present additional complexities).

The present study

Building on existing literature on personality, empathy, and the psychosocial benefits of martial arts, the present study aims to examine the predictors of bullying involvement among Romanian adolescents. Specifically, this research investigated how individual differences in personality traits (as described by the Big Five model), empathic concern, and Kempo practice might predict adolescents' experiences with bullying, both as victims and as witnesses, across offline and online contexts. A longitudinal design assessed these relations over time, with participants answering our questions at two different moments. The study addressed the following research questions: (1) To what extent do personality traits, empathic concern, and Kempo practice predict bullying victimization and bystander behavior (active vs. passive) offline and online contexts? (2) Do these relationships change over time?.

To answer these questions, based on the available literature, we tested the following hypotheses:

a. Correlation hypotheses

H1. Neuroticism would be positively associated with bullying victimization and passive bystanding, and negatively with active defending.

H2. Extraversion would be negatively associated with victimization and positively associated with active defending.

H3. Conscientiousness would be negatively associated with passive bystanding and positively associated with defending behavior.

H4. Agreeableness would be positively associated with defending behavior and negatively associated with bullying victimization.

H5. Openness to experience would be negatively associated with passive bystanding and positively associated with active defending.

H6. Empathic concern would be positively associated with active defending.

H7. Kempo experience would be negatively associated with bullying victimization and positively associated with active defending.

b. Regression hypotheses

(1) *Bullying victimization.* H8: Neuroticism would positively predict bullying victimization, while extraversion, agreeableness, and Kempo practice experience would negatively predict bullying victimization.

(2) *Active defending.* H9: Neuroticism would negatively predict active defending behavior, while extraversion, conscientiousness, openness to experience, empathic concern, and Kempo practice would positively predict it.

To answer the third question, we formulated the following hypothesis:

H10. The predictive effects of empathic concern and Kempo practice experience on active defending behavior would be stronger at Time 2 than at Time 1.

Method

Participants and Procedure

At Time 1, 196 Romanian adolescent participants answered the questions in the form. Their age ranged from 11 to 16 years (M = 13.41, SD = 1.53). The sample included 84 females (42.9%) and 112 males (57.1%). All participants were actively enrolled in sports clubs located in various regions of Romania and were practitioners of Kempo. Their experience in practicing Kempo varied, ranging from one month to 70 months (M = 3.34 months, SD = 1.18). At Time 2, 182 participants from the original 196 filled the form again. Recruitment procedures involved contacting Kempo club managers nationwide, who were asked to facilitate the study

by forwarding the invitation to eligible participants and their parents. Informed consent was obtained from parents through an online form before data collection. The study survey, also administered online, was designed to be accessible and age-appropriate for the adolescent participants. Participation in the study was entirely voluntary, and adolescents were explicitly informed about their right to withdraw from the study at any time without any consequences. All ethical procedures followed the principles outlined in the Declaration of Helsinki (2013), and the study received approval from the institutional ethics committee before data collection. To protect participants' privacy, all data were collected anonymously and treated with strict confidentiality. As a token of appreciation for their involvement, each participant received a small symbolic reward of approximately 2 euros. Data collection occurred during the early months of 2025. The form took around 15 minutes to complete. Participants completed the same scales at time 1 and time 2 (8 weeks later).

Measures

Bullying Experiences. We used the Multidimensional Offline and Online Peer Victimization Scale (Sumter et al., 2015) to measure participants' online and offline bullying experiences. More specifically, 20 items measured school offline victimization experiences in the past three months (i.e., 10 items for offline victimization experiences as a victim and 10 as a witness), and 20 items measured school offline victimization experiences (10 items for online victimization experiences as a victim and 10 as a witness). Example items included: "Another child/young person kicked or hit me" (offline bullying - victim); "I witnessed how another child/young person kicked someone (offline bullying - witness); "Another child/young person sent me nasty messages online" (online bullying – victim); "I witnessed another child/young person send nasty messages to another child/young person" (online bullying – witness). Cronbach's alphas were higher than 0.80 at both T1 and T2, indicating strong reliability. Higher scores indicated higher bullying experiences.

