

Pretreatment Expectancies and Premature Termination in a Training Clinic Environment

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The extant literature includes no studies regarding the rate of premature termination in training clinics. The following study documents a very high rate of premature termination in a training clinic, relative to either the established literature or the regional prevalence rate. In addition, this study explores the contributions of effectiveness and role expectations in the prediction of premature termination. Results reveal that the effect of clients' pretreatment role expectations on eventual premature termination was moderated by the clients' pretreatment effectiveness expectancies. Stated another way, role and effectiveness interactions interact and account for 11 to 14% of the variance in premature termination. Discussion of training implications is provided.

Keywords: training, expectations, premature termination, attrition, competencies

The prevalence of premature termination, typically defined as dropping out before psychological services are complete, is widely reported to fall between 40 and 60% (e.g., Clarkin & Levy, 2003; Garfield, 1994; Wierzbicki & Pekarik, 1993). Indeed, approximately 30% of treatment attrition is observed after the very first session (Garfield, 1994; Hansen, Lambert, & Forman, 2002). However, there have been no studies examining the rate of premature termination within a training clinic setting. The present study therefore sought to establish the rate of premature termination within a training clinic setting. In addition, we sought to determine whether premature termination in a training clinic was related to pretreatment client expectancies, as reported in other outpatient settings (e.g., Garfield, 1994; Wierzbicki & Pekarik, 1993).

Expectancy Literature Overview

Although a detailed review of the expectancy theory literature is beyond the scope of this paper, a good review is available by

Kirsch (1997). In short, there is good evidence that role expectations are related to premature termination (e.g., Dew & Bickman, 2005; Hardin, Subich, & Holvey, 1988; Nock & Kazdin, 2001; Reis & Brown, 1999; Walitzer, Dermen, & Connors, 1999). *Role expectations*, as the term is used in the literature, refer to the behaviors that a client expects during treatment provision (e.g., responsibilities for carrying the conversation in session, advice giving from the therapist, etc.).

In addition, effectiveness expectations (i.e., client expectancies regarding treatment effectiveness) have long been linked to premature termination (Acosta, 1980; Pekarik, 1983). More recent studies continue to report that effectiveness expectations are significantly related to premature termination (Garcia & Weisz, 2002; Hansen, Hoogduin, Schaap, & de Hann, 1992) as well as treatment outcome (Constantino, Arnow, Blasey, & Agras, 2005; Devilly & Borkovec, 2000; Meyer et al., 2002).

Unfortunately, there have been no studies specifically examining client expectancies in a training clinic. Such a study appears to be overdue, particularly one drawing attention to effectiveness expectancies in a training clinic. In reviewing the existing literature it appears that client expectations regarding treatment effectiveness may be considerably higher than actual outcomes reported in training clinics.

Effectiveness Expectations as Compared to Training Clinic Outcomes

As a point of comparison, in a 1986 study by Pekarik and Wierzbicki, 148 outpatient clients were asked to predict how many sessions would be necessary to achieve effective treatment before terminating psychotherapy. Fully 73% of clients expected to attend 10 or fewer sessions of treatment (20.3% reported 1 to 2 sessions; 28.4% predicted 3 to 5 sessions; 24.3% expected 6 to 10 sessions) and similar results have been reported in more recent studies (Mueller & Pekarik, 2000; Pekarik, 1991).

However, these client predictions deviant markedly from how many sessions may actually be necessary to achieve effective

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treatment in a training clinic. For example, Callahan and Hynan (2005) noted that only 31% of clients treated in a training clinic experienced positive reliable change within 26 sessions (despite the actual process of recovery being comparable to other outpatient settings; Callahan, Swift, & Hynan, 2006). Similarly, Kadera, Lambert, and Andrews (1996) reported that only 46% of clients in the training clinic were reliably improved within 26 sessions.

Even more directly illustrative of the apparent disconnect between client effectiveness expectations and actual outcomes is a study by Swift and Callahan (in press). In that study, a delay discounting method was used to understand client effectiveness expectations associated with differing treatment lengths. These expectations were then directly compared to published results reported for training clinics. They noted that eight sessions of psychotherapy were found to yield an 8% recovery rate in one training clinic (Callahan & Hynan, 2005) and a 22% recovery rate in another (Kadera et al., 1996). However, the delay discounting study revealed that people expected a 61.62% recovery rate at eight sessions. This finding held up on replication at other lengths of treatment and in a subsequent, larger, sample (Swift & Callahan, in press). Clearly, client effectiveness expectations are significantly greater than the reported effectiveness of psychotherapy services provided in at least some training clinics.

Conceptualization of Hypotheses

Such findings naturally lead to questioning whether clients might become frustrated by the slow of rate of change in the training clinic and discontinue services prematurely at a rate disproportionate to other outpatient settings. Indeed, the first study hypothesis was that an increased rate of premature termination would be found in a training clinic environment as compared to either the existing literature or a regional sample.

In addition, we also sought to explore whether pretreatment role and effectiveness expectations might interact in terms of their relationship to eventual termination of services. The suspicion that these two types of expectancies might interact with one another, at least as related to premature termination, was based on the observations from the previously mentioned extant literature that (a) both role and effectiveness expectations are linked to termination outcome, (b) the basic process of therapy is similar in training clinics as compared to other outpatient settings, suggesting that trainee clinicians function in a similar role as professional clinicians, yet (c) effectiveness expectations are significantly incongruent with obtained outcomes in training clinics.

These observations from the literature were used to more specifically hypothesize the nature of the anticipated interaction effect. Specifically, our second hypothesis was that effectiveness expectations would moderate the relationship between role expectations and premature termination.

