Evidence Table E76. Course of illness studies – part 4

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| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Agras, 199787 | # of days with one or more binges  objective binges: consumption of large amounts of food and feeling out of control  subjective binges: loss of control over eating | NA | # of days with one or more binge: Post hoc tests revealed the groups to be significantly different (achieved abstinence by 12 wks vs not) at 70 weeks, F(l, 73) = 4.19, p= .04; and at 88 weeks, F(l, 73) = 3.90, p = .05, but not at 52 weeks.  Of the 31 participants who were abstinent after 12 weeks of CBT, 45% (n = 14) continued abstinence at the 1-year followup, 29% (n = 9) were binge eating no more than once per  week, and 26% (n = 8) had relapsed and again met criteria for BED. |
| Busetto, 200588 | NA | NA | NR |
| Castellini, 201389 | Objective binge episodes were defined as the consumption of  a large amount of food in a discrete episode, while experiencing a sense of loss of control. Subjective binge episodes were defined as  the consumption of a not objectively large quantity of food in a discrete episode, while experiencing a sense of loss of control. The number of weekly objective and subjective binge episodes was evaluated by means of a face-to-face clinical interview, according  to specific questions extracted from the Eating Disorder  Examination Interview and from DSM-IVTR. | NA | Change in OBEs (per week episodes) from baseline to 3 year fu:  baseline OBE frequence: B= 0.65 (p < 0.001)  EES anxiety: B= -0.23 (p <0.01)  EES depression: B = -0.39 (p < 0.001)  Other non-sig vars in model: gender, age, BMI, SCL-90 GSI  Change in SBEs (per week episodes) from baseline to 3 year fu:  baseline SBE frequence: B= 0.74 (p < 0.001)  BDI: B= -0.34 (p <0.001)  EES depression: B = -0.39 (p < 0.001)  Other non-sig vars in model: gender, age, BMI, depression  Baseline OBEs and SBEs were also sig predictors of OBE and SBE change over time in the BN group |

Evidence Table E76. Course of illness studies – part 4 (continued)

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| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Eisenberg, 201090  Neumark-Sztainer, 201191  Goldschmidt, 201492 | Eisenberg, 201090: Binge/LOC eating, assessed with 2 questions:  -"In the past year, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you (binge eating)?"  -During the times when you ate this way, did you feel you couldn't stop eating or control what or how much you were eating?" Those who indicated feeling LOC in the 2nd question were classified as binge eaters  Neumark-Sztainer, 201191: Binge/LOC eating, assessed with 2 questions:  -"In the past year, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you (binge eating)?"  -During the times when you ate this way, did you feel you couldn't stop eating or control what or how much you were eating?" Those who indicated feeling LOC in the 2nd question were classified as binge eaters  Goldschmidt, 201492: Binge/LOC eating, | Eisenberg, 201090: Binge/LOC eating, percent of larger sample  Overall: 212 (8.7%)  G1: 168 (12.6%)  G2: 43 (4.0%)  Neumark-Sztainer, 201191: Binge/LOC eating used at predictor  Prevalence:  Girls:  Baseline: 9.9%  FU: 14.1%  boys:  baseline: 3.0%  FU: | Eisenberg, 201090: Outcome: 5y Binge/LOC eating  Overall: 193 (7.9%)  G1: 154 (11.4%)  G2: 39 (3.5%)  General linear modeling was used to generate probability of binge eating at follow-up Model adjusted for binge eating at BL, friends dieting behavior at BL, same sex parent's dieting at BL, BMI at 5y, race, and SES. All analyses were conducted separately by gender (G1: females, G2: males).  Data were weighted using a response propensity method "to be more fully generalizable to the population of young people in this area."  G1 (Females) Predictors in multivariate model:  BL Friends' dieting, F=3.25, (p=0.021)  trend in friends' dieting (p = 0.012)  BL Mother's dieting, F=1.5, p=0.212  5y BMI, F=12.7, p < 0.001  White race, F=0.74, p=0.391  SES, F=0.41, p=0.520  Binge/LOC eating, F=22.9, p<0.001  Neumark-Sztainer, 201191:  Log binomial model of fu behavior on baseline behaviors stratified by cohort and sex and controlling for nonresponse weight.  