Active and passive bystanding. To measure participants' bullying experiences as active or passive bystanders, we asked them the following questions regarding their online or offline bullying behaviors toward others: *When witnessing such events, how often did you intervene to defend a colleague?* Participants answered on a scale ranging from 1 = almost never to 5 = almost always. Higher scores indicated a higher tendency to intervene as an active bystander/witness in online or offline school bullying situations.

Personality factors. We used the short form of the Big Five Inventory (Soto & John, 2017). The 30 items measured extraversion (e.g., „I am dominant, acts as a leader"), agreeableness ("I am someone who iss compassionate, has a soft heart"), conscientiousness ("I am reliable, can always be counted on"), neuroticism ("I am someone who worries a lot"), and open-mindedness ("I am someone who is fascinated by art, music, or literature"). Participants answered the items on a scale ranging from 1 (strong disagreement) to 5 (strong agreement). All Cronbach's alpha indicators were higher than 0.80, indicating strong reliability at both times (T1 and T2).

Empathic Concern. We used five items from the **Interpersonal Reactivity Index** (Davis, 1983) to measure participants' empathic concern. Example items included „ I really get involved with the feelings of the characters in a novel" or „When I watch a good movie, I can very easily put myself in the place of a leading character". All Cronbach's alpha indicators were higher than 0.80, indicating strong reliability at both times (T1 and T2). Higher scores indicated higher empathic concern.

A demographic questionnaire was used to report age, gender, and experience as a kempo practitioner.

Results

Overview of statistical analysis

We analyzed the data using the 26th version of the SPSS program. Internal consistency for all variables was evaluated using Cronbach's α Index, a widely accepted measure of reliability. No missing values were identified, since all the questions in the form were mandatory to finalize the survey. Next, we performed univariate descriptive analyses (see Table 1), which involved rigorously evaluating the univariate normality assumption for continuous data, i.e., examining skewness and kurtosis indicators to provide a comprehensive understanding of the data distribution. Preliminary analyses were conducted using a correlation matrix to investigate the association between the dependent and main demographic variables, further controlling for statistically significant demographic variables in the analysis. Additionally, a correlation matrix was computed and described for the variables to provide a detailed understanding of their relationships in our study.

Table 1.

Descriptive statistics for the main variables

Variables	M	SD	Min	Max	Skewness	Kurtosis
Time 1						
Active defending - offline	2.00	0.89	1	5	0.88	0.88
Active defending - online	2.01	0.92	1	5	0.73	0.36
Offline victimization	19.74	6.94	10	37	0.80	-1.08
Witnessing offline victimization	21.86	8.37	10	48	0.21	-0.41
Online victimization	20.24	7.81	10	37	0.62	-1.20
Witnessing online victimization	21.86	8.59	10	46	0.11	-0.63
Empathic concern	13.54	2.75	8	25	1.11	3.03
Extraversion	18.73	3.06	10	29	0.43	1.26
Agreeableness	18.93	2.88	6	28	-0.19	2.32
Conscientiousness	18.69	2.66	10	30	0.62	2.27
Neuroticism	18.22	2.51	9	24	-0.83	1.40
Openness to experience	18.63	2.22	12	27	0.31	1.97
Time 2						
Active defending - offline	1.87	0.88	1	4	0.72	-0.28
Active defending - online	1.94	0.97	1	4	0.18	0.35
Offline victimization	19.77	7.69	10	35	0.08	-1.30
Witnessing offline victimization	19.78	7.87	10	36	0.12	-1.32
Online victimization	20.71	8.43	10	37	0.05	-1.45
Witnessing online victimization	20.36	8.41	10	37	0.12	-1.40
Empathic concern	13.45	2.91	5	21	-0.26	0.35
Extraversion	18.36	2.15	13	26	0.09	0.57
Agreeableness	17.71	1.93	12	24	0.15	0.45
Conscientiousness	17.71	1.87	12	24	0.23	0.66
Neuroticism	18.06	1.93	13	24	0.21	-.009
Openness to experience	18.16	2.02	14	24	-0.02	-0.19

Correlation analysis

We examined the correlations between the primary variables at both Time 1 and Time 2. The results, presented in Table 2, suggested similar patterns.

