

Original Article

The effectiveness of an individual-centered bullying prevention program based on the Olweus method on social desirability and callous-unemotional traits in adolescents

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Abstract

Background: Adolescence is a vulnerable phase characterized by identity formation and psychological challenges. During this period, school bullying can severely damage a student's mental and social health, resulting in major interpersonal difficulties. Consequently, this research evaluated whether a personalized, Olweus-based bullying prevention program could successfully decrease callous-unemotional traits and improve social desirability among 15- to 17-year-old boys.

Methods: This study adopted a quasi-experimental pre-test, post-test, and follow-up design utilizing a control group. The study population comprised adolescent males attending school in Karun County across the 2023–2024 academic year. A total of 30 participants were recruited via purposive sampling and subsequently assigned at random to either an experimental condition (n=15) or an untreated control condition (n=15). The experimental group completed fifteen 90-minute intervention sessions grounded in the Olweus bullying prevention approach. Primary outcomes were evaluated across all time points using the Callous-Unemotional Traits Questionnaire and the Social Desirability Scale. Statistical analyses were conducted in SPSS (Version 27) applying repeated-measures mixed ANOVAs alongside Bonferroni post-hoc comparisons.

Results: Relative to the control group, participants receiving the intervention exhibited statistically significant improvements ($p < 0.001$), characterized by a substantial reduction in callous-unemotional traits ($\eta^2 = 0.65$) and a marked increase in social desirability ($\eta^2 = 0.96$), where higher scores reflect a greater inclination toward positive self-presentation. Crucially, these therapeutic gains were fully sustained at the two-month follow-up evaluation.

Conclusion: The personalized Olweus bullying prevention intervention is a highly effective tool for mitigating behavioral problems and fostering positive social maturation in youth. It is strongly advised that family counseling centers widely adopt this program.

Keywords: Adolescents, Bullying Prevention Program, Callous-unemotional Traits, Social Desirability

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Introduction

Adolescence represents a period of intense and rapid change across psychological, social, and

biological domains. As young people grapple with forming a coherent identity, navigating complex peer dynamics, and

meeting escalating expectations, they become susceptible to a range of psychosocial difficulties, including emotional distress, social exclusion, and conduct problems (1, 2). School bullying, in particular, emerges as a widespread and damaging issue during these years. In Iran, recent estimates suggest that between 20% and 38% of adolescents are involved in bullying, with males exhibiting higher rates of either perpetration or victimization (3, 4). Bullying—defined by its intentional, repetitive nature and the exploitation of a power differential—poses a substantial threat to the psychosocial adjustment of youth (3). For male adolescents especially, peer-group pressures and norms around aggression can create a context conducive to bullying behaviors (4), which in turn can lead to severe and lasting consequences such as social withdrawal, poor academic performance, anxiety, and depression (5).

Two psychological constructs are particularly relevant to understanding bullying dynamics: social desirability and callous-unemotional traits. Social desirability, the tendency to present oneself in a socially approved manner, is integral to adolescent peer relations and self-concept. While a degree of social desirability can foster group harmony, extreme levels may indicate a response bias rather than authentic prosocial tendencies (6, 7). Indeed, both atypically high and low levels of social desirability have been associated with involvement in bullying as either a perpetrator or a victim (8). For those involved, distorted views of social norms and a dysregulated drive for social approval can negatively shape their interactions, underscoring the need for interventions to promote more adaptive forms of self-presentation (8).

Conversely, callous-unemotional (CU) traits encompass a personality profile marked by a lack of empathy, guilt, and remorse, alongside a general indifference to others' feelings and one's own performance (9). In adolescence, these traits are robust

predictors of severe and persistent antisocial behavior, aggression, and conduct disorder (10). Individuals high in CU traits display blunted affective responses to the distress of others, making them more likely to engage in aggressive acts like bullying and less responsive to conventional disciplinary measures (11). Because the presence of CU traits is a significant risk factor for adult psychopathy and complicates treatment, targeting them in early interventions is critical for preventing adverse long-term outcomes (12).

In response to the harm caused by bullying, numerous interventions have been developed, with the Olweus Bullying Prevention Program (OBPP) being one of the most rigorously evaluated and empirically validated models. This comprehensive, multi-tiered program, developed by Dan Olweus, simultaneously targets the individual, classroom, school, and community to systematically reduce bullying behaviors and foster a positive social climate (13). Its core components include establishing unambiguous anti-bullying rules, promoting adult vigilance and support, and implementing clear procedures for addressing incidents with both bullies and victims (14). The efficacy of the OBPP in reducing bullying and related harms has been consistently demonstrated across various cultural and educational contexts (15, 16).