Probability of binge eating w LOC, controlling for this behavior at baseline:  Younger females (n = 308)  RR = 2.21 (95% CI, 1.31, 3.71)  Older females: (n=722)  RR = 2.42 (95% CI, 1.68, 3.47)  Younger males (n = 377)  RR = 0.47 (95% CI, 0.03, 7.12)  Older males (n = 880)  RR = 5.27 (95% CI, 2.68, 10.34)  Goldschmidt, 201492: Binge eating at T1 and T2: 15.8%  Binge eating at T2 and T3: 42% |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Eisenberg, 201090  Neumark-Sztainer, 201191  Goldschmidt, 201492  (continued) | assessed with 2 questions:  -"In the past year, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you (binge eating)?"  -During the times when you ate this way, did you feel you couldn't stop eating or control what or how much you were eating?" Those who indicated feeling LOC in the 2nd question were classified as binge eater |  | OR for Binge eating cessation (controlling for baseline value of the change variable to ensure that individual differences in functioning at the previous time point did not confound our results. All models additionally controlled for age cohort, sex, race/ethnicity (categorized as non-Hispanic White vs. all others), and SES and weighted to control for attrition)  cessation at T2 based on value at previous time point:  BMI: 1.10 (1.00–1.21); p =0.06  Body satisfaction: 1.00 (0.94–1.06); p =0.88  Depression symptoms:0.96 (0.81–1.13); p= 0.58  Self-esteem: 1.04 (0.92–1.18); p =0.52  Change in BMI: 0.93 (0.81–1.07); p=0.31  Change in body satisfaction: 1.01 (0.96–1.07); p=0.68  Change in depression symptoms: 0.89 (0.73–1.09); p=0.28  Change in self-esteem: 1.21 (1.02–1.44); p=0.03  cessation at T3 based on value at previous time point:  BMI: 0.95 (0.88–1.04); p =0.26  Body satisfaction: 1.01 (0.95–1.06); p= 0.84  Depression symptoms: 0.92 (0.81–1.05); p=0.21  Self-esteem: 1.03 (0.91–1.15); p=0.67  Change in BMI: 0.98 (0.88–1.09); p=0.70  Change in body satisfaction: 1.06 (1.00–1.13); p=0.05  Change in depression symptoms: 0.81 (0.68–0.95); p=0.009  Change in self-esteem: 1.23 (1.07–1.41); p =0.004 |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Fichter, 199393  Fichter, 199894  Fichter, 200395  Fichter, 200896 | BE ≥ 2 times/wk | 100% | 3 year: 16.1%; 6 years: 34%  BED at 6 year FU: 5.9%, 77.9% no major eating disorder  SEM results: BED at t1 (start of tx) sig predicted BED at t2 (end of tx); BED at end of tx predicted BED at 3 year fu and at 6 year fu  BED at beginning of tx did not sig predict BED at 3-year fu  predictors of poor diagnostic outcome at 12 years (any eating disorder-AN, BN, BED or ED-NOS):  psychiatric comorbidity OR = 6.00 (1.17 to 30.95)  Severe sexual abuse: OR = 4.55 (1.04 to 1.9)  Other non-significant predictor: self-injury  Predictors of poor bingeing episode outcome at 12 years (one or more binges occurred in the three months preceding follow-up)  Psychiatric comorbidity OR = 13.09 (1.45-118.62)  other non-significant predictors: self-injury, emotional liability, interoceptive awareness, obesity of patient's father  predictors of Poor bingeing severity outcome at 12 years (severe and frequent binges, meeting DSM-IV definition)  Impulsivity: OR=13.60 (1.57–117.68)  Psychiatric comorbidity: OR=12.37 (1.42–107.79)  Other non-sig predictors: self-injury, inefficiency |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| --- | --- | --- | --- |
| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Field, 201297  Sonneville, 201398 | Binge eating was assessed with a 2-part question. Participants were first asked how often during the past year they had eaten a very large amount of food. Participants who had eaten a very large amount of food at least occasionally were asked a follow-up question about whether they felt out of control (y/n) during these episodes, like they could not stop eating even if they wanted to stop. Binge eating was defined as at least weekly episodes of eating a large amount of food with LOC based on DSM-V. | NR | Binge eating prevalence among 16-year-old females: 2.3%  Binge eating prevalence among 24-year-old females: 3.1%  Binge eating prevalence among 16-year-old males: 0.3%  Binge eating prevalence among 24-year-old males: 1.0%  Lagged analysis with time-varying covariates so that outcomes were modeled as a function of predictors assessed on the previous questionnaire. Tested for an interaction between overeating status and sex in fully adjusted models for all outcomes. "No overeating" group is referent for ORs.  