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Tendency Toward Risky Behaviors Based on Differentiation of Self, Cognitive Flexibility, and Perceived Social Support in Adolescent Girls with a History of Running Away from Home

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ABSTRACT

Objective: This study aimed to examine the predictive roles of differentiation of self, cognitive flexibility, and perceived social support in risky behavior tendencies among adolescent girls with a history of running away from home.

Methods and Materials: This descriptive-correlational study was conducted among 390 adolescent girls aged 13 to 18 with documented histories of running away, selected through purposive sampling from social service and rehabilitation centers in Tehran. Participants completed four standardized questionnaires measuring risky behavior tendency, differentiation of self, cognitive flexibility, and perceived social support. Data were analyzed using Pearson correlation coefficients and multiple linear regression in SPSS version 27. All statistical assumptions were tested and confirmed before analysis.

Findings: The results showed that risky behavior tendency had significant negative correlations with differentiation of self ($r = -.53, p < .001$), cognitive flexibility ($r = -.39, p < .001$), and perceived social support ($r = -.47, p < .001$). Multiple regression analysis indicated that the three predictors collectively accounted for 37% of the variance in risky behavior ($R^2 = .37, F(3, 386) = 83.11, p < .001$). Differentiation of self ($\beta = -.41, p < .001$), perceived social support ($\beta = -.33, p < .001$), and cognitive flexibility ($\beta = -.26, p < .001$) were all significant predictors, with differentiation of self showing the strongest effect.

Conclusion: The findings suggest that lower levels of self-differentiation, cognitive flexibility, and perceived social support significantly increase the likelihood of engaging in risky behaviors among adolescent girls with a history of running away. Interventions aiming to strengthen these psychological and social capacities may be effective in reducing high-risk behavior in this vulnerable population.

Keywords: Risky behaviors; Differentiation of self; Cognitive flexibility; Perceived social support; Runaway adolescents; Adolescent girls.

1. Introduction

Adolescence is a critical developmental stage marked by major biological, psychological, and social transitions. While it is a period of identity formation and cognitive growth, it also represents a phase of heightened vulnerability to risky behaviors, including substance use, unprotected sex, running away from home, delinquency, and self-injury. These behaviors not only endanger adolescents' physical and mental health but also increase the likelihood of adverse outcomes in adulthood such as psychiatric disorders, academic failure, and social exclusion (Cyders et al., 2007; Keckojevic et al., 2019). The problem becomes even more pronounced among adolescent girls with a history of running away from home, who are often exposed to complex trauma, social marginalization, and a lack of support systems (Owens et al., 2020). Understanding the psychological and interpersonal mechanisms underlying such behaviors is essential for designing preventive and therapeutic interventions.

Among the various psychological constructs implicated in adolescent risk-taking, differentiation of self (DoS) has received growing attention. Originally conceptualized within Bowen's family systems theory, DoS refers to an individual's capacity to maintain a balance between emotional reactivity and logical reasoning, as well as between intimacy and autonomy in relationships (Buser et al., 2019). Adolescents with low differentiation tend to be emotionally fused with others, have difficulties with self-identity, and are more susceptible to impulsivity and risky decision-making (Luo et al., 2013; Vaghee et al., 2017). Studies have shown that poor self-differentiation is associated with various psychological maladjustments, including suicidal ideation, substance abuse, and emotional dysregulation, especially in high-risk female youth populations (Aghajani et al., 2022; Aghayousefi et al., 2016). Furthermore, DoS may function as a protective factor by promoting emotional regulation, self-awareness, and resistance to peer pressure, all of which are crucial during the turbulent period of adolescence (Buser et al., 2019).

Another critical psychological construct associated with behavioral regulation in adolescence is cognitive flexibility. Defined as the mental ability to shift perspectives, adapt to changing environments, and generate alternative strategies in response to challenges, cognitive flexibility is fundamental to effective problem-solving and behavioral inhibition (Pourjaberi et al., 2023). Adolescents with higher cognitive flexibility are more likely to evaluate the

consequences of their actions and resist engaging in maladaptive behaviors, even when exposed to stress or peer influence (Marcowski et al., 2017; Stepanyan et al., 2020). In contrast, cognitive inflexibility is linked to impulsivity, rigid thinking, and poor coping strategies, which can intensify the risk of engaging in deviant behaviors (Kashefzadeh et al., 2022; Yang et al., 2023). Cognitive flexibility also moderates the impact of early trauma and stress on adolescent behavior, making it a pivotal factor for those with adverse life experiences such as running away from home (Stepanyan et al., 2020).