However, despite the success of broad, school-wide programs like the OBPP, a gap remains in understanding how more targeted, individual-level interventions affect the specific psychological factors that underpin bullying behavior. Although prior research has examined constructs like emotional intelligence (17) or academic stress (18) in relation to bullying, there is a scarcity of research investigating whether an individualized program based on the Olweus method can directly modify social desirability and CU traits. Clarifying these mechanisms is essential for refining

existing interventions and improving their effectiveness.

Given the persistent and damaging nature of bullying, there is an urgent need for tailored interventions that supplement universal programs by addressing the specific psychological vulnerabilities of high-risk youth. Therefore, the present study aimed to evaluate the efficacy of an individual-centered bullying prevention program, adapted from the principles of the Olweus method, on reducing callous-unemotional traits and enhancing social desirability among male adolescents in Karun County.

Methods

Design and Participants

To evaluate the intervention's efficacy, this study employed a quasi-experimental design incorporating pre-test, post-test, and two-month follow-up assessments. The target population consisted of male adolescents attending high school in Karun County during the 2023–2024 academic year. We recruited a convenience sample of 30 students who had been explicitly referred by school counselors due to their active involvement in bullying or related behavioral disruptions. Using a computer-generated randomization sequence, these adolescents were allocated equally into an intervention group ($n=15$) and an untreated control group ($n=15$).

Inclusion/Exclusion Criteria and Ethical Considerations

To be included, participants had to be 15- to 17-year-old males, provide personal assent and parental consent, and commit to the full study. Students receiving concurrent psychological treatment or presenting with severe psychiatric disorders requiring immediate clinical care were excluded. The institutional ethics committee approved the study (Code: IR.IAU.AHVAZ.REC.1403.452), ensuring compliance with the Declaration of Helsinki. Strict ethical protocols were

maintained, emphasizing voluntary participation, data confidentiality, and participant well-being.

Procedure

Following the acquisition of necessary ethical approvals and the collection of baseline (pre-test) data, participants in the experimental condition engaged in a customized, individual-focused bullying prevention program rooted in the Olweus framework. This intervention was delivered over approximately eight weeks and consisted of fifteen 90-minute sessions held twice weekly (an outline of session content is provided in Table 1). In contrast, the control group received no active treatment during this timeframe. Both cohorts were reassessed immediately following the intervention's conclusion (post-test) and again two months later (follow-up). To guarantee standardized data collection, trained facilitators administered all assessments. Although the behavioral nature of the intervention precluded the blinding of participants and facilitators, the statistician responsible for data analysis remained fully blinded to group assignments.

Measures

Social Desirability Scale (SDS): To gauge participants' inclination toward seeking social approval, we utilized the 33-item SDS constructed by Crowne and Marlowe (19). Items are evaluated dichotomously (0 or 1), yielding a maximum potential score of 33. Elevated scores reflect a stronger drive for positive self-presentation. Prior literature confirms the scale's strong psychometric validity (20), and it demonstrated adequate internal consistency in the present sample (Cronbach's $\alpha=0.79$).

Callous-Unemotional Traits Questionnaire (CUQ): The 24-item CUQ, developed by Frick and Ray (21), was administered to assess interpersonal and affective deficits. Participants respond on a 4-point Likert scale ranging from 0 ("not at all true") to 3 ("very true"). Higher aggregate scores

Table 1. Summary of individual-centered Olweus-based bullying prevention program sessions

Session	Focus Area	Key Objectives
1-3	Introduction & bullying awareness	Establishing rapport, psychoeducation on bullying dynamics (definitions, roles, impact), identifying personal experiences.
4-7	Emotion regulation & empathy	Recognizing and managing emotions, developing perspective-taking, understanding the impact of actions on others.
8-11	Social skills & assertiveness	Improving communication, teaching effective refusal skills, conflict resolution strategies, fostering prosocial behaviors.
12-15	Problem-solving & relapse prevention	Developing constructive problem-solving approaches for social dilemmas, generalizing learned skills to real-life situations, planning for future challenges.

denote a greater severity of callous-unemotional characteristics. The CUQ possesses well-established psychometric properties (22); in the current study, the reliability coefficient was acceptable (Cronbach's $\alpha=0.75$).

