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Identifying Peaks in Attrition After Clients Initiate Mental Health Treatment in a University Training Clinic

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Abstract

Mental health treatment noncompliance (preintake attrition, premature termination) has serious consequences both for mental health providers, as well as for individuals suffering from mental illness. However, prior work has examined preintake attrition and premature treatment termination separately, which limits our ability to determine when attrition is highest (before or after intake), and whether different factors predict attrition throughout the treatment process. Moreover, preintake attrition has been conceptualized as failing to attend a scheduled intake, thereby overlooking potential attrition that may occur earlier. The current investigation sought to fill these gaps using data from a university training mental health clinic. Of the 264 individuals who initiated contact with the clinic between 2012-2017, only about a quarter of individuals successfully completed therapy. Nearly 60% of prospective clients who contacted the clinic did not schedule intake. Although 10% of attrition occurred before the clinic could even re-contact prospective clients, being placed on a waitlist accounted for the most attrition. Indeed, nearly two-thirds of individuals placed on the waitlist did not schedule an intake, accounting for 30% of the overall sample. Client factors (age, previous psychotherapy engagement) did not predict preintake attrition, but wait times did. Having just one "no show" for an appointment predicted premature termination, decreasing the likelihood of completion to 1 in 4. Together, these findings suggest that attrition was highest prior to scheduling intake, and different factors predicted preintake attrition and premature termination.

Key words: mental health treatment noncompliance, preintake attrition, premature termination

Public Significance Statement: The current study found that more than half of people who initiated contact with a university training clinic for mental health treatment never scheduled an appointment. Moreover, only 1 in 4 people who initiated contact completed treatment.

Identifying peaks in attrition after clients initiate mental health treatment in a university training

clinic

Mental health treatment noncompliance is critical public health problem. Although

representative national studies have found that the 12-month prevalence of any mental disorder is

approximately 26 percent (Kessler, Chiu, Demler, & Walters, 2005), nearly two-thirds of

individuals suffering from a mental disorder do not initiate or complete mental health treatment

(Han, Hedden, Lipari, Copello, & Kroutil, 2015). Indeed, between 20 to 50 percent of all

individuals who schedule an intake appointment at a mental health treatment clinic fail to attend

the appointment (for review, see Garfield, 1994). For those individuals who do attend their

scheduled intake, approximately 1 in every 5 clients prematurely terminate therapy (for meta-

analysis, see Swift & Greenberg, 2012). Treatment noncompliance, not initiating or completing

treatment, has serious consequences for providers, as well as for individuals suffering from

mental illness, including worsening symptoms, or experiencing a relapse or recurrence of the

illness (e.g., Barrett, Chua, Crits-Christoph, Gibbons, & Thompson, 2008; Ghio, Gotelli,

Marcenaro, Amore, & Natta, 2014; Hollon et al., 2005; Livingston & Boyd, 2010; Whiteford et

al., 2013). Identifying the points during the treatment seeking process at which lack of

engagement (attrition) is most pronounced, and whether the same factors predict lack of

engagement throughout the process may provide important benefits to mitigating the pernicious

consequences of treatment noncompliance. The goal of the current work was to fill these gaps.

A large body of research has sought to characterize the magnitude of and risk factors for

two key aspects of the treatment seeking process – preintake attrition (i.e., failures to show up to

the first appointment) and premature termination (i.e., initiating, but not completing treatment;

Reitzel, Stellrecht, Gordon, Lima, Wingate, et al., 2006; Sherman, Barnum, Nyberg, & Buhman-

Wiggs, 2008; Sparks, Daniels, & Johnson, 2003; Swift, Whipple, & Sanberg, 2012; Swift &

Greenberg, 2012). However, several key questions remain. First, prior research has primarily

examined preintake attrition and premature termination separately (but see Reitzel et al., 2006),

thereby making it difficult to compare attrition rates across studies due to methodological

constraints (e.g., Sherman et al., 2008; Swift, Whipple, & Sanberg, 2012; Swift & Greenberg,

2012). For example, because attrition rates differ across clinic types (e.g., Swift & Greenberg,

2012), comparing attrition rates in a study examining preintake attrition in a university clinic to

premature termination in a community clinic would not necessarily be comparable.

