



Attachment representations and alexithymia in community adolescents with binge-eating attitudes

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Abstract

Purpose The aims of the current study were: (a) to compare community adolescent groups with and without binge eating (BE) on attachment representations and alexithymia, using an age-adapted interview to assess attachment; and (b) to explore the independent role of attachment and alexithymia as potentially related to BE in community adolescents.

Methods Three hundred eighty-two community adolescents were screened with respect to BE symptoms through the Binge Eating Scale (BES). The 22 girls identified with BE (BE group) and 22 age- and gender-matched peers without BE (NBE group) were assessed with the Friends and Family Interview (FFI) and the Toronto Alexithymia Scale (TAS-20).

Results Binge eating group reported greater attachment preoccupation in comparison to NBE, while no difference emerged in alexithymia. More insecure attachment patterns, both preoccupied and dismissing, were significantly and independently associated with BES score in community girls.

Conclusions Insecure attachment, assessed with semi-structured interview, is associated with BE among adolescents' community girls, while apparently alexithymia is not. Future prospective studies should assess the role of attachment in the development of BE in adolescents.

Level of Evidence III, case–control analytic study.

Keywords Binge eating · Adolescence · Attachment · Alexithymia · Community

Introduction

Community adolescents in Western Countries reported at least one episode of binge eating (BE) for year, i.e. overeating, accompanied by a sensation of loss of control on the food intake and distress [1]. BE in adolescence predisposes to the development of binge-eating disorder (BED), and it is associated with co-occurrent and prospective obesity and internalizing-externalizing problems [1, 2].

A study found that adolescent inpatients with BE showed predominantly insecure attachment representations, in particular in form of insecure-preoccupied patterns characterized by mental schemes of self as unworthy of love,

of other as unpredictable or discontinuous in responding to expressed personal needs, and of relationship as anxiety-provoking [3]. These patterns induce unsatisfying anxiety and affective hyper-activation to stimulus within further significant relationships, which also may negatively affect treatment outcomes [3]. Moreover, several researches and reviews highlighted how attachment insecurity would be highly associated with different types of eating disorders (ED) diagnostic categories and unhealthy behaviors in community individuals [4].

Further, a case–control study reported that adolescents with BED showed more alexithymia [5], a multidimensional construct including difficulties to identifying feelings (DIF) and describing feelings (DDF), along with cognitive tendency to pay attention to concrete aspects of experience rather than emotional ones, i.e. externally oriented thinking (EOT) [6]. A wide body of studies found high alexithymia and its factors also in patients with different diagnoses of ED [7].

Although attachment insecurity and alexithymia can be considered transdiagnostic risk factors in clinical

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populations with ED, including BED, only two studies confirmed these clinical findings in community populations. However, they assessed potential risk factors separately and using exclusively self-report questionnaires [8, 9]. Therefore, the aims of current study were: (a) to compare community adolescent groups with and without BE on attachment representations and alexithymia, using an age-adapted interview to assess attachment; and (b) to explore the independent role of attachment and alexithymia as potentially related to BE in community adolescents.

Method

Research design and participants

The research design consisted of two waves of data collection. In the first wave (see [2]), 382 Italian adolescents attending high schools in Liguria (61.5% females,

aged 13–18 years, mean [M] = 15.59, standard deviation [SD] = 1.1) were screened with respect to BE symptoms through the Binge Eating Scale (BES) [8]. According to this screening, the 22 female adolescents with BE (BE group) were age- and gender-matched with 22 peers (NBE group). Fifteen days later, in the second wave, attachment representations and alexithymia have been assessed in all these 44 girls, aged 14–18 years.

Table 1 shows demographic characteristics in the two groups, revealing the absence of group differences in matching variables, except for BES scores.

Variables and measures

An ad hoc socio-demographic questionnaire was used to collect detailed information about participants, including BMI and family information.

The Italian version of BES [10, 11] is a well-known 16-item Likert-type self-report to assess specifically BED

Table 1 Comparison of two groups of community girls with and without binge eating^a ($n = 44$) in attachment patterns (friends and family interview, FFI) and alexithymia (Toronto Alexithymia Scale, TAS-20)