Associations with weekly binge eating on the previous questionnaire (1-2 years prior) : OR (95% CI)  Overweight/obesity: 1.73 (1.11-2.69) (adjusting for age, sex, BMI and dieting)  High depressive symptoms: 2.19 (1.40-3.45) (adjusting for age, sex, having 1+ parents who drink, having a sibling who started drinking before age 18 years, having 1+ friends who drink, having a sibling who uses drugs, having friends who use drugs)  Frequent binge drinking: 1.14 (0.83-1.57) (age, sex, having 1+ parents who drink, having a sibling who started drinking before age 18 years, having 1+ friends who drink, having a sibling who uses drugs, having friends who use drugs)  Marijuana use: 1.85 (1.27-2.67) (age, sex, having 1+ parents who drink, having a sibling who started drinking before age 18 years, having 1+ friends who drink, having a sibling who uses drugs, having friends who use drugs)  Other drugs use: 1.59 (1.08-2.33) (age, sex, having 1+ parents who drink, having a sibling who started drinking before age 18 years, having 1+ friends who drink, having a sibling who uses drugs, having friends who use drugs) |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Hilbert, 201399  Hilbert, 2014100 | NA | NA | The MLM to examine the stability of LOC eating in LOC+ and LOC- children yielded no significant association between subsequent reports of LOC eating ( ϒ= .333, t = .853, p = .39,  OR = .71). Thus, LOC eating at one specific timepoint was not a reliable predictor of LOC eating at the subsequent timepoint. However, children who reported more LOC eating at t1 were more likely to report LOC eating at one of the subsequent assessment timepoints ( β = 1.343, t = 3.245, p = .002, OR = 3.83).  The prospective change MLM of LOC eating in the LOC+ group only (because of low occurrence of LOC eating in the LOC - group) showed that within-subject decreases in shape concern  and increases in depression were associated with a higher likelihood of LOC eating at the subsequent timepoint.LOC+ children’s average shape concern and t1 reports of weight-related  teasing were predictive of LOC eating episodes between t2 and t5. Regarding control variables, children who were older, who attended  an elementary or comprehensive school, and whose parents had a higher BMI were more likely to report episodes of LOC eating across the t2 to t5 assessments. However, greater child BMI was associated with a lower likelihood of LOC eating at t2 through t5.  Regarding the stability of LOC eating, 3.6% of the children diagnosed as LOC eaters at study entry showed persistent LOC eating at all five assessment timepoints, 41.8% showed recurring  LOC eating at multiple timepoints, and 54.5% remitted from LOC eating and did not show any LOC eating after baseline LOC eating.  In MLM model: partial BED was predicted by LOC eating, BMI but this may be cross sectional |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| --- | --- | --- | --- |
| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Linna, 2013101 | NA | NA | NA |
| Maxwell, 2014102 | Days binged in the past 28 days | 15.25 (5.72) | 12 months: 4.78 (5.54)  Neither attachment avoidance or attachment anxiety sig related to change in days binged (not controlling for other characteristics) |
| Preti, 2011103 | NA | NA | NA |
| Ricca, 201034 | Binge episodes per month, per EDE and DSM-IV-TR (not specified how DSM-IV-TR was used) | Binge episodes per month, median (quartiles)  G1: 8.0 (4.0, 10.0)  G2: 8.0 (4.0, 10.0)  p=NR, NS | 3y Binge episodes/month, median (quartiles), p for within-group change posttreatment to 3y  G1: 4.0 (0, 6), p=NR, NS  G2: 4.0 (0, 8), p<0.05 |
| Suokas, 2014104 |  |  |  |