At Time 1, neuroticism was positively associated with offline victimization, witnessing offline and online bullying victimization, passive bystanding, and negatively with age. The correlation with active defending was not significant, contrary to our expectations. Interestingly, neuroticism was negatively associated with online victimization: the higher the neuroticism,

the lower the chances of experiencing online victimization. Further, extraversion was positively associated with active defending behavior, online and offline. Conscientiousness was negatively associated with offline and online victimization. Interestingly, agreeableness was negatively associated with Kempo practice (the higher the Kempo practice experience, the lower the agreeableness), as well as with offline and online victimization experiences (both as a victim and as a witness), and empathic concern (which was also somewhat unexpected). Similarly, openness to experience was negatively associated with offline and online victimization experiences (both as a victim and as a witness) and empathic concern. Further, empathic concern was positively associated with active defending (online and offline), and bullying victimization experiences (online and offline, both as victims and witnesses). Finally, the only significant correlations with Kempo experience at Time 1 were that it was positively associated with witnessing both online and offline bullying victimization.

At Time 2, similar patterns were observed, but with some interesting shifts. First, Kempo experience was no longer significantly correlated with witnessing bullying (offline or online), suggesting a potential change in perception or engagement due to ongoing training. Extraversion was negatively associated with offline active defending, contrasting with the findings at Time 1. Conscientiousness was positively correlated with online active defending, a change from Time 1. Empathic concern continued to show positive correlations with defending behaviors and bullying experiences. However, the strength of these associations was higher at Time 2, especially regarding online defending behaviors.

Table 2.

Correlations between the main variables

	Time 1												
Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	-												
2. Kempo experience	.72	-											
3. Active defending - offline	.25**	.05	-										
4. Active defending - online	.14	.05	.70**	-									
5. Offline victimization	.22*	.01	.56**	.56**	-								
6. Witnessing offline victimization	.21*	.30**	.60**	.56**	.76**	-							
7. Online victimization	.12	-.02	.50**	.61**	.86**	.72**	-						
8. Witnessing online victimization	.16*	.20*	.48**	.62**	.73**	.86**	.82**	-					
9. Empathic concern	.02	.06	.20*	.18*	.15*	.16*	.16*	.20*	-				
10. Extraversion	.17*	.03	.27**	.27**	-.01	-.02	-.01	-.10	-.01	-			
11. Agreeableness	-.03	-.24*	.06	.05	-.18*	-.24*	-.19*	-.23*	.25*	.17*	-		
12. Conscientiousness	.003	-.09	.19*	.11	-.27**	-.18*	-.24*	-.21*	.14	.32**	.42**	-	

13. Neuroticism	-.17*	.05	-.09	-.07	.24**	.15*	-.28**	.19*	.07	-.37**	-.29**	-.31**	-
14. Openness to experience	.01	-.03	.13	.08	-.14*	-.18*	-.19*	-.18*	.37**	.07	-.37**	-.37**	-.09
							Time 2						
Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	-												
2. Kempo experience	.07	-											
3. Active defending - offline	.03	-.05	-										
4. Active defending - online	.08	-.08	.47**	-									
5. Offline victimization	.10	-.09	.71**	.71**	-								
6. Witnessing offline victimization	.06	-.09	.76**	.69**	.92**	-							
7. Online victimization	.14	-.10	.67**	.76**	.85**	.84**	-						
8. Witnessing online victimization	.13	-.08	.63**	.77**	.83**	.83**	.92**	-					
9. Empathic concern	-.06	.05	.31**	.37**	.33**	.39**	.33**	.40**	-				
10. Extraversion	-.04	.09	-.15*	-.08	-.09	-.10	-.05	-.05	.007	-			
11. Agreeableness	-.003	-.09	-.03	-.04	.004	.02	-.05	-.05	.004	.04	-		
12. Conscientiousness	-.03	-.04	.14	.22*	.20*	.20*	.21*	.20*	.19*	-.01	.007	-	
13. Neuroticism	-.09	-.01	.14	.13	.16*	.15*	.14*	.19*	.07	-.01	-.12	-.002	-
14. Openness to experience	.15*	.02	.05	.005	-.04	.007	-.01	-.001	.08	.01	-.12	-.05	.04