Equally important is the role of perceived social support, which serves as a buffer against stress and maladaptive outcomes in adolescents. Social support—received from family, peers, or significant others—has been extensively documented as a protective factor against emotional and behavioral disorders in adolescents (Cutrona et al., 2018). In girls with a history of running away, who often suffer from disrupted family bonds and community disconnection, perceived social support can play a transformative role in fostering psychological resilience and reducing risky behavior (Borouki Milan et al., 2020; Heiman & Olenik-Shemesh, 2022). Supportive social networks enhance a sense of belonging and self-worth, and mitigate the effects of trauma and neglect, thereby reducing susceptibility to self-destructive behavior (Liu et al., 2023; Sadri Damirchi et al., 2019). Additionally, adolescents who perceive strong emotional and instrumental support are more likely to seek help and utilize adaptive coping mechanisms during crises (Behroozi et al., 2018; Li & Ma, 2025).

A growing body of empirical research supports the interrelations among these three factors—DoS, cognitive flexibility, and social support—and their collective role in shaping adolescent behavior. For instance, a study by Luo et al. (2013) demonstrated that lower self-differentiation combined with limited social support significantly predicted suicidal ideation in Chinese college students (Luo et al., 2013). Similarly, Aghajani et al. (2022) found that both poor differentiation and low cognitive flexibility were linked to increased suicidal tendencies in Iranian adolescent girls (Aghajani et al., 2022). These findings underscore the interaction between individual and environmental factors in determining behavioral outcomes. In another study, Cyders et al. (2007) emphasized the importance of impulsivity under positive affect—termed “positive urgency”—as a driver of risky behaviors in youth, further highlighting the need for executive control processes such as cognitive flexibility (Cyders et al., 2007).

Moreover, perceived social support appears to operate not only as a protective buffer but also as a mediator in the pathway from psychological vulnerability to risky behavior. For example, Owens et al. (2020) showed that homeless youth with higher levels of parental monitoring and social support engaged less frequently in substance use and delinquency (Owens et al., 2020). Similarly, Li and Ma (2025) reported that the parent-child relationship indirectly influenced adolescent prosocial and risk behaviors through perceived support and psychological capital (Li & Ma, 2025). This aligns with findings by Keckojevic et al. (2019), who observed that low perceived social support was correlated with higher substance misuse and depressive symptoms among at-risk youth populations (Keckojevic et al., 2019). These converging lines of evidence indicate that perceived social support can moderate the effects of psychological inflexibility and emotional distress.

In the Iranian context, the relevance of these psychological dimensions has been affirmed through several studies. Aghayousefi et al. (2016) demonstrated that Dialectical Behavior Therapy effectively increased self-differentiation and emotional regulation in women with borderline and substance use disorders (Aghayousefi et al., 2016). Behroozi et al. (2018) found that delinquent adolescents in correctional centers had significantly lower levels of social support and mental vitality compared to their non-delinquent peers (Behroozi et al., 2018). Additionally, Chaghousaz et al. (2020) showed that psychological flexibility and coping styles predicted risky behavior tendencies in students, reinforcing the importance of adaptive cognitive and emotional mechanisms (Chaghousaz et al., 2020). Borouki Milan et al. (2020) further emphasized the predictive power of social support, spiritual health, and health literacy on adolescent risk-taking behaviors (Borouki Milan et al., 2020).

Despite this growing literature, few studies have specifically examined the combined effect of differentiation of self, cognitive flexibility, and perceived social support on risky behaviors, particularly in a vulnerable subpopulation such as adolescent girls with a history of running away. These adolescents often operate under heightened emotional reactivity, cognitive rigidity, and social disconnection—all of which may synergistically increase their behavioral risks. Moreover, given the developmental sensitivity of adolescence and the cultural dynamics of Iranian society—where familial and social expectations shape behavioral norms—the exploration of these constructs in a unified

model is both timely and necessary (Mashhadizade et al., 2019).

