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An exploratory examination of delay discounting in women and girls diagnosed with an eating disorder

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Abstract

Those with eating disorders (ED) characterized by purging behaviors tend to show more impulsivity than those diagnosed with restrictive eating, who tend to show more compulsivity. Impulsive choice (i.e., a type of impulsivity) is a common factor among eating disorders that is less understood. Delay discounting is a measure of choice impulsivity, examining the decrease in value of delayed outcomes. In this exploratory study, we examined associations between eating disorder type, age and delay discounting among patients at a residential ED treatment center (N = 178). Our findings showed that those diagnosed with bulimia nervosa had higher delay discounting (i.e., more impulsivity) at intake compared to anorexia nervosa, binge eating disorder, and other eating types but there were no significant differences. Those diagnosed with bulimia nervosa, as well as those with ARFID and unspecified ED showed a preference for delayed rewards at discharge, but there were no significant differences among ED types. Moderation analyses showed that age, ED type, nor the interaction did not significantly predict delay discounting at intake or discharge. To conclude, those with bulimia nervosa demonstrate less impulsive choice at discharge from a residential ED treatment center. However, additional research is needed given the variability of sample sizes in this study.

Keywords: delay discounting, impulsive choice, bulimia nervosa, residential eating disorder treatment, eating disorders

Clinical Implications

- Clinicians should consider addressing impulsivity, particularly for those diagnosed with BN or BED.
- Treatment may be tailored for those with BED to address impulsivity by promoting long-term goals.
- Interventions aimed at modifying DD behaviors may need to be broadly applicable across age groups/
- Clinicians should consider progressing towards short-term goals as treatment continues.

An exploratory examination of delay discounting in women and girls diagnosed with an eating disorder

Impulsivity is a multifaceted phenomenon comprised of impulsive action, personality, and choice. Certain maladaptive behaviors involved in Eating Disorders (EDs) are considered impulsive (Lavender & Mitchell, 2015; Steward et al., 2017) including binge eating, impulsive compensatory behaviors (e.g., self-induced vomiting), impulsive food choices, and non-suicidal self-injury. Symptoms of binge eating disorder (BED) and bulimia nervosa (BN) involve uncontrolled binge eating and purging behaviors and seemingly more impulsive choices (Lavender & Mitchell, 2015). BN is also characterized by impulsive action of compensatory behaviors. Anorexia nervosa subtypes of restrictive (AN-R) or binge/purge type (AN-BP) are characterized differently. For example, AN-R is characterized by perfectionism or compulsive choices to engage in excessive exercise and extreme dietary restrictions while AN-BP involves more impulsive choices similar to BN (APA, 2013).

One facet of impulsivity in EDs is delay discounting. Delay discounting is the process in which temporally remote outcomes lose value as a function of time (Odum, 2011) and is a measure of impulsive choice. Choosing smaller more immediate rewards is termed impulsive choice, whereas choosing larger more delayed rewards is termed self-controlled choice; steep delay discounting is characterized by a pattern of more pronounced choice of the smaller more immediate rewards over delayed rewards (Odum, 2011). The role of impulsivity among bulimic-spectrum ED behaviors is mixed. A recent review shows that in general, some studies show that binge eating is associated with steep delay discounting while others do not (Carr et al., 2021). The majority of the literature on delay discounting and EDs focuses on BED (Miranda-Olivos et al., 2021; Steward et al., Xi et al., 2023), yet the role of delay discounting in EDs such as AN or

BN have also been examined. Previous research suggest that those diagnosed AN-R have discounted the value of a monetary reward less steeply than healthy controls (Steinglass et al., 2012). Similarly, inpatient individuals with AN were shown to discounted less steeply than a control group prior to treatment (Decker et al., 2015). Meanwhile, Ritschel and colleagues (2015) did not find significant differences between those with acute AN, weight recovered AN patients and healthy controls. Yet, the researchers not that age may have been a contributing factor in the discrepancy between their findings and Steinglass and colleagues (2012). Similarly, one study saw significant differences prior to treatment but no significant differences at the end of treatment (Decker et al., 2015). When compared to healthy controls, individuals with BN showed steeper discounting on a monetary discounting task, indicating a preference for immediate rewards (Kekic et al., 2016). On the other hand, a recent study found that women with BN showed decreased delay discounting of monetary and food reward when compared to health controls (Hagan et al., 2023). A recent meta-analysis found that limited data suggests individuals diagnosed with BN and BED are associated with increased temporal discounting while data on AN is mixed (McClelland et al., 2016).