*$p < .05$; ** $p < .001$.

b. Regression hypotheses

(1) *Bullying victimization*

We further tested whether personality traits, empathic concern, and Kempo practice experience would predict bullying victimization. For both offline and online bullying victimization experiences, we conducted two separate multiple regressions for each measuring moment (Time 1 and Time 2).

Regression analysis predicting offline victimization at Time 1

The overall model was significant, $F(7, 174) = 5.30$, $p < .001$, and explained 17.6% of the variance in offline victimization, $R^2 = .18$, Adjusted $R^2 = .14$. Neuroticism ($\beta = .16$, $p = .034$) and empathic concern ($\beta = .25$, $p = .001$) were significant positive predictors of offline victimization, indicating that adolescents higher in emotional sensitivity and empathy reported higher levels of victimization. Conscientiousness was a significant negative predictor ($\beta = –.22$, $p = .008$). Interestingly, extraversion emerged as a positive predictor ($\beta = .15$, $p = .049$). Agreeableness ($\beta = –.11$, $p = .196$), openness to experience ($\beta = –.12$, $p = .148$), and Kempo experience ($\beta = –.07$, $p = .367$) were not significant predictors in this model (see Table 3).

Table 3.

Summary of multiple regression analysis predicting offline victimization (T1)

Predictor	B	SE	β	*t*	*p*
Neuroticism	0.46	0.22	.17	2.14	.034
Extraversion	0.35	0.17	.15	1.99	.049
Agreeableness	-0.26	0.20	-.11	-1.30	.196
Conscientiousness	-0.58	0.22	-.22	-2.68	.008
Openness to experience	-0.37	0.25	-.12	-1.45	.148
Kempo experience	-0.06	0.07	-.07	-0.91	.367
Empathic concern	0.64	0.19	.26	3.32	.001

Regression analysis predicting online victimization at Time 1

The overall model was significant, $F(7, 174) = 6.63$, $p < .001$, and axplained 21.1% of the variance in online victimization, $R^2 = .21$, Adjusted $R^2 = .18$. As shown in Table 4, neuroticism ($\beta = .22$, $p = .004$), extraversion ($\beta = .16$, $p = .033$), and empathic concern ($\beta = .29$, $p < .001$) were significant positive predictors of online bullying victimization. Openness to experience was a significant negative predictor ($\beta = –.19$, $p = .018$), while agreeableness ($\beta = –.12$, $p = .146$), conscientiousness ($\beta = –.16$, $p = .053$), and Kempo experience ($\beta = –.12$, $p = .106$) were not statistically significant.

Table 4.

Summary of multiple regression analysis predicting online victimization (T1)

Predictor	B	SE	β	*t*	*p*
Neuroticism	0.70	0.24	.22	2.91	.004
Extraversion	0.41	0.19	.16	2.15	.033
Agreeableness	–0.33	0.22	–.12	–1.46	.146
Conscientiousness	–0.46	0.24	–.16	–1.95	.053
Openness to experience	–0.66	0.28	–.19	–2.39	.018
Kempo experience	–0.13	0.08	–.12	–1.63	.106
Empathic concern	0.82	0.21	.29	3.82	<.001

Regression analysis predicting offline victimization at Time 2

The overall model was not significant, $F(7, 174) = 0.91$, $p = .502$, and explained only 3.5% of the variance in offline victimization, $R^2 = .04$, with an adjusted R^2 of –.004. None of the predictors were significant at Time 2 (see Table 5).

Table 5.