This study therefore seeks to fill a critical gap in the literature by examining the predictive role of self-differentiation, cognitive flexibility, and perceived social support on the tendency toward risky behaviors in adolescent girls with a history of running away from home.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a correlational descriptive design aimed at examining the relationship between differentiation of self, cognitive flexibility, perceived social support, and the tendency toward risky behaviors among adolescent girls with a history of running away from home. The statistical population included all adolescent girls aged 13 to 18 with a documented history of leaving home, who were under the supervision of social welfare centers, educational counseling services, or juvenile rehabilitation centers in Tehran. Based on Krejcie and Morgan's (1970) sample size determination table, a sample size of 390 participants was selected through purposive sampling, ensuring participants met the inclusion criteria (female, 13–18 years old, documented runaway history, and consent to participate). All participants completed four standardized self-report questionnaires under the supervision of trained psychologists.

2.2. Measures

2.2.1. Risky Behavior

To measure the dependent variable, tendency toward risky behaviors, the Risky Behavior Questionnaire (RBQ) developed by Zadeh Mohammadi et al. (2009) is a widely used tool in Iranian adolescent populations. This instrument assesses engagement in various high-risk behaviors such as substance use, aggressive conduct, sexual risk, and running away from home. The RBQ includes 38 items across multiple domains, scored on a 5-point Likert scale ranging from 0 ("Never") to 4 ("Always"). The questionnaire yields both total and subscale scores, reflecting the extent of risky behavior tendencies. The RBQ has shown excellent construct validity and internal consistency reliability in several Iranian studies, with Cronbach's alpha coefficients exceeding 0.85 across subscales. Its cultural appropriateness for Iranian adolescents makes it a strong choice for this research context.

2.2.2. Differentiation of Self

The independent variable differentiation of self is assessed using the Differentiation of Self Inventory–Revised (DSI-R) developed by Skowron and Schmitt (2003). The DSI-R contains 46 items and measures four subscales: Emotional Reactivity, I-Position, Emotional Cutoff, and Fusion with Others. Items are rated on a 6-point Likert scale ranging from 1 ("Not at all true of me") to 6 ("Very true of me"). The total score indicates the individual's level of emotional and cognitive differentiation. The scale has demonstrated strong reliability (with Cronbach's alpha values above 0.80) and validity across various cultural contexts. In Iranian studies, including samples of adolescents and young adults, the Persian version of the DSI-R has shown acceptable psychometric properties, confirming its suitability for use in this population.

2.2.3. Cognitive Flexibility

Cognitive flexibility is measured using the Cognitive Flexibility Inventory (CFI) developed by Dennis and Vander Wal (2010). The CFI consists of 20 items and assesses two main subscales: Alternatives (ability to consider multiple alternative explanations and solutions) and Control (perception of controllability over difficult situations). Responses are provided on a 7-point Likert scale from 1 ("Strongly disagree") to 7 ("Strongly agree"). Higher scores reflect greater cognitive flexibility. The inventory has shown excellent internal consistency ($\alpha > 0.80$) and construct validity. Its Persian version has been validated in several Iranian studies, particularly among adolescents and university students, confirming its cultural relevance and psychometric robustness.

2.2.4. Perceived Social Support

Perceived social support is measured by the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. (1988). This widely used

scale comprises 12 items divided into three subscales: Family, Friends, and Significant Other. Items are scored on a 7-point Likert scale from 1 ("Very strongly disagree") to 7 ("Very strongly agree"). The total and subscale scores reflect the perceived adequacy of support from different sources. The MSPSS has demonstrated high internal consistency (Cronbach's alpha > 0.85) and strong convergent and discriminant validity. Its Persian version has been validated in various Iranian adolescent and clinical samples, affirming its reliability and cultural adaptability.