Evidence suggests that age may impact behaviors associated with bulimia nervosa. The rapid physical development associated with adolescence, along with heightened awareness of societal pressures and expectation around body image, might contribute to the development of bulimia nervosa (Stice, 2001). Behaviors characteristic of bulimia nervosa are associated with other behaviors that are considered impulsive such as bullying, truancy, excessive drinking and sexual disinhibition in adolescents (Kaltiala-Heino et al., 2002). Age can significantly impact impulsive choice or delay discounting. For example, adolescents tend to have higher rates of delay discounting indicating that they prefer immediate rewards over delayed rewards. This

higher impulsivity is hypothesized to be linked to the ongoing development of the prefrontal cortex which is associated with executive functioning (Olson et al., 2007). However, when individuals transition into young adulthood, there is typically a decrease in delay discounting as there is maturations of brain development (Achterberg et al., 2016).

Examining the role of delay discounting among those diagnosed with an ED may provide a more refined conceptualization of impulsivity in EDs which would contribute to more targeted assessment tools, help predict treatment response, and guide the development or implementation of interventions. Ultimately, it could allow for clinicians to improve treatment outcomes. Further, this study addresses the gap in better understanding delay discounting across EDs given the majority of the literature compares to healthy controls. The purpose of this study was to (1) examine and compare scores in delay discounting among different types of EDs including anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED), and avoidant/restrictive food intake disorder (ARFID) and unspecified eating disorder in patients receiving residential treatment, and (2) investigate the relationship between age and scores in delay discounting among individuals with EDs undergoing residential treatment. We predicted that (1) those diagnosed with BN, BED, AN-B/P would have steeper delay discounting than those diagnosed with AN-R, and (2) age would moderate the relationship between ED type and delay discounting scores with adolescent girls endorsing higher delay discounting than women.

Method

Participants

Participants in this dataset were patients at a for-profit residential ED treatment center (N = 178). All participants were diagnosed with an ED. ED diagnoses included in the dataset included Anorexia Nervosa – Restrictive Types (n = 88), Anorexia Nervosa – Binge/Purge Type

(*n* = 22), Bulimia Nervosa (*n* = 21), Binge Eating Disorder (*n* = 3), Avoidant/Restrictive Food Intake Disorder (ARFID) (*n* = 2), , and Other Specified Feeding or Eating Disorder (*n* = 2). Given the small sample sizes for certain ED types, the disorders were aggregated to include Anorexia Nervosa (AN; *n* = 150; 84.3%), Bulimia Nervosa (BN; *n* = 21; 11.8%), Binge Eating Disorder (BED; *n* = 3; 1.7%), and other ED types (*n* = 4; 2.2%; see Table 1). Both adolescents and adults were included in this dataset (*n* = 73; 41.0% and *n* = 103; 57.9%, respectively) with an overall mean age of 21.44 years (*SD* = 8.28, range 11-57).

Procedures

Avalon Hills Eating Disorder Specialists is a women's only, for-profit residential treatment facility that provides separate adolescent (11 to 17 years) and adult treatment programs. Study procedures were approved by an institutional review board. Data was collected at intake to and discharge from treatment between November 2015 and October 2020. At admission, patients are diagnosed with an ED defined by the DSM-5 after completing an unstructured clinical interview with a multidisciplinary treatment team. All diagnoses are reviewed and approved by a clinical psychologist (i.e., the clinical director). Participants were all informed that participation was voluntary and would not impact clinical care. Adult participants and parents of adolescents provided their consent at intake. The treatment program length between intake and discharge varied by participant but ranged from two weeks to 101 weeks. In brief, participants who consented completed an assessment battery within three days of intake and then again at discharge.