     Second, by examining preintake attrition and premature termination separately, it is not

possible to determine whether the same or different factors contribute to lack of engagement at

different phases of the treatment seeking process. Prior work suggests there are some

overlapping, but distinct, factors that predict preintake attrition and premature termination. For

instance, referral source, age and race contribute to preintake attrition (Sparks et al., 2003), with

older, minority, and self-referred clients being less likely to attend the first session. Wait time to

the scheduled intake appointment also predicts preintake attrition (Carpenter et al, 1981;

Sherman et al., 2008; Sherman et al., 2009), even when controlling for variables such as referral

and payor source (Sherman et al., 2008; Sherman et al., 2009; see also Reitzel et al., 2006).

Premature termination, however, is influenced by client age, with younger patients being more

likely to disengage with treatment, and provider experience level predicting premature

termination (Swift & Greenberg, 2012). However, these factors differ across settings. For

example, a recent study across three university training clinics found that neither client

demographic variables (e.g., age, sex, race/ethnicity) nor psychotherapist training variables (e.g.,

years in doctoral program, direct client contact hours) were significantly associated with premature termination, but wait time was a significant predictor (Al-Jabari et al., 2019).

One final limitation in extant research on preintake attrition is that it has operationalized attrition as failing to attend a scheduled intake (Reitzel et al., 2006; Sherman et al., 2008; Sparks et al., 2003; Swift et al., 2012). This approach overlooks other potential points of lack of engagement that may occur even earlier in treatment seeking. For example, one study in a university psychology clinic excluded data from prospective patients who had contacted a university clinic for service, but did not attend an initial screening that occurred prior to intake (Reitzel et al., 2006).

The goal of the current investigation was to provide a more comprehensive understanding of lack of engagement in mental health treatment. To do this, we examined archival data from a university training clinic specializing in treatment for mood and anxiety disorders over a 5-year period. By examining preintake attrition and premature termination in the same sample, we could identify points at which lack of engagement became the most pronounced. An important benefit of identifying attrition rates in a university training clinic is that attrition rates are highest in these settings (30.4% versus 19.7% overall; Swift & Greenberg, 2012), thereby providing an opportunity to identify where lack of engagement became the most pronounced in the treatment seeking process.

We had two main goals in this study. First, we wanted to identify when lack of engagement was most pronounced during the treatment seeking process, starting when a prospective client initially contacted the clinic for service and ending when they completed therapy. Second, we wanted to isolate the factors that predicted lack of engagement throughout the treatment seeking process. Of interest was whether the same or different factors predicted

preintake attrition and premature termination. An important consideration in this final goal was to limit the factors to predictors previously identified in the literature (e.g., age, gender, wait time, previous psychotherapy experience) that were also available in these data (e.g., Carpenter et al, 1981; Sparks et al., 2003; Sherman et al., 2008; Sherman et al., 2009; Swift & Greenberg, 2012).

Methods

Overview of process

All available archival data from prospective clients who contacted a Cognitive Behavioral Therapy (CBT) Research and Training Clinic at a large midwestern university between the years of 2012-2017 were included in the current study. Prospective clients are defined as any individual over the age of 18 who initiated contact with the clinic during this time period. The clinic is an APA- and PCSAS-accredited university training clinic. Mental health service is provided by a graduate student in the university's clinical Ph.D. program either for free or in exchange for a nominal cost to university students and members of the community. Students are supervised by a clinic director who assigns prospective clients to the trainee clinicians based on caseload availability and fit. The clinic director also supervises all aspects of the treatment. The study was approved by the authors' Institutional Review Board (#1710602915).

Initiating treatment with the clinic began when the prospective clients called the clinic. Here, they either left their name and phone number with a staff member (during business hours) or as a recorded message. An assigned graduate student in the university's clinical Ph.D. program then attempted to re-contact the prospective client, generally within 2-3 days of the initial contact. The date when contact was initiated was recorded alongside the prospective

client's name and contact information. Dates for each re-contact attempt were recorded, along with notes about the outcome of the effort (e.g., "mailbox was full; left message"). In some cases, prospective clients might have also chosen to volunteer why they called the clinic (e.g., the types of symptoms they are experiencing) when they initiated treatment, but they were neither asked nor required to do so. In the case that they did, this information was also recorded.