Variables	Binge-eating group [BE] ($n = 22$) ^a n (%)	No binge-eating group [NBE] ($n = 22$) n (%)	$\chi^2_{(df)}$	p
Body Mass Index				
Underweight	3 (7)	3 (7)	2.49 ₍₃₎	.476
Normalweight	9 (21)	12 (27)		
Overweight	2 (4)	0 (0)		
No response	8 (18)	7 (16)		
Family structure				
Cohabiting parents	17 (39)	20 (46)	1.91 ₍₂₎	.385
Separated parents	4 (9)	2 (4)		
No response	1 (2)	0 (0)		
	M (SD)	M (SD)	$U_{(df)}$	p
BES score	23.9 (6)	5.9 (4.5)	0.000 ₍₁₎	0.000
Age	15.7 (1.7)	15.7 (1.7)	242 ₍₁₎	1
Parental educational level (years)	14.3 (3.1)	14.4 (2.8)	84.5 ₍₁₎	0.102
Siblings (number)	1.33 (0.8)	1.15 (0.8)	156.5 ₍₁₎	0.455
Attachment patterns				
Secure-autonomous	3.6 (0.07)	2.7 (0.9)	320.5 ₍₁₎	0.062
Insecure-dismissing	4.3 (0.42)	1.9 (0.9)	174.5 ₍₁₎	0.108
Insecure-preoccupied	2.2 (0.71)	1.7 (0.7)	139.5 ₍₁₎	0.013
Disorganized	1.3 (0.58)	1.1 (0.3)	220.5 ₍₁₎	–0.665
Alexithymia				
Total	59.4 (8.5)	52.9 (13.9)	183.5 ₍₁₎	0.170
DIF	21.9 (5.8)	17.9 (7.5)	172 ₍₁₎	1
DDF	17.8 (4.1)	16.8 (5.0)	219.5 ₍₁₎	0.596
EOT	19.6 (4.8)	18.1 (4.7)	192.5 ₍₁₎	0.244

BES Binge Eating Scale, DIF difficulty to identifying feelings, DDF difficulty to describing feelings, EOT externally oriented thinking

^aExceeded the cut-off score for mild risk (17) for binge eating in the Binge Eating Scale (BES)

symptoms. Scores range from 0–46, with score 17 as first cut-off for the presence of binge eating, used in this study. The BES discriminated effectively between clinical BED and non-clinical samples (effect size = 1.78) and it showed high 2-week test–retest reliability ($r=0.87$).

The Friends and Family Interview (FFI) [12] is a semi-structured interview that assesses attachment representations of adolescents (aged 11–17) asking them a set of 27 questions about themselves and their relationships with the most significant persons in their lives, including parents, friends, siblings and preferred teacher. The FFIs were videotaped and transcribed verbatim. The FFI's coding system [10] provides an attachment patterns -secure, dismissing, preoccupied, and disorganized—both as classification and scoring on scale from 1 to 4 (1 = no evidence; 2 = mild evidence; 3 = moderate evidence; 4 = marked evidence). For this study, two reliable coders evaluated 25% of the interviews ($n=11$) and obtained Cohen's $k=1$ ($p<0.001$) on the four-way classification system, whereas the remaining FFIs were evaluated by only one rater.

The Toronto Alexithymia Scale (TAS-20) [6], is a 5-point Likert-type self-report 20-item questionnaire to assess the alexithymia in the total level and in the three aforementioned factors DIF, DDF, and EOT. Scores <51 suggest no alexithymia, 51–60 border-alexithymia and >61 alexithymia. Original TAS-20 showed excellent internal consistency (Cronbach's $\alpha=0.81$).

Procedure

The procedure was approved by the Research Ethical Committee of the Department of Educational Sciences, University of Genoa, and complied with the ethical standards of the international scientific community. All the parents and the adult participants provided written and informed consent before the assessments were administered. Participants to the first wave completed questionnaires on one occasion, during school hours, while participants to the second wave were assessed at school, in individual session with trained Master Psychology students.

Statistical analysis

Given that BE and NBE had sizes <30 , analyses were computed through non-parametrical tests which are appropriate for small sample size and they do not require the assumption of normality of the population from which the sample is drawn. The Chi-square was used to compare BE and NBE group on categorical variables and the U Mann Whitney for comparisons on continuous variables' scores. To explore the association between BES and attachment patterns and alexithymia scores, Spearman's correlations were computed in the whole group ($N=44$). Finally, multiple regression

analysis was performed to evaluate the independent contribution of attachment patterns and alexithymia on BES score.

Results

First wave Overall, 6% of community adolescents ($n=23$, 96% females) were at risk of BED (i.e., had BES scores >17) and specifically, 2% ($n=8$) reported severe symptoms and 4% ($n=15$) reported moderate symptoms. The only boy at risk of BE refused to adhere to the 2nd wave of the research, and therefore, only female participants were involved in the 2nd wave.

Second wave BE group showed higher scores than NBE in BES score and insecure-preoccupied attachment pattern, while no differences in alexithymia' and its factors were detected (see Table 1).

Considering the total sample, higher BES scores showed correlations with lower secure ($\rho=-0.391$, $p<0.01$), higher dismissing ($\rho=0.270$, $p<0.05$) and preoccupied ($\rho=0.361$, $p<0.01$) scores on attachment patterns, and with higher DIF ($\rho=0.304$, $p<0.05$) and total-TAS-20 scores ($\rho=-0.266$, $p<0.05$).