Measures

The Monetary Choice Questionnaire (MCQ; Kirby et al., 1999) is a self-report measure of delay discounting. The MCQ is comprised of 27-items that ask participants to make choices

between a smaller, immediate reward (e.g., $20 today) or a larger, delayed reward (e.g., $55 in 7 days). The amounts of both rewards as well as delays are fixed, with the smaller, immediate rewards ranging from $11-78 and the amounts of the larger, delayed rewards ranging from $25-85. The delays to the larger, delayed rewards vary from 7-186 days. The MCQ assesses discounting across three magnitudes of the larger, delayed reward amount (small: $25-$35; medium: $50-$60, and large: $75-$85). Each subsection (i.e., size of the large, delayed reward magnitude) is made of nine questions. Discounting values (*k*) are calculated for each subsection producing small, medium, or large *k* values. For brevity in this study, only the medium range of the questionnaire was administered to assess delay discounting (i.e., 9-item subset of the original 27-item questionnaire, see Appendix I). To our knowledge, this abbreviated version of the MCQ has not been psychometrically validated. Individual delay discounting scores, medium *k* values, were compared across participants. The MCQ has been widely utilized as a metric of discounting in adults in relation to eating behaviors and/or disorders (e.g., Rasmussen et al., 2009) and in adolescent populations (Hendrickson & Rasmussen, 2016).

Analysis Plan

Discounting scores (medium *k* values) were calculated using the MCQ Automated Scorer (Kaplan et al., 2014). *K* values in delay discounting represent the degree to which outcomes lose value over time (steepness of discounting) and are used to make comparisons about different discounting functions across participants. In the present study, *k* values from participants ranged from 0 to 0.25 with higher scores indicating greater discounting of delayed outcomes.

All formal analyses were conducted in R version 4.1.2 (R Core Team, 2021). The R script for the present analyses and other study materials are available online at OSF.

Preliminary Analyses

To conduct analyses, the “dplyr” (Wickham et al., 2023) and “dunn.test” (Dinno, 2017) were used. Delay discounting scores were the dependent variable, ED type as the independent variable and age as the predictor. To examine the change in delay discounting, a change score was created through mutation of post score minus pre score plus 1 to account for negative values. After the ED types were aggregated, the Shapiro-Wilk test and Bartlett’s test were conducted to assess violations of assumptions of normality and homogeneity of variances respectively. The Shapiro-Wilk test compared delayed discounting scores at baseline across the EDs, which were statistically significant across all groups. Meaning, the assumption of normality was violated. However, the homogeneity of variances assumption was met ($p = 0.12$).

Primary analyses

Given the assumption violation, a non-parametric test, Kruskal-Wallis Test, was used to assess delay discounting baseline scores and ED types. Pairwise comparisons using Dunn’s test with Bonferroni adjustment were used to determine in which groups differences were present. To examine the relationship between age and scores in delay discounting among individuals with EDs, generalized linear models (GLM) with a Poisson distribution and log link function were fitted. Assumptions of linearity, homoscedasticity, and normality of residuals, as well as overdispersion was checked for GLM models. Overdispersion was not supported (<1) for all Poisson GLMs meaning the variability of the data was appropriately captured by the models without an excess of variance. Missing data was considered to be missing completely at random. To conduct a power analysis, the “simr” package was used in R (Barton, 2021) and suggested an 80% chance of detecting an effect.

Results

At intake, those diagnosed with BN showed higher delay discounting (M = 0.06, SD = 0.09) when compared to AN (M = 0.03, SD = 0.06), BED (M = 0.05, SD = 0.03), and other ED types (M = 0.05, SD = 0.07). There were statistically significant differences found in delay discounting among these ED types (Kruskal-Wallis chi-squared = 9.026, df = 3, p = 0.03). After a pairwise comparison, it appeared that there were significant differences in delay discounting at intake between the following groups: AN and BN (p = 0.03), AN and other EDs (p = 0.045), and BN and other EDs (p = 0.02). However, once the Bonferroni correction was applied, the adjusted p values showed no significant differences between groups. Overall, these findings suggest that those diagnosed with BN have higher rates of delay discounting (i.e., stronger preference for immediate rewards) at intake when compared to other ED types but the variability in sample size made it difficult to maintain significance in those differences.