Prospective clients were deemed "inactive" when the graduate student had attempted to reach them by phone 2 to 3 times with no response. No further contact was attempted once a prospective client was classified as inactive. When the graduate student was able to contact the prospective client, the student administered a standard phone screening asking about the prospective client's primary concerns, whether the individual was experiencing current suicidal or homicidal ideations, current substance use, whether the prospective client had previously sought any psychotherapy, and the client's date of birth. The date of the phone screening was also recorded. Gender was not collected during this stage.

After completing the phone screening, two clinic factors influenced whether intake was scheduled: first, whether the prospective client's complaints could be addressed by the clinic; and second whether the clinic had availability to treat a new client. Regarding the former, the clinic typically does not treat disorders involving psychosis, externalizing behaviors, and at the time of the data collection was not treating patients who presented with a primary trauma-related disorder (mainly PTSD or ASD). Those, or other disorders not suitable for the clinic's focus on CBT treatment for internalizing disorders (e.g., substance abuse, eating disorders), were referred out after the phone screening. Regarding the latter, if there was no availability for new clients in the clinic, the prospective client was offered a spot on the waitlist.

When clients attended intake, they completed a full demographic questionnaire in which they indicated, among other things, their race, gender, and sexual orientation. They also completed the Structured Clinical Interview for DMS IV (First, 1997) to establish diagnoses. The interview was conducted by the clinician trainee, but diagnoses were made in consultation with the clinic director. Beginning with intake, the number of sessions attended, cancellations, and no shows were recorded for all clients. For all clients, termination was determined in conjunction with the clinic director and the clinician trainee. The clinic director held weekly supervision meetings with each clinician trainee to follow each client's progress, as well as reviewed and approved weekly session noted. Because the clinic director oversaw all clinician trainees, this supervision provided consistency in assessing successful termination.

Data coding

Several key variables of interest were coded. A primary interest in the current study was to identify lack of engagement throughout the treatment seeking process starting with treatment initiation. To quantify attrition at each stage, dummy variables were created to identify the number of individuals who were deemed inactive after making the initial phone call to the clinic, after completing the phone screening, after attending the first intake, prior to completing treatment, and after successfully completing treatment. Individuals who became inactive after making the initial phone call to the clinic or after completing the phone screening were examined in the preintake attrition group, whereas individuals who scheduled intake were examined in the premature termination group. We chose to include those who scheduled, but did not attend, intake in the premature termination group for three reasons. First, prior research on attrition has been mixed as to whether or not to include individuals who schedule the first appointment, but

fail to show up for it. There was thus not a clear standard for this in the literature. Second, this

was the most parsimonious way to approach our question related to identifying when lack of

engagement was highest**.** Finally, individuals who scheduled the intake but did not attend it had

already established a therapeutically-relevant contact with the clinic, completing a phone intake

in which they discussed basic demographics, their presenting problem, and prior treatment

history.

For prospective clients who did not complete intake, diagnoses were coded based on self-

report when available. Gender for these individuals was determined based on the individual's

first name, which was available for all but four individuals. Two naïve coders assigned gender

either via consensus or through consulting databases that identified the most frequent gender

associated with each name.

Finally, for all available data, we calculated wait times (in days) between the first

recorded contact (message slip or phone screening) and the scheduled first appointment, or,

when relevant, the date on which prospective clients on a waitlist were contacted to schedule

intake.

Analyses

In addition to presenting descriptive results, we analyzed the data to identify factors that

predicted preintake attrition and premature termination. Prospective clients who did not schedule

intake constituted the preintake attrition group, whereas those who did were examined for the

premature termination group. For analyses, we created bivariate dummy variables to identify

prospective clients who did or did not schedule intake (yes indicates they scheduled intake) and

formal termination with treatment (yes indicates that the client and the therapist mutually

decided to terminate treatment). Predictors for analyses were selected based on three factors:

findings from prior research, our interest in comparing the effect of the same predictors on preintake attrition and premature termination, and available data.