2.3. Data Analysis

Data were analyzed using SPSS software, version 27. First, descriptive statistics were computed to summarize demographic characteristics and scale distributions. Then, Pearson correlation coefficients were calculated to examine the bivariate relationships between the dependent variable (risky behavior tendency) and each independent variable (differentiation of self, cognitive flexibility, and perceived social support). Subsequently, a multiple linear regression analysis was conducted to determine the predictive power of the three independent variables on risky behavior tendency. Prior to inferential analyses, all statistical assumptions including normality, linearity, multicollinearity, and homoscedasticity were tested and confirmed.

3. Findings and Results

The demographic characteristics of the participants indicated that 213 individuals (54.61%) were aged between 13 and 15, and 177 individuals (45.38%) were aged between 16 and 18. In terms of educational level, 152 participants (38.97%) were in middle school, while 238 participants (61.02%) were in high school. Regarding family background, 123 participants (31.53%) reported experiencing parental divorce, and 267 participants (68.46%) came from intact but conflict-ridden families. These statistics reflect the diverse but high-risk profile of the sample under study.

Table 1

Means and Standard Deviations of Study Variables (N = 390)

Variable	Mean (M)	Standard Deviation (SD)
Risky Behavior Tendency	83.47	12.85
Differentiation of Self	142.61	17.34
Cognitive Flexibility	91.23	11.92
Perceived Social Support	58.76	9.48

Table 1 presents the descriptive statistics for the key variables in the study. The mean score for risky behavior tendency was 83.47 (SD = 12.85), indicating a moderate to high risk profile in the sample. The mean differentiation of self score was 142.61 (SD = 17.34), suggesting variability in adolescents' emotional and relational independence. Cognitive flexibility had a mean of 91.23 (SD = 11.92), while perceived social support was lower, with a mean of 58.76 (SD = 9.48), reflecting the sample's limited access to emotional and social resources.

Prior to performing correlation and regression analyses, the statistical assumptions were examined. Kolmogorov–

Smirnov tests showed that all key variables followed a normal distribution (p-values > 0.05). Scatterplot inspection indicated linear relationships between independent variables and the dependent variable. Variance Inflation Factors (VIF) for the independent variables ranged from 1.17 to 1.61, indicating no concerns regarding multicollinearity. The assumption of homoscedasticity was confirmed through visual inspection of residual plots, and the Durbin-Watson statistic was 1.84, suggesting independence of residuals. These results confirmed that the data met the assumptions necessary for valid Pearson correlation and linear regression analysis.

Table 2

Pearson Correlation Coefficients between Risky Behavior Tendency and Predictor Variables (N = 390)

Variable	1. Risky Behavior	p Value
Differentiation of Self	-.53	< .001
Cognitive Flexibility	-.39	< .001
Social Support	-.47	< .001

As shown in Table 2, risky behavior tendency was significantly and negatively correlated with all three independent variables. Differentiation of self had the strongest correlation (r = -.53, p < .001), followed by perceived social support (r = -.47, p < .001) and cognitive

flexibility (r = -.39, p < .001). These results indicate that higher levels of differentiation, cognitive flexibility, and social support are associated with lower risky behavior tendencies.

Table 3

ANOVA Summary for Multiple Linear Regression (N = 390)

Source	Sum of Squares	df	Mean Square	R	R ²	Adj. R ²	F	p
Regression	14827.62	3	4942.54	.61	.37	.36	83.11	< .001
Residual	25276.39	386	65.49					
Total	40104.01	389						

Table 3 presents the results of the ANOVA for the multiple regression model predicting risky behavior. The model was statistically significant, F(3, 386) = 83.11, p < .001. The coefficient of determination (R²) was .37,

indicating that 37% of the variance in risky behavior tendency is explained by the combined effect of differentiation of self, cognitive flexibility, and perceived social support.

Table 4

Regression Coefficients for Predicting Risky Behavior Tendency (N = 390)

Predictor	B	SE B	β	t	p
Constant	122.84	5.62	—	21.87	< .001
Differentiation of Self	-0.31	0.04	-.41	-7.89	< .001
Cognitive Flexibility	-0.28	0.05	-.26	-5.60	< .001
Perceived Social Support	-0.35	0.06	-.33	-6.38	< .001

As seen in Table 4, all three predictors made statistically significant contributions to the model. Differentiation of self

had the strongest standardized beta coefficient (β = -.41, t = -7.89, p < .001), indicating that it was the most influential

predictor. Perceived social support ($\beta = -.33$, $t = -6.38$, $p < .001$) and cognitive flexibility ($\beta = -.26$, $t = -5.60$, $p < .001$) also significantly predicted lower risky behavior tendencies. All predictors negatively influenced the dependent variable, suggesting that improvements in each domain could reduce high-risk behavioral inclinations among adolescent girls with a history of running away.