Summary of multiple regression analysis predicting offline victimization (T2)

Predictor	B	SE	β	*t*	*p*
Neuroticism	–0.04	0.26	–.01	–0.14	.889
Extraversion	0.11	0.21	.04	0.53	.596
Agreeableness	–0.21	0.24	–.08	–0.87	.385
Conscientiousness	–0.39	0.26	–.13	–1.50	.136
Openness to experience	0.20	0.30	.06	0.68	.499
Kempo experience	–0.14	0.08	–.13	–1.71	.089
Empathic concern	0.22	0.23	.08	0.95	.343

Regression analysis predicting online victimization at Time 2

The overall model was not significant, $F(7, 174) = 0.73$, $p = .647$, and explained only 2.9% of the variance in online victimization, $R^2 = .03$, with a negative adjusted R^2 (–.01). None of the variables significantly predicted online victimization at Time 2 (see Table 6).

Table 6.

Summary of multiple regression analysis predicting online victimization (T2)

Predictor	B	SE	β	*t*	*p*
Neuroticism	–0.10	0.29	–.03	–0.36	.720
Extraversion	0.15	0.23	.05	0.64	.522
Agreeableness	–0.27	0.27	–.09	–0.99	.323
Conscientiousness	–0.24	0.28	–.07	–0.83	.409
Openness to experience	0.22	0.33	.06	0.65	.516
Kempo experience	–0.16	0.09	–.14	–1.76	.080
Empathic concern	0.26	0.26	.09	1.02	.308

Regression analysis predicting offline active defending at Time 1

The overall model was significant, $F(7, 174) = 3.89$, $p = .001$, explaining 13.5% of the variance, $R^2 = .14$, Adjusted $R^2 = .10$. As shown in Table 7, extraversion ($\beta = .26$, $p = .001$) and empathic concern ($\beta = .20$, $p = .010$) emerged as significant positive predictors of offline active defending behavior. The other predictors were not significant.

Table 7.

Summary of multiple regression analysis predicting active defending offline behavior (T1)

Predictor	B	SE	β	*t*	*p*
Neuroticism	–0.003	0.03	–.01	–0.12	.909
Extraversion	0.08	0.02	.26	3.30	.001
Agreeableness	–0.03	0.03	–.09	–1.09	.279
Conscientiousness	0.03	0.03	.10	1.20	.231
Openness to experience	0.02	0.03	.04	0.47	.637
Kempo experience	0.002	0.01	.02	0.27	.788
Empathic concern	0.07	0.03	.20	2.59	.010

Regression analysis predicting online active defending at Time 1

The overall model was significant, $F(7, 174) = 3.23$, $p = .003$, and explained 11.5% of the variance in online active defending, $R^2 = .12$, Adjusted $R^2 = .08$. Extraversion ($\beta = .28$, $p = .001$) and empathic concern ($\beta = .20$, $p = .013$) were the only significant predictors (see Table 8).

Table 8.

Summary of multiple regression analysis predicting active defending online behavior (T1)

Predictor	B	SE	β	*t*	*p*
Neuroticism	0.005	0.03	.01	0.17	.869
Extraversion	0.085	0.02	.28	3.55	.001
Agreeableness	–0.016	0.03	–.05	–0.56	.577
Conscientiousness	0.010	0.03	.03	0.33	.746
Openness to experience	–0.001	0.04	–.003	–0.04	.971
Kempo experience	0.002	0.01	.02	0.23	.818
Empathic concern	0.067	0.03	.20	2.50	.013

Regression analysis predicting offline active defending at Time 2

The model was not significant, $F(7, 174) = 0.34$, $p = .935$, and explained only 1.3% of the variance in offline defending behavior, $R^2 = .01$. As shown in Table 9, none of the predictors significantly contributed to the model, since all standardized beta coefficients were small and non-significant.

Table 9.

Summary of multiple regression analysis predicting active defending offline behavior (T2)

Predictor	B	SE	β	*t*	*p*
Neuroticism	–0.008	0.03	–.02	–0.26	.793
Extraversion	–0.006	0.02	–.02	–0.27	.790
Agreeableness	–0.024	0.03	–.08	–0.85	.395
Conscientiousness	–0.014	0.03	–.04	–0.48	.633
Openness to experience	0.006	0.04	.02	0.17	.862
Kempo experience	–0.010	0.01	–.08	–1.04	.301
Empathic concern	0.019	0.03	.06	0.70	.486

Regression analysis predicting online active defending at Time 2

The regression model was not statistically significant, $F(7, 174) = 1.11$, $p = .360$, and explained only 4.3% of the variance, $R^2 = .04$, with an adjusted $R^2 = .004$, suggesting a poor fit. None of the predictors reached statistical significance (please see Table 10).