Prior research has found that referral source, client age, client race, and wait time to the scheduled intake appointment predicts preintake attrition (Carpenter et al, 1981; Reitzel et al., 2006; Sherman et al., 2008; Sherman et al., 2009; Sparks et al., 2003), whereas premature termination in university training clinics is predicted by clients' not having previously sought psychotherapy and wait time (Al-Jabari et al., 2019; Swift et al., 2012). Referral source and client race was not available for the preintake group, however, age, gender, previous psychotherapy (yes or no), and wait time were available for most prospective clients. We therefore used these variables to predict preintake attrition (where bivariate dummy variables were created for having previously sought psychotherapy), and premature termination. For premature termination, we also included therapy attendance (number of sessions attended, number of cancellations, number of no shows) as an additional predictor of interest. Although some prior research has found that provider variables, such as experience levels, might predict premature termination (Swift & Greenberg, 2012), we did not include this variable for two reasons. First, a recent study in three university clinics found no effect of clinician trainee on premature termination (Al-Jabari et al., 2019). Second, most clinician trainees in this clinic typically only work with two to three clients. This relatively small number of client per clinician interactions limited our ability to identify suitable variability due to clinician factors.

Analyses predicting preintake attrition and premature termination were conducted using bivariate logistic regressions. Independent samples t-tests were used to clarify directionality for significant effects.

Results

Records for 264 unique clinic contacts were identified between January 2012 to December 2017. Of those, 154 (58%; 94 female) did not schedule intake, whereas the remaining (N=110; 76 female) did.

Dates of birth were unavailable for 42 individuals who did not schedule intake. The average age of the remaining 113 individuals in this group was 26.04 years (SD = 13.42). For the 93 individuals for whom diagnosis and previous therapy information was available, 18 self-reported that they were currently experiencing suicidal ideation, and 75 self-reported having undergone some type of psychotherapy. See Table 1 for descriptive information. Self-reported complaints were available for 106 individuals. Of those, 87.7% reported experiencing some form of depression (N=19), anxiety (34), or both (N=40). Remaining complaints included concerns related to panic, eating disorder, trauma, substance abuse or psychosis.

The average age of the group who scheduled intake was 25.06 years (SD = 13.4), and the group was predominantly White (79%). Clinician notes were available on all but three of the clients who scheduled intake. Of the remaining 107, 19 (17.3% of the clients who came in) were reported as currently experiencing suicidal ideation, and 82 (74.5%) had previously undergone some type of psychotherapy. See Table 1 for descriptive information. Initial diagnoses were available for all but one client. The majority (79.8%) of clients were given a primary diagnosis of depression (N=38), generalized or social anxiety (N=31), or both depression *and* anxiety (N=17). The next most common primary diagnosis was panic (N=7) and bipolar disorder (N=5). The remaining diagnoses included disorders such as phobia and obsessive-compulsive disorder.

Descriptive statistics and lack of engagement points for preintake attrition group

To identify different lack of engagement points for the preintake attrition group (individuals who did not schedule intake), we examined follow-up information, which was available on 142 of the 154 (92%). About 17% (N=24, 19 female) of the preintake attrition group could not be reached after their first call to the clinic, whereas the remaining did not schedule intake due to clinic factors. Clinic factors fell into two bins: individuals who were referred out because primary complaints were not treated by the clinic (N=21; 12 female), or individuals could not be scheduled because the waitlist was full (N=97 individuals; 52 female). Lack of availability in the clinic was the largest reason prospective clients did not schedule intake, accounting for about 68% of the 142 individuals in the preintake attrition group for whom data was available. Ten (5 female) of the 97 individuals declined the offer to be put on the waitlist.

The average time on the waitlist in the preintake attrition group was 96.43 days (SD = 57.93). Follow-up information was available for 82 of the 87 individuals on the waitlist. Of those, 50 (57.4%) could not be contacted (e.g., did not return phone calls, voicemail was full) when a spot became available in the clinic. An additional 21 (24.1%) said they were no longer interested in receiving services when they were contacted. The remaining 11 were either referred out (N=2) or reported that they had found another therapist in the interim (N=9).