4. Discussion and Conclusion

The aim of this study was to investigate the predictive role of differentiation of self, cognitive flexibility, and perceived social support in tendency toward risky behaviors among adolescent girls with a history of running away from home. Correlational analysis revealed significant negative relationships between all three independent variables and risky behavior. In other words, lower levels of self-differentiation, cognitive flexibility, and perceived social support were associated with higher tendencies toward engaging in high-risk behaviors. Furthermore, multiple linear regression analysis showed that all three variables significantly predicted risky behavior, with differentiation of self having the strongest predictive power, followed by perceived social support and cognitive flexibility.

These findings underscore the importance of differentiation of self as a psychological foundation in regulating behavior under stress and relational conflict. Adolescents with low differentiation tend to rely on emotionally reactive coping mechanisms and are more vulnerable to interpersonal fusion or emotional cutoff, both of which can contribute to identity diffusion and impulsive decision-making. This aligns with prior research demonstrating that reduced self-differentiation is associated with a heightened risk of self-injury, substance use, and maladaptive coping (Buser et al., 2019; Luo et al., 2013). Aghajani et al. (2022) similarly reported that low levels of differentiation of self were significantly associated with suicidal ideation among Iranian adolescent girls, reinforcing the relevance of this construct in the Iranian cultural and familial context (Aghajani et al., 2022). Additionally, Vaghee et al. (2017) found that individuals with mood disorders and poor differentiation had more difficulty managing stress, which further supports the link between differentiation and behavioral risk (Vaghee et al., 2017).

The findings also highlight the significant role of cognitive flexibility in moderating adolescent behavioral outcomes. Cognitive flexibility, as a key element of executive functioning, allows individuals to adapt to

changing situations, shift their thoughts, and choose among alternatives—skills that are particularly important during adolescence when peer pressure and emotional instability are heightened. The negative correlation between cognitive flexibility and risky behavior observed in this study is consistent with past findings that cognitive inflexibility is associated with impulsivity and maladaptive behavior patterns (Marcowski et al., 2017; Pourjaberi et al., 2023). Chaghousaz et al. (2020) found that cognitive and psychological flexibility significantly predicted risk behavior tendencies among students, supporting our result that reduced flexibility increases behavioral vulnerability (Chaghousaz et al., 2020). Furthermore, Stepanyan et al. (2020) emphasized the moderating effect of cognitive flexibility on the relationship between early pubertal maturation and externalizing behaviors, reinforcing its developmental importance (Stepanyan et al., 2020).

Perceived social support also emerged as a crucial factor in the behavioral tendencies of the studied population. Adolescents who perceived greater support from family, peers, or other significant individuals exhibited a lower tendency to engage in high-risk behaviors. This is particularly salient for adolescent girls who have run away from home, as they often suffer from emotional neglect, family dysfunction, or social alienation. Our findings support previous research suggesting that perceived social support acts as a psychological buffer that mitigates emotional distress and reduces the propensity for risky decisions (Cutrona et al., 2018; Owens et al., 2020). In a study of homeless youth, Owens et al. (2020) found that social support moderated the effects of parental neglect on substance use and delinquency (Owens et al., 2020). Similarly, Borouki Milan et al. (2020) found that social support significantly predicted adolescents' risky behavior, especially when considered alongside spiritual health and health literacy (Borouki Milan et al., 2020). The findings of Sadri Damirchi et al. (2019) further confirmed that emotional and instrumental support reduced impulsivity and high-risk tendencies in individuals with substance use problems (Sadri Damirchi et al., 2019).