The GLM analysis examining the relationship between delay discounting scores at intake, age, and ED type did not yield statistically significant main effects or interactions (p > .05). Meaning, age did not influence delay discounting rates across all ED types. Overall, neither age, ED type, nor the interaction significantly predict delay discounting rates at intake. However, we found that some ED types showed a stronger preference for immediate rewards over delayed ones from intake to discharge. For example, those living with AN showed higher delay discounting from 0.027 (0.06) to 0.031 (0.062) as well as those diagnosed with BED from 0.045 (0.030) to 0.111 (0.067). Comparatively, those diagnosed with BN (M = 0.061, SD = 0.085 to M = 0.008, SD = 0.016) and with ARFID or unspecified ED (M = 0.046, SD = 0.074 to M = 0.024, SD = 0.033) showed lower delay discounting scores at discharge. There were statistically significant differences found for change in delay discounting from intake to discharge among these ED types (Kruskal-Wallis chi-squared = 8.85, df = 3, p = 0.03). After a pairwise

comparison, it appeared that there were significant differences between the following groups: AN and BN ($p = 0.01$), AN and other EDs ($p = 0.04$), BN and other EDs ($p = 0.03$), and other ED types and BED ($p = 0.03$). However, once the Bonferroni correction was applied, the adjusted p values showed no significant differences between groups. Given this, significance may be observed if there was less variability in the sample sizes.

A GLM further examined the changes in delay discounting rates from intake to discharge, moderated by age and ED type (see Table 2). Comparisons between anorexia nervosa (AN), binge-eating disorder (BED), and other ED types versus those living with bulimia nervosa (BN) across ages did not reveal significant changes in delay discounting rates ($p > .05$). Although age was considered as a potential moderating factor in this study, it is important to note that the mean ages across the different ED types ranged from 18 to 23 years. This relatively narrow age range primarily captures young adults and does not adequately represent the broader age spectrum, particularly adolescents, where delay discounting trends might differ. Exploratory analyses were conducted to determine differences in DD between adolescent girls and women by ED type. Figure 1 depicts individual *k* values from intake and discharge (shown in log-space) categorized by ED types and age group (i.e., adolescents, adults). Only three of the four ED types are displayed because the BED group consisted of two adults and one adolescent in which we were missing data for the adolescent. As can be seen in the figure (Figure 1), reductions in *k* value (decrease in delay discounting) were observed from intake to discharge in in all ED groups for adolescents, with the BN and ARFID or unspecified ED showing more change than AN group. Similarly, women diagnosed with Bulimia Nervosa show steeper reductions in *k* values from intake to discharge.

Discussion

This study compared delay discounting among different EDs in patients receiving residential treatment and investigated the association between age and ED type on delay discounting patterns. It was hypothesized that those diagnosed with either BN, BED, or AN-B/P would have steeper delay discounting scores than those with AN-R. Our findings supported this hypothesis somewhat as BN and BED groups had steeper delay discounting at intake compared to AN but were not significantly different. With higher delay discounting scores at intake, it may be there are more severe symptoms related to binge eating being reported. Clinicians may consider addressing impulsivity through techniques of self-control and cognitive strategies for those entering residential treatment diagnosed with BN or BED. Contrary to this hypothesis, those diagnosed with BN had lower delay discounting scores at discharge and the BED group had increased. This increase may indicate the importance of a potential need to refine treatment strategies tailored to the BED group to best address impulsivity. We also hypothesized that age would moderate the relationship between ED type and delay discounting scores with adolescent girls endorsing higher delay discounting than women. However, age was not a significant predictor. This highlights the variability of impulsive choice across individuals living with an ED. Clinically, this implies that interventions aimed at modifying delay discounting behaviors may need to be broadly applicable across age groups and ED types, rather than tailored specifically based on these factors. Our findings that those diagnosed with BN have steeper discounting compared to other ED types is consistent with Kekic and colleagues (2016) who found individuals diagnosed with BN show steeper discounting compared to healthy controls. This paper adds that those diagnosed with BN make fewer impulsive choices as a result of aging or being in residential treatment for a period of time. Our findings are also consistent with other studies indicating that those diagnosed with BED often exhibit impulsive choice over longer-

term health goals (Carr et al., 2021). However, our findings contribute to literature regarding the relationship between impulsivity and AN as the findings are mixed (Bardone-Cone et al., 2016; Howard et al., 2020).