Together, the data from the preintake attrition group demonstrate that there was about a 9% overall drop (from the overall 264) after the initial contact because the prospective clients could not be reached by the clinic to complete the phone screening. After being placed on the waitlist, 30% of the original 264 declined to come in (because they were deemed inactive, were no longer interested, or had found another therapist). See Figure 1.

Descriptive statistics and lack of engagement points for premature termination group

Of the 110 clients who scheduled intake, data were available in client notes from 101

regarding number of sessions attended, and whether or not they successfully terminated

treatment (defined as the client and provider mutually agreeing to terminate). The average time

on the waitlist for this group was 67.51 (SD = 92.32) days. The mean number of sessions

attended overall was 8.94 (SD = 8.97), with an average of 1.14 (SD = 1.75) cancellations, and

0.66 (SD = 1.30) no shows. Overall, 63% (N=64) of clients who scheduled intake successfully

completed treatment, whereas the remainder (N=37) terminated treatment prematurely. Of those,

5 did not attend their scheduled intake, and an additional 5 did not complete their intake. See

Figure 1.

Factors predicting preintake attrition

To examine the factors that predicted whether or not individuals scheduled intake (i.e.,

preintake attrition), we conducted a binary logistic regression with age, gender, past therapy, and

wait time as predictors. The overall model was significant, $X^2(4) = 12.65$, $p = .013$, but wait time

was the only significant predictor that emerged in the model, ß = -.01, $p = .008$. On average, the

time between initiating contact with the clinic and an available appointment was lower for

individuals who scheduled intake, M = 54.70, SD = 75.37, than for those who did not, M =

96.43, SD = 57.93, $t(175) = 3.58$, $p < .001$, 95% CI: 16.50, 59.97. See Table 2 for regression

statistics.

Factors predicting premature & successful termination

We conducted a bivariate regression predicting successful termination (1=yes, 0=no)

from age, gender (male or female), past psychotherapy treatment, wait time, and therapy

attendance (number of sessions attended, number of cancellations, number of no shows). The

overall model was significant, $X^2(7) = 72.60$, $p < .001$. This finding was driven by two variables:

no shows, ß = -1.35, $p = .003$, and number of sessions attended, ß = .50, $p < .001$. See Table 3 for

regression statistics. Individuals who terminated treatment prematurely attended fewer sessions,

M= 2.14, SD = 3.16, compared to individuals who completed treatment, M=12.88, SD = 8.89,

$t(99) = 7.08$, $p < .001$, 95% CI: 7.73, 13.75. Premature termination was also associated with a

higher proportion of no shows, M = 1.09, SD1.29, as compared to individuals who completed

treatment, M = .42, SD = 1.26, $t(99) = 2.49$, $p = .015$, 95% CI: .13, 1.19. Importantly, for each no

show to a scheduled appointment, the prospective client dropped to a 1 in 4 chance of

successfully completing therapy.

Discussion

Our study found that about a quarter of individuals who initiated contact with the clinic

between 2012-2017 successfully completed therapy. We had two goals in examining this

finding: 1) to identify when lack of engagement was most pronounced during the treatment

seeking process; and 2) to isolate the factors that predicted lack of engagement throughout the

treatment seeking process. With respect to our first goal, preintake attrition (attrition prior to

scheduling intake) accounted for the highest source of lack of engagement in this university

training clinic. Although 53% of individuals who initiated treatment did not schedule intake

(preintake attrition), only one-third of the remaining individuals scheduled intake but terminated

treatment prematurely. Regarding our second goal, we found that the primary factor contributing

to this attrition was being placed on the waitlist (accounting for 30% of the overall attrition in the

sample). Indeed, nearly two-thirds of individuals placed on the waitlist did not schedule intake

once they were contacted by the clinic to initiate treatment. With respect to the factors that predicted premature termination, we found that showing to one scheduled appointment reduced the client's likelihood of successfully terminating treatment to roughly 25%.