Table 10.

Summary of multiple regression analysis predicting active defending online behavior (T2)

Predictor	B	SE	β	*t*	*p*
Neuroticism	–0.02	0.03	–.04	–0.52	.603
Extraversion	0.04	0.03	.13	1.61	.109
Agreeableness	–0.03	0.03	–.10	–1.09	.279
Conscientiousness	–0.03	0.03	–.08	–0.87	.383
Openness to experience	0.02	0.04	.05	0.53	.597
Kempo experience	–0.02	0.01	–.13	–1.62	.106
Empathic concern	0.04	0.03	.12	1.49	.138

We further tested H10, examining whether empathic concern and Kempo practice experience were stronger predictors of active defending behavior at Time 2 than at Time 1. Contrary to expectations, the predictive strength of empathic concern declined over time. At Time 1, empathic concern was a significant positive predictor of both offline ($\beta = .20$, $p = .010$) and online ($\beta = .20$, $p = .013$) defending behaviors. However, at Time 2, its effects were weaker and no longer significant (offline: $\beta = .06$, $p = .486$; online: $\beta = .12$, $p = .138$). Similarly, Kempo practice experience showed no significant effect at either time point, though its predictive direction shifted from weakly positive at Time 1 (offline: $\beta = .02$, $p = .788$; online: $\beta = .02$, $p = .818$) to weakly negative at Time 2 (offline: $\beta = –.08$, $p = .301$; online: $\beta = –.13$, $p = .106$).

Thus, the present findings do not support H10, suggesting that the effects of empathic concern and Kempo experience on active defending behavior did not strengthen over time.

The summary of multiple regression analyses predicting bullying victimization and active defending behaviors is presented in Table 11.

Table 11

Summary of multiple regression analyses predicting bullying victimization and active defending behaviors

Outcome Variable	Model Significance (*p*)	Adjusted R^2	Significant predictors
Offline victimization (T1)	< .001	.14	Neuroticism (+), Conscientiousness (–), Empathic concern (+), Extraversion (+)
Online victimization (T1)	< .001	.18	Neuroticism (+), Empathic concern (+), Extraversion (+), Openness to experience (–)
Offline victimization (T2)	.502	–.004	None
Online victimization (T2)	.647	–.01	None
Offline defending (T1)	.001	.10	Extraversion (+), Empathic concern (+)
Online defending (T1)	.003	.08	Extraversion (+), Empathic concern (+)
Offline defending (T2)	.935	–.03	None
Online defending (T2)	.360	.004	None

Note. (+) = positive predictor; (–) = negative predictor. $N = 182$.

Discussion

In the current study, our efforts were directed to investigating the predictive roles of personality traits, empathic concern, and Kempo practice experience in Romanian adolescents' bullying experiences and bystander behaviors across offline and online contexts, using a longitudinal approach. Based on the literature, we expected some specific personality traits and empathic concern to predict bullying victimization and defending behavior. We also hypothesized that the effects of empathic concern and Kempo training would become stronger over time. However, the findings that we obtained offered a more nuanced picture of the relations between the proposed variables.

Predictors of bullying victimization. At Time 1, the current results partially supported our hypotheses. As expected, neuroticism significantly predicted both offline and online

victimization, aligning with previous research highlighting the vulnerability of emotionally reactive individuals in peer conflict contexts (Hansen et al., 2012). Interestingly, empathic concern also positively predicted victimization, possibly reflecting heightened emotional sensitivity to interpersonal harm rather than actual increases in victimization rates. This interpretation aligns with prior work suggesting that individuals high in empathy may be more aware of and affected by relational aggression (Pozzoli et al., 2017). Conscientiousness and openness emerged in our analyses as protective factors, negatively predicting offline and online victimization.