Although this study employed a strong methodological design, there are a few limitations. The sample size was relatively small for longitudinal data, which may have limited the power to detect significant differences and interactions. The distribution across the types of EDs were also not normally distributed with the sample being heavily screwed toward those diagnosed with anorexia nervosa (84.3%). The heterogeneity within ED types may also pose challenges in interpreting the findings. Also, the majority of our sample was White which limits generalizability of the findings. This study investigates cross-sectional and prospective associations which lacks certain experimental controls and limits the ability to draw causal inferences. Further, given the methodological design, we were unable to examine within-person changes in associations of delay discounting from adolescence to young adulthood. All participants received residential treatment for EDs, with varying amounts of time resulting in unequal spacing between data collection from intake to discharge. The reliance on self-reported measures of delay discounting (i.e., MCQ) may introduce bias, Further, the full MCQ was not used to measure delay discounting. This study used the medium section of the MCQ which included 9-items of the total 27-items. This limits the generalizability as nuanced differences may not have been detected. It should also be noted that this sample consists exclusively of women and girls which limits generalizability.

This sample was a treatment seeking sample which speaks to varying levels of motivation to change their behavior and improve health, as both adolescent girls and women were included. Women may have lower delay discounting when compared to adolescent girls given the

maturation in executive functioning and the potential for more motivation to change. Meaning, adolescent girls may be seeking treatment due to encouragement from their guardian. Future research may consider examining delay discounting within a sample of treatment seeking compared to non-treatment seekers. The majority of research compares one ED type to a healthy control group. When compared to healthy controls, individuals diagnosed with an ED are shown to discount delayed outcomes more steeply. However, individuals diagnosed with anorexia nervosa, restrictive type (AN-R) are shown to engage in more choices of larger delayed outcomes and discount the value of monetary reward less steeply than healthy controls (Steinglass et al., 2012). To the best of our knowledge, this is the first study investigating the role of age within delay discounting patterns for those diagnosed with an ED in residential treatment at intake and at discharge. The present study is the first to compare delay discounting based on age and diagnosis within a residential sample of women and adolescent girls with EDs. Prior to this study, the role of delay discounting among women and girls diagnosed with AN or BN was less understood. Results suggest that delay discounting might be more variable in women with BN than other EDs. This study contributes to the field by showing that patient adolescent girls and women diagnosed with BN are more likely to make choices for smaller more immediate rewards than those diagnosed with AN. However, as they interact with residential treatment, young adult women with BN make more choices for larger more delayed rewards. Future research should examine the impact of setting shorter term goals at intake to increase engagement in residential treatment. Clinicians at these facilities may consider focusing on shorter term goals to increase engagement in treatment and consider moving toward longer-term goals as patients age and continue treatment.

Disclosure Statement

The authors declare that they have no conflict of interest or competing interests.

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Data and Code Availability

Data and graphing are available on OSF:

https://osf.io/rqz6j/?view_only=5b8c61958f18413398eddaba1a46a7be

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Table 1

Sample Characteristics at Baseline (N = 178)

	Adolescents (n = 75)	Adults (n = 103)	All (N = 178)
Age *M*(SD)	15.17 (1.46)	26.16 (8.21)	21.47 (8.28)
BMI *M*(SD)	19.3 (2.9)	20.2 (4.69)	19.78 (4.06)
Ethnicity *N*(%)			
Hispanic/Latinx	4 (2.2%)	2 (1.1%)	6 (3.4%)
Race *N*(%)			
American Indian or Alaska Native	0 (0%)	0 (0%)	0 (0%)
Asian	2 (1.1%)	1 (0.6%)	3 (1.7%)
Black or African American	0 (0%)	0 (0%)	0 (0%)
Native Hawaiian	0 (0%)	1 (0.6%)	1 (0.6%)
White or European American	67 (37.6%)	96 (53.9%)	163 (91.8%)
Biracial/Multiracial	5 (2.8%)	5 (2.8%)	9 (5.1%)
Diagnosis *N*(%)			
AN	66 (37%)	84 (47.2%)	150 (84.3%)
BN	7 (3.9%)	14 (7.9%)	21 (11.8%)
BED	1 (0.6%)	2 (1.1%)	3 (1.7%)
Other	1 (0.6%)	3 (1.7%)	4 (2.2%)

Note. AN = Anorexia Nervosa ; BN: Bulimia Nervosa; BED = Binge Eating Disorder; BMI = body mass index, *M* = mean, *SD* = standard deviation.