Prior work suggests that 20 to 50 percent of all individuals who schedule an intake appointment at a mental health treatment clinic fail to attend the appointment (for review, see Garfield, 1994), and for those individuals who do attend their scheduled intake, approximately 1 in every 5 clients prematurely terminate therapy (Swift & Greenberg, 2012). However, attrition rates vary across clinic settings (e.g., community versus university; Swift & Greenberg, 2012). By examining preintake attrition and premature termination in the same clinic sample, our data demonstrated that as many as 75% of people who initiated treatment with a university training clinic did not successfully complete it. An important contribution of this study was identifying preintake attrition as the largest source of lack of engagement, accounting for nearly two-thirds of clients who were classified as being inactive.

An important caveat within these findings, however, is that long waitlists at the university training clinic accounted for vast majority of preintake attrition. This finding is relevant because similar wait-times have been reported at other university and non-university clinics. A 2017 survey of university and college counseling centers found that 34% reported having waitlists (Association for University and College Counseling Center Directors, 2017). Of those, the average wait-time for the first appointment for clients who spent any time on a waitlist at a comparably sized university was 47.7 business days. This is consistent with our finding that the mean number of total (not just business) days on the waitlist was 67.5. Moreover, a survey of 140 adolescent psychiatric clinics in Ohio found that the mean wait time across the state was 50 days (Steinman, Shoben, Dembe, & Kelleher, 2015). In the clinic in the current study, waitlists

were exacerbated by the fact that the clinic used to be closed over the summer months, though

this is no longer a practice. Nonetheless, these findings highlight the importance of reducing wait

times in clinics with similar waitlists. Moreover, the nature of a university population also likely

contributed to the high rates of lack of engagement. For example, several prospective clients

might have moved away in the time they were placed on the waitlist, thereby accounting for

attrition from the waitlist. Since this could not be tracked in a systematic manner, however, we

could not examine the role of relocation on attrition more closely.

      An additional contribution of the current work is that we identified a potential new source

of preintake attrition: individuals who could not be re-contacted after they placed the first phone

call to the clinic. These individuals accounted for about 17% of the preintake attrition group, or

about 9% of the total sample. This is the first work to quantify the number of individuals who

initiated contact with a mental health clinic, but disengaged before even being re-contacted.

These findings may be taken to suggest that strategies that engage individuals in treatment (e.g.,

online assessment, provision of psychoeducational materials) may help reduce attrition.

      What might some of the sources of preintake attrition be? There are several possibilities.

One could pertain to the severity of symptoms that individuals were experiencing when they

initially contacted the clinic. Symptom severity has been shown to increase people's willingness

to seek treatment (Van Ameringen, Simpson, Patterson, & Turna, 2015), but symptoms fluctuate

over time (e.g., Kuppens, Oravecz, & Tuerlinckx, 2010). Thus, even a 2-3 day delay in follow-up

from the clinic could have been sufficient for symptom severity to attenuate, thereby reducing

the prospective client's perceived need for treatment. Another important factor that may interact

with symptom severity to disrupt treatment seeking is concerns with being stigmatized. Stigma

has been widely cited as one of the primary barriers to treatment engagement (for reviews, see

Clement, Schauman, Graham, Maggioni, Evans-Lacko, et al., 2015; Livingston & Boyd, 2010).

Stigma has a particularly pernicious effects on treatment engagement for younger adults

(Gulliver, Griffiths, & Christensen, 2010), who comprise the majority of the sample in this study.

Stigma also may exacerbate the prominence of other barriers to treatment (Arnaez, Krendl,

McCormick, Chen, & Chomistek, 2020), and also interacts with symptom severity (Fox et al.,

2018). Indeed, a recent study found that symptom severity moderated the relationship between

anticipated stigma and treatment seeking such that individuals with greater concerns about being

stigmatized were less likely to seek treatment when they experienced high symptom severity

symptom severity (Fox et al., 2018).