Unexpectedly, extraversion positively predicted victimization in both contexts. This contradicts prior research (Mitsopoulou & Giovazolias, 2015), which generally links extraversion to social resilience. One possible explanation is that socially active adolescents may be more exposed to peer dynamics, including bullying, or more likely to report it due to heightened social engagement. Nevertheless, these potential explanations require further investigation. However, at Time 2, none of the proposed variables significantly predicted victimization. This decline in explanatory power suggests that bullying victimization may be more contextually driven and situationally fluid over time, with personality playing a diminished role longitudinally.

Predictors of active defending behavior. Regarding active defending, at Time 1, both extraversion and empathic concern significantly predicted offline and online defending behavior. These findings are consistent with previous findings (Batson et al., 1989), suggesting that emotionally attuned and socially confident adolescents may be more likely to intervene when witnessing peer aggression such as bullying situations. However, other personality traits, such as conscientiousness and openness, did not predict defending behavior. Moreover, Kempo practice experience had no significant influence on defending behavior at either time point.

At Time 2, none of the predictors, including empathic concern and Kempo experience, significantly predicted active defending behavior, and the overall models were no longer statistically significant. This unexpected finding does not support our assumptions and suggests that the initial influence of empathy and martial arts training may diminish over time or that other unmeasured contextual or social dynamics (e.g., group norms, peer support, school climate) may become more relevant as time progresses.

The diminishing role of personality traits we observed at Time 2 may be linked to the dynamic and adaptive nature of adolescent development. Even an 8-week period between measurements (i.e., the weeks passed between Time 1 and Time 2), in structured environments like martial arts training, adolescents may undergo some emotional changes that lessen the influence of

stable traits such as neuroticism or extraversion. In this context Kempo practice may act as an equalizing experience, promoting a shared sense of discipline, self-control, and resilience that overrides initial personality-based differences. This may explain why traits that predicted victimization and defending at Time 1 no longer had predictive value at Time 2.

Furthermore, the philosophical insights of martial arts training, which emphasize non-reactivity, self-restraint, and respect, may contribute to adopting more internally regulated responses to bullying situations, both online and offline. As such, adolescents may become more observant but less interventionist, mainly if their role within the peer group changes over time or if they adopt the disciplined stance modeled by their instructors. This could account for the unexpected decline in active defending, despite continued Kempo exposure. Lastly, external influences such as classroom climate, peer acceptance, or teacher involvement, which were not assessed in this study, may have increasingly shaped behavior across time, diluting the observable effects of personality and empathy.

Practical implications

Our results may have several relevant implications for school psychologists, educators, youth mentors, and martial arts instructors aiming to reduce bullying and promote prosocial behavior among adolescents. First, the predictive value of neuroticism for victimization at Time 1 highlights the need for early identification of emotionally vulnerable students who may be at heightened risk of bullying experiences. Therefore, school-based intervention programs could benefit from incorporating emotional regulation and resilience-building modules specifically targeting youth with high emotional reactivity. Similarly, our findings indicated that adolescents with higher empathic concern may be more likely to experience and report bullying victimization. This highlights the need to provide emotional support to empathic youth, not only because they may be inclined to defend others, but also because they might be more susceptible to and affected by bullying experiences.

Second, the role of extraversion and empathic concern in predicting defending behavior highlights the importance of supporting and encouraging socially confident and empathic youth as peer advocates. Third, the absence of significant predictors at Time 2, particularly for defending behavior, suggests that interventions should be ongoing rather than one-time efforts, as personality-based tendencies may fade under shifting social dynamics. This finding may also suggest that defending behaviors are not simply dispositional but are shaped by evolving social and contextual factors such as classroom culture and peer norms.