Therefore, independent variables in the multiple regression model on BES scores were attachment patterns (secure, dismissing and preoccupied) and alexithymia (total score and DIF). Table 2 shows the model as strongly significant ($p=0.009$), explaining 23% of the BES scores, with the insecure attachment patterns dismissing and preoccupied as unique significant independent predictors.

Discussion

The general aim of the study was to explore the role of attachment and alexithymia as potential factors associated with binge-eating behaviours in community adolescents. The study has three main findings.

Firstly, results found that community girls with BE (as defined using the BES score) showed more preoccupation in attachment representations, displaying excessive affective hyper-activation in response to attachment-related stimulus, especially involving anger or role-reversal, confirming the finding on clinical BED adolescents [3]. Therefore, attachment preoccupation, i.e. anxiety, may be a distinctive feature associated with BE, already existing in the pre-clinical phase of BED.

Secondly, contrary to previous findings using a self-report questionnaire [5, 9], the BE group did not show more alexithymia as expected, which could in part be explained by the low sensitivity of this type of measures, that can be overtook using interview to assess this construct.

Table 2 Relationship between binge eating scores (Binge Eating Scale, BES) and attachment patterns and alexithymia in 44 community girls

Predictors	<i>B</i>	β	<i>p</i>	95% CI		<i>R</i> ² (adjusted)	<i>F</i> (<i>p</i>)
				UB	LB		
Attachment ^a						0.323 (0.234)	3.627 (0.009)
Secure-autonomous	−0.2	−0.09	0.51	−0.80	0.41		
Insecure-dismissing	0.59	0.30	0.05	0.01	1.17		
Insecure-preoccupied	5.05	0.35	0.01	1.14	8.96		
Alexithymia ^b							
Total score	0.01	0.01	0.97	−0.49	0.51		
F1: DIF	0.41	0.27	0.34	−0.45	1.27		

Statistically significant *p* value is in bold (*p* < 0.05)

F1: DIF difficulty to identifying feelings

^aFriends and family interview (FFI), patterns

^bToronto Alexithymia Scale 20 (TAS-20)

Thirdly, model of regression in the whole group highlighted the independent roles of attachment patterns insecure-preoccupied (as stronger) and insecure-dismissing in BE among community girls, while alexithymia resulted not associated. Therefore, such results with an in-depth age-adapted attachment interview may suggest that attachment anxiety could be associated with and increase BE in community adolescents, supporting findings from community studies with self-report measures [8]. These data also add evidence for the possible negative impact of minimization or derogation of attachment-related stimulus.

The main strengths of the study are the use of a structured interview to assess attachment representations of adolescents, and the assessment of a non-clinical sample. However, the study has certain limitations. The generalization of the results is severely limited by the cross-sectional nature of the study, the small sample size, the use of self-reports for the screening of BE symptoms and alexithymia assessment, and the exclusive involvement of girls, among which the prevalence of BE resulted also pretty high (6% compared with 1–4.6% [1]). Lastly, given this was a brief report of a pilot study, the relationships between attachment and alexithymia in predicting BE were not deepened, as well as the role of other variables related to BE among clinical samples, such as the presence of autistic traits [13].

Future studies may deep the overall conclusion of this study, namely that assessment of attachment representations may be useful for improving the knowledge of adolescents with BE, paying special attention not only to attachment representations characterized by anger and hyper-involvement, but also by detachment and derogation. This knowledge might help both to improve the management of BE in adolescents and, if the role of attachment will be demonstrated by prospective studies, to develop specific prevention interventions.

What is already known on this subject?

Clinical studies on adolescents with BED found both higher preoccupied attachments and alexithymia as related to more binge eating attitudes. Despite binge eating attitudes are also common in community adolescents, few studies confirmed previous results in community populations and they always measured attachment and alexithymia separately and through self-report questionnaires, while an investigation of their cumulative effect, also using different assessment's methods, may have a preventive utility.

What does this study add?

For the first time, this study explored simultaneously attachment representations—using an age-adapted semi-structured interview—and alexithymia as related factors for binge eating attitudes in community adolescents. Results only partially confirmed those in clinical adolescents with BED, as binge eating in community girls was predicted only by attachment insecurity, both in form of preoccupied and dismissing patterns, but not by alexithymia. Identifying attachment insecure representations through an age-adapted interview may be helpful for planning preventive programs for binge eating attitudes among community adolescents.

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Compliance with ethical standards

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical approval All procedure was in accordance with the ethical standards of the institutional research committee, the international standards and with the 1964 Helsinki Declaration and its later amendments, and it was approved by the Research Ethical Committee of the Department of Educational Sciences at University of Genoa.

Informed consent Written informed consent was obtained from all legal guardians and participants, before the data collection.

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