Table 2

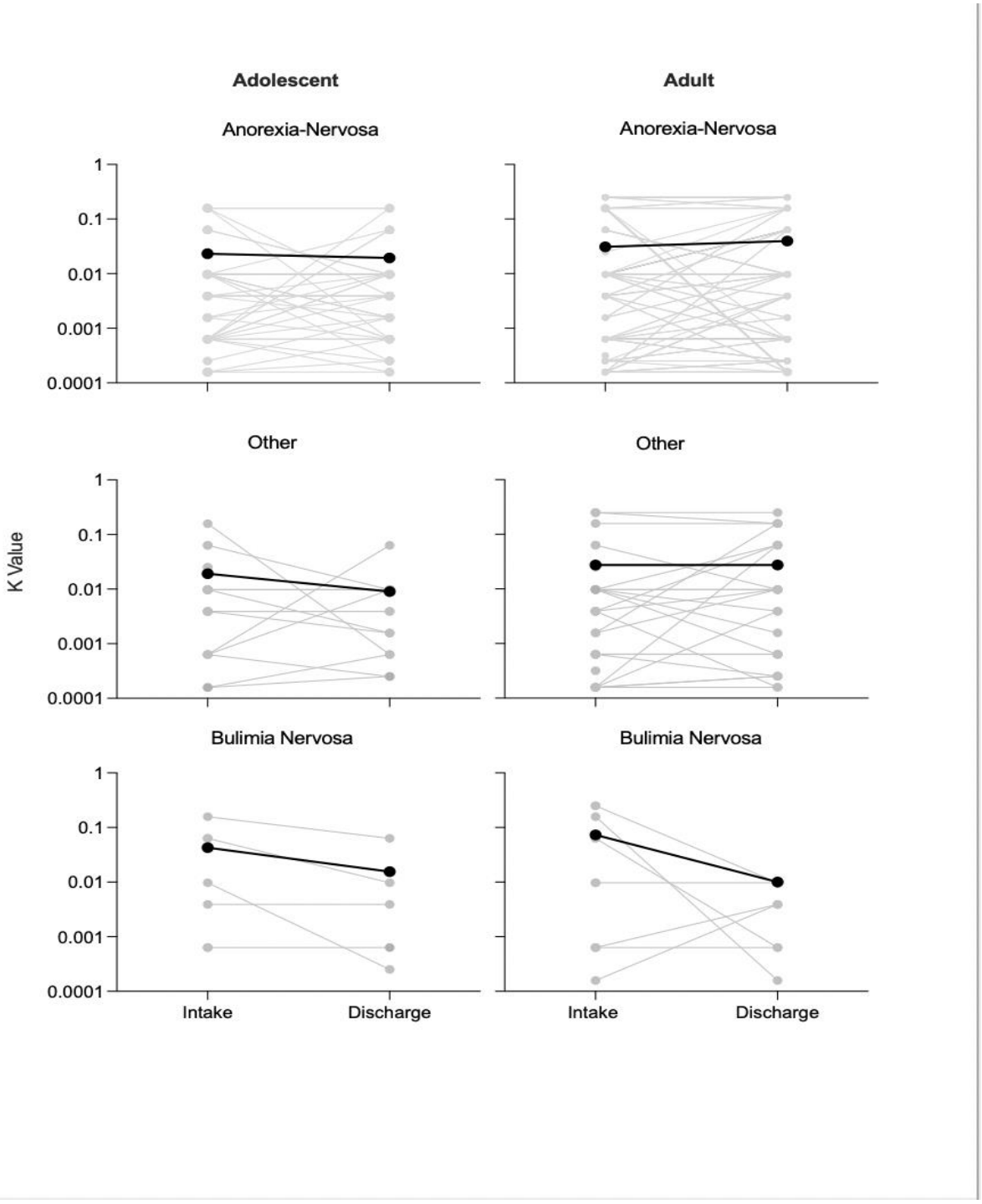
Generalized Linear Model: Eating Disorder Type, Age and Change in Delay Discounting (N = 178)

Effect	Estimate	*SE*	95% CI		*p*
			LL	*UL*	
Fixed effects					
(Intercept)	0.08	0.66	-1.21	1.49	.91
Age	-0.01	0.03	-0.07	0.04	.83
AN	-0.06	0.72	-1.56	1.33	.93
Other ED	0.09	3.70	-8.52	7.12	.98
BED	0.92	14.52	-32.26	33.62	.95
Age x AN	0.01	0.03	-0.05	0.08	.86
Age x Other ED	-0.01	0.21	-0.43	0.44	.98
Age x BED	-0.04	0.69	-1.64	1.50	.95

Note. AN = anorexia nervosa, ED = eating disorder, BED = binge eating disorder, CI = confidence interval, *LL* = lower limit, *UL* = upper limit.