Although Kempo's experience did not directly predict adolescents' defending behavior, our findings suggest that it may still have an indirect, long-term impact by fostering internal self-regulation and socially responsible attitudes. Martial arts programs generally emphasize discipline, ethical conduct, and respect, and they may gradually shape adolescents' behavior, making them more reflective and less impulsive in social situations. Therefore, martial arts should be viewed as ongoing developmental practices, rather than short-term solutions. Instructors can strengthen their influence by explicitly connecting martial arts values, such as standing up for others and defending the vulnerable, to everyday challenges like bullying. Also, our results may highlight the importance of collaborative efforts between martial arts clubs, schools, and families to consistently promote prosocial behavior and create supportive environments where defending others is both encouraged and recognized.

Limitations and future directions

Several limitations must be acknowledged for the present study. First, we only used self-report measures to measure the proposed variables, which may have be subject to bias: adolescents might underreport undesirable or sensitive experiences (e.g., bullying victimization) or exaggerate socially acceptable responses (e.g., active defending). To address this, future research might benefit from using a multi-informant approach, such as peer evaluations, teacher observations, or parental reports, alongside objective behavioral tasks (whenever the study design allows it). Second, the study focused exclusively on Romanian adolescents. While this offers culturally specific insight, it limits the generalizability of results to broader populations with different social norms around aggression and empathy. Future research should aim to replicate the study in other cultural contexts, allowing for cross-cultural comparisons that can offer more insight into how cultural values and educational systems may interact with personality and extracurricular activities such as martial arts.

A third limitation – and maybe the most important one - is the absence of a control group (i.e., adolescents who were not engaged in Kempo or any martial arts training). Without a comparison group, it is difficult to determine whether the outcomes observed are uniquely attributable to martial arts or reflect broader developmental trends. Future studies should consider including a control group and even involve adolescents in other extracurricular activities (e.g., team sports, arts, or no structured activity) to understand the examined variables' dynamics better. Further, on the same note regarding the sample limitations, since all participants were martial arts practitioners, our results may also be subject to selection bias, as

they likely differ from the general adolescent population in traits like discipline or motivation. Next, the gender imbalance, with more boys than girls, may have also influenced results. Therefore, we believe that future studies should include larger, more diverse, and balanced samples.

Another important limitation of our study is the short time (i.e., eight weeks) between the two measurement points. While this short time may help examine short-term changes, it may not have been sufficient to detect meaningful shifts in behavioral patterns or psychosocial development. To better understand longitudinal trends, future studies should adopt extended follow-up periods, such as six months to one year, to further explore whether and how martial arts and personal traits interact over time. Also, another important limitation of our study is that we used single-item questions to measure active and passive bystanding behaviors. Future research should employ multi-item, validated scales that differentiate between types of defending (e.g., direct, indirect, seeking adult help) and bystanding (e.g., passive due to fear vs. passive due to apathy).

Additionally, the study did not account for important contextual variables, such as classroom norms, peer group dynamics, teacher attitudes toward bullying, or parental support, which can have an important role in shaping both bullying and defending behavior. Future research may benefit from integrating these variables into further approaches. Lastly, the study measured only the duration of Kempo experience, without considering the quality or nature of the training. Martial arts clubs may vary considerably in their emphasis on respect, discipline, and moral reasoning versus competition and physical skill. Therefore, future studies might benefit from examining the qualitative aspects of martial arts training, including instructor philosophy, class structure, and student-instructor relationships, to understand better how these factors influence adolescent social development.

Conclusion

Our study indicated that although Kempo training did not directly lead to more defending behaviors in bullying scenarios among adolescents, it may still have a more subtle, long-term impact by shaping their overall social and emotional development. The lack of direct effects does not undermine the potential of martial arts as a developmental tool; instead, it highlights its role in shaping internal qualities such as discipline, emotional regulation, and self-control that may not immediately translate into overt behaviors like defending. Over time, Kempo practice may help reduce adolescent personality-based differences, fostering a shared

framework of respectful and non-reactive behavior. Our findings also support the idea that martial arts should not be seen as quick solutions to bullying but rather as valuable, long-term interventions that help cultivate resilience and prosocial values in youth. Future programs could enhance this impact by making ethical and social lessons in martial arts training more explicit and aligning them with broader school- and community-based efforts to reduce bullying.

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