Data Analysis

Using SPSS (Version 27) with a significance level of $P<0.05$, a mixed-design repeated-measures ANOVA was conducted to evaluate within- and between-subject differences across three time points after confirming the assumptions of normality, homogeneity of variance, and sphericity. Subsequently, significant main effects and interactions were explored using Bonferroni-corrected post-hoc comparisons, applying the Greenhouse-Geisser adjustment when necessary.

Results

Thirty male high school students from Karun city (aged 15–17 years; $M=16.1$, $SD=0.8$) were randomly assigned in equal numbers to either an experimental or a control condition ($n=15$ per group). Drawing the sample from a localized student demographic provided the necessary homogeneity to reliably evaluate the intervention.

As detailed in Table 2, participants in the experimental group experienced marked enhancements in social desirability and concurrent reductions in callous-unemotional traits from baseline to the post-test and follow-up phases. Conversely, the control group's scores remained unchanged across all assessment points. Before performing inferential statistical tests, foundational data assumptions were verified. Distribution normality was established via non-significant Kolmogorov-Smirnov test results ($P>0.05$) paired with skewness and kurtosis indices falling comfortably within the standard ± 2 threshold. In addition, Levene's test confirmed between-group homogeneity of variance ($P>0.05$). Because Mauchly's test indicated that the assumption of sphericity was violated for both outcome measures, degrees of freedom in the subsequent repeated-measures ANOVAs were adjusted using the Greenhouse-Geisser correction. Table 3 details the outcomes of the mixed-design repeated-measures ANOVA. For social desirability, the analysis yielded statistically robust main effects for Time ($F=765.82$, $P<0.001$, $\eta^2=0.96$) and Group ($F=325.82$, $P<0.001$, $\eta^2=0.92$), as well as a powerful Time $\times$ Group interaction ($F=799.41$, $P<0.001$, $\eta^2=0.96$).

Table 2. Descriptive statistics for social desirability and callous-unemotional traits by group and measurement stage

Variable	Stage	Experimental group Mean $\pm$ SD	Control group Mean $\pm$ SD
Social desirability	Pre-test	5.06 $\pm$ 1.24	5.93 $\pm$ 1.38
	Post-test	21.93 $\pm$ 2.60	5.66 $\pm$ 1.11
	Follow-up	21.33 $\pm$ 2.31	5.86 $\pm$ 1.24
Callous-unemotional traits	Pre-test	29.66 $\pm$ 3.41	31.93 $\pm$ 3.05
	Post-test	20.93 $\pm$ 2.60	32.53 $\pm$ 2.79
	Follow-up	21.20 $\pm$ 2.42	32.86 $\pm$ 2.88

SD: standard deviation

Table 3. Mixed-design repeated-measures ANOVA results for study outcomes

Variable	Source	SS	df	MS	F	P	η^2
Social desirability	Time	1259.35	1.41	889.89	765.82	0.001	0.96
	Group $\times$ Time	1314.60	1.41	928.93	799.41	0.001	0.96
	Group	2464.90	1	2464.90	325.82	0.001	0.92
Callous-unemotional traits	Time	308.15	1.09	281.99	37.87	0.001	0.57
	Group $\times$ Time	438.68	1.09	401.44	53.91	0.001	0.65
	Group	1629.87	1	1629.87	96.84	0.001	0.77

SS: Sum of Squares; MS: Mean Square; df: Degrees of Freedom; F: F-statistic; P: P-value; η^2 : Eta-squared

Parallel analyses for callous-unemotional traits revealed significant main effects for Time ($F=37.87$, $P<0.001$, $\eta^2=0.57$) and Group ($F=96.84$, $P<0.001$, $\eta^2=0.77$), alongside a substantial Time $\times$ Group interaction ($F=53.00$, $P<0.001$, $\eta^2=0.65$). Together, these metrics confirm that the intervention drove significant shifts in both variables over time, sharply distinguishing the experimental trajectory from that of the control group.

To unpack these interaction effects, Bonferroni-adjusted post-hoc comparisons were conducted (see Table 4). Within the experimental cohort, participants demonstrated statistically significant gains in social desirability paired with significant drops in callous-unemotional traits when comparing pre-test scores to both post-test and follow-up assessments ($P<0.001$). Crucially, these treatment benefits remained stable between the post-test and follow-up evaluations, pointing to sustained efficacy. In contrast, participants in the control condition exhibited no meaningful alterations across any of the evaluated timelines ($P>0.999$).