| White, 2010105 | LOC eating episodes | NA | NA |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Wilfley et al., 2000106  Wilfley et al., 200245, 2000106 | Wilfley et al., 2000106: NA  Wilfley, et al., 200245:  Binge-eating days: number of days during previous 28 days on which at least 1 objective bulimic episode occurred (consumption of an unusually large amount of food given the circumstances, accompanied by a loss of control over eating)  Percentage of participants in recovery (with no objective bulimic episodes in the past month)  Percentage of participants being at or below a comparative level of eating disorder attutides and behaviors | Wilfley et al., 2000106: NA  Wilfley, et al., 200245:  Binge Days  G1: 17.3 (SD 6.9, range 4-28)  G2: 16.3 (SD 7.2, range 5-28)  Global eating disorder pathology at or below obese non-BED:  G1: 23 (28%)  G2: 22 (27%) | Wilfley et al., 2000106: Post hoc analyses indicated that although those with Axis II psychopathology began treatment with significantly more binge episodes, they had similar outcome as those without Axis II psychopathology at posttreatment, F( 1,  123) = 3.04, ns, rf = .024, and 1-year follow-up, F(2,246) =1.40, ns, rj = .012. These results did not differ by gender.  Specific analyses with clusters of Axis II psychopathology indicated that neither Cluster A nor Cluster C psychopathology was related to treatment outcome, and Cluster B was unrelated to outcome for global eating disorder  psychopathology. However, the interaction between presence of Cluster B psychopathology and time (pretreatment, posttreatment, or 1-year follow-up) was significant for the outcome of binge eating, F(2, 246) = 6.28, p = .002, rf = .049. Post hoc analyses indicated that participants with Cluster B psychopathology began treatment with significantly more binge episodes per month,5 F(l,123) = 8.62, p - .004, jf = .065. Those with and without Cluster B personality disorders did not statistically differ in OBEs at posttreatment, F(l, 123) = 0.02, ns, rf < .001. However, by 1-year follow-up, those with Cluster B psychopathology were experiencing significantly more binge episodes than those without Clusters psychopathology,F(l, 123) = 5.36,p = .022, -n2 = .042  Wilfley, et al., 200245:  Binge-eating days 12-month  G1: 1.7 (SD 4.3, range 0-25)  G2: 1.2 (2.6, range 0-11)  % decrease from pre-treatment to 12-month: 90% in G1, 93% in G2  Recovery 12-month (completers) (abstinent from binge eating)  G1: 48 (72%)  G2: 50 (70%) |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Wilson, 201047 | Number of binge days in the past 28 days, assessed by EDE  Remission  Abstinence: No longer meeting DSM-IV criteria for BED | Number of binge days  G1: 16.3 (SD 5.9)  G2: 16.6 (SD 7.3)  G3: 16.1 (SD 6.6)  Posttreatment Remission Rate (%)  Low negative affect  G1: 64  G2: 62  G3: 67  High negative affect  G1: 43  G2: 52  G3: 61  Odds Ratio low v high negative affect  G1:2.4  G2: 1.5  G3: 1. | 1y Number of binge days  G1: 6.5 (SD 8.7)  G2: 4.3 (SD 7.8)  G3: 4.8 (SD 7.6)  Mean change: NR  p=NS, NR  2y Number of binge days  G1: 5.8 (SD 8.5)  G2: 3.7 (SD 7.3)  G3: 4.3 (SD 7.8)  Mean change: NR  p=NR, no results are reported for the analysis of 2y number of binge days  Remission Rate (%)  1 year follow-up  Low negative affect  G1: 50  G2: 59  G3: 55  High negative affect  G1: 32  G2: 62  G3: 55  2 year follow-up  Low negative affect  G1: 47  G2: 62  G3: 64  High negative affect  G1: 39  G2: 62  G3: 70  No significant moderator effect of  negative affect subtype on remission from binge eating was  found |

Evidence Table 76. Course of illness studies – part 4 (continued)

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| --- | --- | --- | --- |
| First Author's Last Name  Year | Definition of Binges (Days; Frequency; Remission; Abstinence, etc.) | Binges Baseline | Binges Outcomes |
| Wilson, 201047  (continued) |  |  | Odds ratio low v high negative affect  1y follow-up  G1: 2.1  G2: 0.9  G3: 1.0  2y follow-up  G1: 1.4  G2: 1.0  G3: 0.8  An OR greater than 1 indicates better results in the low negative affect  category. An OR less than 1 indicates better results in the high negative  affect category.  1y No longer meeting DSM-IV criteria for BED  G1: NR  G2: NR  G3: NR  Mean change: NR  p=NR  2y No longer meeting DSM-IV criteria for BED  G1: NR  G2: NR  G3: NR  Mean change: NR  p=NR |