Figure 1

K Value at Intake and Discharge Across Disorder Diagnosis for Adolescents and Adults



Note: Depicted data show individual k values (grey closed circles and lines) and group (mean) changes in k value (black closed circles and lines) at intake and discharge. The left panel of the figure shows individual and mean k values for adolescents (range) and the right panel of the figure shows individual and mean k values for adults.

Appendix I

Monetary Choice Questionnaire (29-item subset from Kirby et al., 1999)
For each of the following questions, please indicate the amount you would prefer. Please answer the questions quickly and honestly.

1.	*Would you rather have*	$54	**Today**	**Or,**	$55 in	117 Days?
2.	*Would you rather have*	$47	**Today**	**Or,**	$50 in	160 Days?
3.	*Would you rather have*	$25	**Today**	**Or,**	$60 in	14 Days?
4.	*Would you rather have*	$40	**Today**	**Or,**	$55 in	62 Days?
5.	*Would you rather have*	$27	**Today**	**Or,**	$50 in	21 Days?
6.	*Would you rather have*	$49	**Today**	**Or,**	$60 in	89 Days?
7.	*Would you rather have*	$34	**Today**	**Or,**	$50 in	30 Days?
8.	*Would you rather have*	$54	**Today**	**Or,**	$60 in	111 Days?
9.	*Would you rather have*	$20	**Today**	**Or,**	$55 in	7 Days?

Monetary Choice Questionnaire (27-item; Kirby et al., 1999)
For each of the following questions, please indicate the amount you would prefer. Please answer the questions quickly and honestly.

1.	*Would you rather have*	$54	**Today**	**Or,**	$55 in	117 Days?
2.	*Would you rather have*	$55	**Today**	**Or,**	$75 in	61 Days?
3.	*Would you rather have*	$19	**Today**	**Or,**	$25 in	53 Days?
4.	*Would you rather have*	$31	**Today**	**Or,**	$85 in	7 Days?
5.	*Would you rather have*	$14	**Today**	**Or,**	$25 in	19 Days?
6.	*Would you rather have*	$47	**Today**	**Or,**	$50 in	160 Days?
7.	*Would you rather have*	$15	**Today**	**Or,**	$35 in	13 Days?
8.	*Would you rather have*	$25	**Today**	**Or,**	$60 in	14 Days?
9.	*Would you rather have*	$78	**Today**	**Or,**	$80 in	162 Days?
10.	*Would you rather have*	$40	**Today**	**Or,**	$55 in	62 Days?
11.	*Would you rather have*	$11	**Today**	**Or,**	$30 in	7 Days?
12.	*Would you rather have*	$67	**Today**	**Or,**	$75 in	119 Days?
13.	*Would you rather have*	$34	**Today**	**Or,**	$35 in	186 Days?
14.	*Would you rather have*	$27	**Today**	**Or,**	$50 in	21 Days?
15.	*Would you rather have*	$69	**Today**	**Or,**	$85 in	91 Days?
16.	*Would you rather have*	$49	**Today**	**Or,**	$60 in	89 Days?
17.	*Would you rather have*	$80	**Today**	**Or,**	$85 in	157 Days?
18.	*Would you rather have*	$24	**Today**	**Or,**	$35 in	29 Days?
19.	*Would you rather have*	$33	**Today**	**Or,**	$80 in	14 Days?
20.	*Would you rather have*	$28	**Today**	**Or,**	$30 in	179 Days?
21.	*Would you rather have*	$34	**Today**	**Or,**	$50 in	30 Days?
22.	*Would you rather have*	$25	**Today**	**Or,**	$30 in	80 Days?
23.	*Would you rather have*	$41	**Today**	**Or,**	$75 in	20 Days?
24.	*Would you rather have*	$54	**Today**	**Or,**	$60 in	111 Days?
25.	*Would you rather have*	$54	**Today**	**Or,**	$80 in	30 Days?
26.	*Would you rather have*	$22	**Today**	**Or,**	$25 in	136 Days?
27.	*Would you rather have*	$20	**Today**	**Or,**	$55 in	7 Days?