An additional finding in the current study was that different factors predicted preintake

attrition than premature termination. Notably, wait times (specifically being placed on the

waitlist) predicted preintake attrition, but not premature termination. However, not showing to a

scheduled appointment at the clinic was the strongest predictor of prematurely terminating

treatment. It is worth nothing that the average wait time for premature termination was 67.51

days versus 96.43 days in the preintake attrition group. Wait time has been previously identified

as the strongest predictor of preintake attrition, even when controlling for variables such as

referral and payor source (Sherman et al., 2008; Sherman et al., 2009; see also Reitzel et al.,

2006). Despite the fact that wait time was shorter for the group that scheduled intake than the

group that did not, it still averaged more than two months for individuals who were placed on the

waitlist. Thus, it is possible that being placed on a waitlist in and of itself might not be

detrimental to scheduling an appointment, but instead that the longer the waitlist, the less likely

individuals will wait. Indeed, several prospective clients did self report that they were seeing

another therapist by the time they were re-contacted to come off the waitlist. Nearly two-thirds

did not return the clinic's re-contact efforts, so it is unclear how many of those might have sought treatment elsewhere.

There are several important limitations of the current investigation that should be considered. First, in order to compare rates of lack of engagement and factors underlying them that contribute to preintake attrition and premature termination, we were limited to data that were available at both time points, with the exception of treatment attendance, which was relevant in the latter, but not the former. Due to the nature of the clinic, this excluded the possibility of considering many demographic variables (e.g., race) that were only collected during intake. Second, because the clinic provided free treatment during the period of the archival study, other barriers that might affect attendance at other clinics (such as cost) were not relevant here. Third, although some prior research has found that provider variables, such as experience levels, predict premature termination (Swift & Greenberg, 2012), we did not include this variable for two reasons. First, a recent study in three university clinics found no effect of clinician trainee on premature termination (Al-Jabari et al., 2019). Second, most clinician trainees in this clinic typically only worked with two to three clients. This relatively small number of client per clinician interactions limited our ability to identify suitable variability due to clinician factors. Another limitation of this study is that we did not consider other aspects of therapy that did not vary substantially between individuals in our sample, but may vary in other contexts, including the relative frequency (e.g., weekly vs. biweekly) of sessions. A final limitation of this work is that the results are limited to a university training clinic, and therefore might not be generalizable to other clinic settings.

Together, the results of this study suggest that future research should more closely examine attrition rates prior to intake. In a university training clinic setting where practical

barriers (such as cost) are removed, preintake attrition still accounted for the highest level of lack

of engagement. This suggests that other factors, such as stigma, might account for higher lack of

engagement. Moreover, these results suggest that distinct factors might predict lack of

engagement at different phases of the treatment seeking process. This finding provides insight

into specific targets for reducing attrition, notably reducing the size of wait lists. Offering group

therapy or internet therapy for prospective clients on a waitlist could be considered as ways to

reduce wait time, thereby attenuating attrition. Future research should also explore potential

interventions, such as pre-appointment reminders (Clouse, Williams, & Harmon, 2017) or

orientations (Swenson & Pekarik, 1988) to reduce no show rates. These studies could then

provide more insight into the both the magnitude and scope of attrition rates in treatment

seeking, ultimately improving outcomes for both mental health facilities, as well as individuals

suffering from mental illness.

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Figure 1. A graphical depiction of the percentage of the original prospective clients who

remained active at each stage of the treatment seeking process. Percent attrition is based on N =