Discussion

This research examined how a personalized, Olweus-based bullying prevention intervention impacts social desirability and callous-unemotional traits among adolescent males. The data clearly show that, compared to a control cohort, adolescents who received the intervention experienced robust, lasting gains in social desirability alongside marked decreases in callous-unemotional characteristics. Ultimately, these findings highlight the value of customized, empirically supported interventions for resolving key psychosocial deficits during adolescence and redirecting youths away from bullying-related behaviors.

The distinct rise in social desirability among treated adolescents represents a critical finding. Within this framework, social desirability denotes a youth's ability to act adaptively and align with prosocial standards. By focusing on individualized skill acquisition grounded in the Olweus model, the intervention likely drove a deeper internal adoption of constructive social values and greater relational proficiency (15).

Table 4. Bonferroni-adjusted post-hoc pairwise comparisons across time points

Variable	Phases	Experimental		Control	
		MD	P	MD	P
Social desirability	Post-test - Pre-test	16.33	0.001	0.26	0.999
	Follow-up - Pre-test	15.73	0.001	0.06	0.999
	Follow-up - Post-test	0.60	0.221	0.20	0.999
Callous-unemotional traits	Post-test - Pre-test	8.73	0.001	0.60	0.999
	Follow-up - Pre-test	8.46	0.001	0.93	0.999
	Follow-up - Post-test	0.26	0.703	0.33	0.999

MD: Mean Difference; P: P-value

Consequently, targeted treatments can equip youth to authentically integrate into their social environments rather than merely feigning compliance. This supports existing evidence that building social competencies is essential for enhancing youth adjustment and minimizing peer conflict (23, 24).

Equally important was the experimental cohort's significant decline in callous-unemotional features, representing a meaningful therapeutic shift. Defined by diminished empathy, blunted emotionality, and a disregard for the distress of others, these traits consistently forecast chronic aggression and severe antisocial conduct (12). Because this customized Olweus intervention systematically targeted perspective-taking, empathy building, and emotion regulation, it successfully addressed participants' interpersonal and affective shortcomings. By enhancing responsibility and empathic capacity, the program likely corrected foundational emotional deficits, thereby lowering the risk of future bullying or aggressive acts (16). This shift is critical for halting the progression of such behaviors into entrenched psychopathology.

Broadly, these outcomes mirror the well-documented success of the standard Olweus Bullying Prevention Program in educational environments (25). However, the present investigation expands the literature by validating a one-on-one adaptation of the model and mapping its specific effects on callous-unemotional traits and social desirability. This personalized format permitted a deeper assessment of each adolescent's behavioral drivers, yielding highly customized therapeutic strategies. Such focused attention is especially advantageous for youth struggling with rigid emotional regulation deficits or deeply ingrained behavioral problems.

Although conducted within a school setting, the core elements of this individualized program could readily be

adapted for clinical use, such as in family therapy centers where parental involvement can be integrated. Future studies should prioritize identifying the specific therapeutic mechanisms driving these changes, testing the program's cost-effectiveness across different cultural and clinical groups, and evaluating the long-term durability of the outcomes.

Finally, several limitations must be acknowledged. The generalizability of the results is constrained by the small, geographically restricted sample of only male adolescents. Additionally, the reliance on self-report instruments introduces the potential for response bias, and the relatively brief two-month follow-up period limits conclusions regarding the true long-term permanence of the intervention's benefits.

Conclusion

Overall, this research validates the efficacy of a personalized, Olweus-based bullying prevention program for 15- to 17-year-old adolescent males. The findings indicate that this tailored approach successfully cultivates social desirability while significantly diminishing callous-unemotional traits. Because these therapeutic gains were sustained over time—in direct contrast to the control cohort—the results underscore the critical need for individualized, empirically supported treatments to address the psychological vulnerabilities underlying bullying. Ultimately, integrating this adapted framework into educational and family counseling environments offers a highly promising avenue for fostering healthy psychosocial development in at-risk youth.

Ethical Approval

The approval was granted under the ethics code IR.IAU.AHVAZ.REC.1403.452.

Authors' Contributions

S.A.K. designed the study, collected the data, and drafted the manuscript. R.H.

supervised the research, analyzed the data, and revised the manuscript. H.J. and S.B. contributed to data interpretation and critical revision. All authors read and approved the final manuscript.

Informed Consent

Written informed consent was obtained from all participants and their legal guardians prior to the study.

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Conflict of Interest

The authors declare no conflict of interest.

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