The combined effect of these three variables—self-differentiation, cognitive flexibility, and social support—suggests that adolescent girls with histories of running away are especially susceptible to risky behavior when multiple psychological and environmental vulnerabilities co-occur. Notably, the regression model demonstrated that even though each predictor significantly influenced risky behavior, differentiation of self had the most robust impact.

This may be due to its integrative nature, encompassing emotional regulation, identity coherence, and relationship management, all of which are key to navigating adolescence effectively. This is in line with theoretical frameworks that emphasize emotional-cognitive integration as central to behavioral self-regulation (Aghayousefi et al., 2016; Buser et al., 2019).

Another explanation for the dominant role of self-differentiation could be cultural. In collectivist societies such as Iran, the family unit exerts a profound influence on adolescents' identity and decision-making. Therefore, adolescents who struggle to balance familial expectations and personal autonomy are more likely to experience emotional reactivity and behavioral problems. The findings by Mashhadizade et al. (2019) support this interpretation, indicating that family cohesion and flexibility directly affect adolescent self-efficacy and behavioral regulation (Mashhadizade et al., 2019). When social support is weak and cognitive strategies are rigid, the absence of self-differentiation becomes even more pronounced, pushing adolescents toward high-risk coping patterns.

The association between low perceived social support and risky behavior in this study is further corroborated by several international studies. For instance, Liu et al. (2023) found that social support had a protective effect against suicidality and self-injurious behaviors in adolescents with problematic internet use (Liu et al., 2023). Heiman and Olenik-Shemesh (2022) also observed that students with higher perceived social support were less vulnerable to the effects of cyber-victimization, supporting the idea that social buffering plays a role in emotional and behavioral outcomes (Heiman & Olenik-Shemesh, 2022). Li and Ma (2025) additionally emphasized that social support served as a mediator between parent-child relationships and prosocial versus risk-taking behavior, reinforcing the findings of this study (Li & Ma, 2025).

Overall, these findings suggest that a multi-dimensional understanding of risky behavior—encompassing both individual-level psychological traits and interpersonal resources—is essential for addressing behavioral vulnerabilities in this specific population. While previous studies have investigated these variables in isolation, this research advances the field by examining their combined predictive power within a high-risk, culturally specific group: adolescent girls with a history of running away from home. This integrated model provides valuable insight into the mechanisms of behavioral risk and highlights multiple potential targets for intervention.

5. Limitations & Suggestions

Despite its contributions, this study has certain limitations that should be acknowledged. First, the cross-sectional design limits the ability to infer causality between the variables. Although significant associations and predictions were found, the directionality of these relationships cannot be definitively established. Second, data were collected exclusively through self-report instruments, which are subject to social desirability bias and may not fully capture participants' behaviors or perceptions. Third, the sample was limited to adolescent girls in Tehran, which restricts the generalizability of the findings to boys, adolescents from other regions of Iran, or those without a history of running away. Finally, other potentially relevant variables—such as trauma history, attachment style, or peer influence—were not examined and may provide additional explanatory power.

Future studies should consider employing longitudinal designs to examine how differentiation of self, cognitive flexibility, and perceived social support develop over time and interact with risk-taking behaviors in adolescents. Incorporating qualitative methods could also enrich the understanding of adolescents' subjective experiences and contextual factors influencing behavior. Furthermore, expanding the sample to include male adolescents, diverse ethnic groups, and individuals from different socioeconomic backgrounds would enhance the external validity of the findings. Researchers should also explore intervention studies targeting these three psychological dimensions to evaluate their effectiveness in reducing risky behaviors in real-world settings.

The findings from this study offer several implications for clinical and educational practice. Mental health professionals working with runaway adolescents should prioritize enhancing self-differentiation through interventions such as Dialectical Behavior Therapy or Bowenian therapy, which aim to foster emotional regulation and identity development. Cognitive training programs that build flexibility, adaptive thinking, and executive control should also be integrated into counseling or school-based services. Lastly, strengthening perceived social support through family therapy, peer mentoring, and community-based outreach programs may provide a vital safety net that protects adolescents from engaging in high-risk behavior. Practitioners are encouraged to adopt a holistic, multi-systemic approach that addresses both internal capacities

and external resources to foster resilience and positive development in at-risk adolescent populations.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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