252 (which excluded the 12 individuals for whom attrition data were not available).
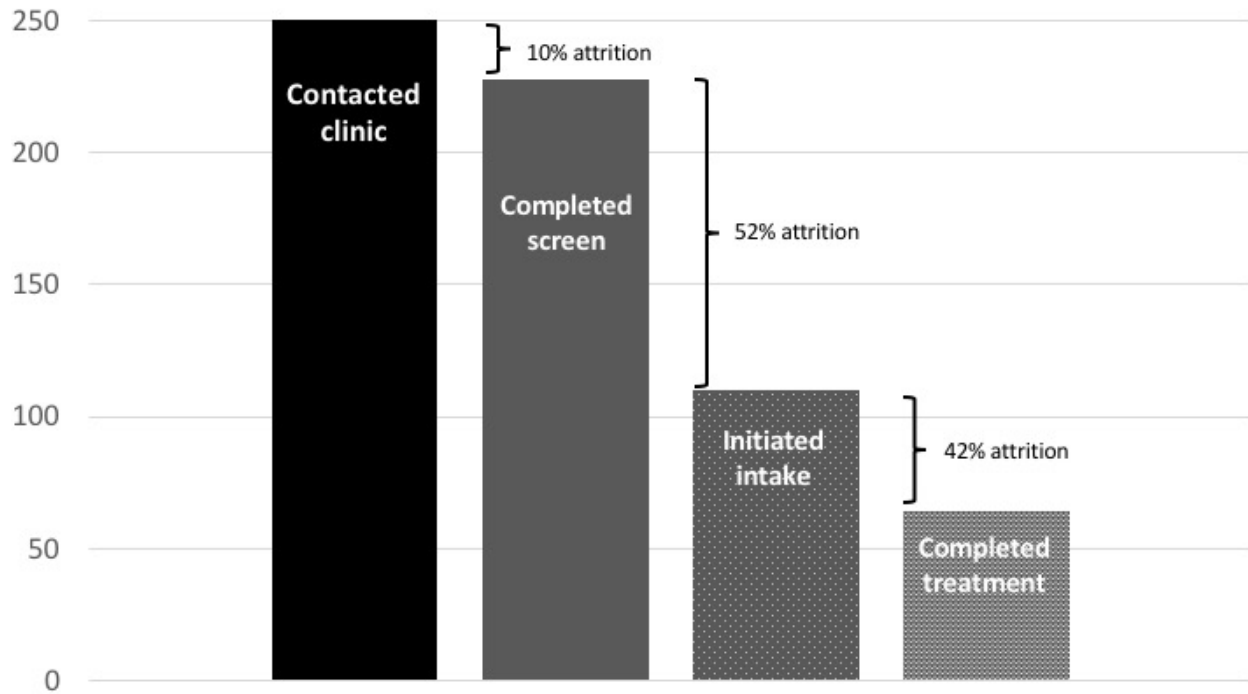
Table 1. Descriptive statistics as available for the prospective clients comprising the preintake

attrition (prospective clients who did not schedule intake) and premature termination (individuals

who did schedule intake) groups.

	Preintake attrition	Premature termination
Total	N=154	N=110
% female	N = 94 (61%)	N=76 (69.1%)
Mean age	26.04 (SD= 13.42)	26.35 (SD=11.37)
Put on waitlist?	N=87 (56.5%)	N=52 (47.3%)
Average waitlist duration (if applicable)	96.43 days (SD=57.93)	N=67.51 (SD=92.32)
IU student?	N=74 (48.1%)	N=68 (62.8%)
Current SI?	N=18 (11.7%)	N=19 (17.3%)
Any previous psychotherapy?	N=75 (48.7%)	N=82 (74.5%)

Table 2. Results of the bivariate logistic regression predicting preintake attrition, (defined as prospective clients not scheduling intake). Attrition was coded as 0, whereas non-attrition (scheduling intake) was coded as 1.

Variable	ß	*SE*	Wald	*P*	OR	95% CI OR	
Age	-0.02	0.01	1.35	0.25	0.99	0.96	1.01
Gender	0.52	0.35	2.17	0.14	1.67	0.84	3.32
Wait time (days)	-0.01	0.00	7.07	<0.01*	0.99	0.98	0.99
Past Psychotherapy Treatment	-0.42	0.43	0.95	0.33	0.66	0.28	1.53

*p < .01

Table 3. Results of the bivariate logistic regression predicting premature termination, defined as prospective clients not successfully completed treatment. Premature termination was coded as 0, whereas successful termination was coded as 1.

Variable	ß	*SE*	Wald	*p*	OR	95% CI OR	
Age	-0.01	0.03	0.12	0.73	0.99	0.93	1.05
Gender	-1.41	0.95	2.20	0.14	0.24	0.04	1.58
Wait time (days)	-0.00	0.01	0.11	0.74	1.00	0.21	8.64
Past Psychotherapy Treatment	0.30	0.95	0.01	0.76	1.34	0.99	1.01
# Sessions attended	0.50	0.11	19.40	<0.01	1.65**	1.32	2.07
# Cancellations	0.03	0.34	0.01	0.92	1.03	0.53	2.01
# No Shows	-1.35	0.45	8.95	<0.01	0.26*	0.11	0.63

** $p < .001$, * $p < .005$