Potential Training Implications

Examination of the prevalence of premature termination and the relationship of expectancies to premature termination in the training clinic could lead to specific training implications. At the individual level, establishment of a prevalence rate could help provide a basis for monitoring trainee development and identifying training objectives. For example, if a trainee displays a high

rate of premature termination, they may not be getting adequate opportunities for learning skills and competencies uniquely associated with middle or late stage treatment (Spruill et al., 2004).

Such a student might benefit from observing or engaging in cotherapy opportunities with later stage treatment courses to offset such limited exposure. Further, such trainees might benefit from training focused on improvement of clinical skills that are especially salient early in the course of treatment (e.g., alliance building). Similarly, a student might be able to enhance treatment retention by learning to discuss expectancies with clients during the initial session and then, if appropriate, helping clients to modify their expectations to be more congruent with what is likely to happen in the subsequent course of treatment.

In short, it appears that training might be improved and the literature enhanced by studies that establish the prevalence of premature termination within the training clinic setting as well as examination of role and effectiveness expectations in relation to premature termination.

Method

Participants

First, individuals who self-reported having participated in outpatient psychotherapy within the broad geographical region (i.e., southern Midwest), but not within a training clinic, were recruited to establish the regional prevalence rate of premature termination ($N = 199$). All participants denied any current participation in therapy at any site. Recruitment centered on a broad university sample (i.e., not constrained to introductory psychology students) to be consistent with the population targeted by the training clinic advertisements for services. Extra credit was provided to those participants that requested participation be reported to course instructors. The average participant age was 20.85 years (range: 18 to 50; mode: 19). The majority of participants were women (71.4%), White (86.9%), and middle class (57.8%). Although the sample contains a large number of youthful White adults, the obtained sample is congruent with community census data for the college town, which reportedly has a median age of 23.9 years and is 81.3% White.

The average course of treatment for these former clients was 9.96 sessions long, with a median of 8.00 sessions and mode of 10.00 sessions. In terms of diagnostic presentation, most (40.7%) reported that they sought treatment for depression or mood disorder, with anxiety disorders being the next most commonly reported diagnostic category (13.6%). An additional 26.6% were unaware, or could not recall, diagnostic information. Fewer than 5% reported diagnoses falling in any one of the following categories: personality disorder, impulse control or attentional disorder, eating disorder, sexual or gender related, substance related, psychosis or schizophrenia, or sleep disorder.

Second, for a period of 1 training year, all help-seeking individuals who consecutively presented to a clinical psychology doctoral training clinic were recruited for potential participation in this study. Those who completed treatment ($N = 42$) became eligible to participate. The training clinic serves both students and individuals from the community, on a sliding fee scale, with no psychotherapy discounts (e.g., free sessions, etc.) associated with student status. As is typical of many training clinics the identified training clinic functions as a community outpatient clinic.

The average participant age was 25.38 years (range: 18 to 51; mode: 21), slightly over half of the participants were women (55.0%), and more than 90% were White with an average income of \$20, 948 annually and no financial dependents. Mean client scores on the Beck Depression Inventory–II (BDI–II; Beck, Steer, & Brown, 1994) and Beck Anxiety Inventory (BAI; Beck & Steer, 1993) were comparable to the normative data reported for clinical populations (BDI–II: 22.79, $SD = 11.92$; BAI: 22.08, $SD = 10.64$). Profiles on the Symptom Checklist–90, Revised (Derogatis, 1992) indicated that a range of common clinical presentations were represented in the sample.

A comparison of the demographic variables for the training clinic sample with the regional former clients sample was conducted and revealed a statistically significant difference in gender distribution, $\chi^2(1, N = 239) = 4.14, p < .05$, Cramer's $V = 0.13$ and age, $t(43.35) = 4.52, p < .01, d = 0.79$. The participants in the training clinic included more men (45.0% compared to 28.6%) and were somewhat older (M age: 25.38 compared to 20.85) than the clients seen in regional clinics, but no other significant differences for demographic variables were found between participants in the two samples.

Although not direct participants, characterization of the trainee clinicians in this study may be relevant for interpretation of findings and generalizability. All trainees were enrolled in a scientist–practitioner oriented doctoral program in clinical psychology. Students in the program are typically 26.57 years of age ($SD = 5.53$), women (63%), White (70.4%), and entered the program with a bachelor's degree (87.5%). The training clinic operates year round and the predominant therapeutic modality is cognitive-behavior therapy, with trainees beginning to provide individual therapy services near the end of their first year of doctoral training, assuming successful completion of coursework in psychopathology, assessment, and psychotherapy and experiential training in conducting semistructured intake interviews. All students seeing clients in the clinic are supervised by a member of the clinical faculty that consists, at minimum, of 1 hr of individual supervision and 2 hr of group supervision weekly.

Measures

Two measures of expectancies were administered to training clinic participants, following consent, but prior to initiating a course of psychotherapy. The Psychotherapy Expectations Inventory–Revised (PEI–R; Bleyen, Vertommen, Vander Steene, & Van Audenhove, 2001; Rickers-Ovsiankina, Geller, Berzins, & Rogers, 1971) is a 30-item measure thought to quantify the following type of psychotherapy role expectations: approval seeking, advice-seeking, audience-seeking, relationship-seeking, and impression-seeking. Clients respond to questions using a Likert-type scale with anchors at 1 (*not at all*) to 7 (*very strongly*). Sample items that are representative of the five types of role expectations include, “How strongly do you expect to watch your therapist for ‘helpful hints’ as to desirable behavior during the hour,” “How strongly do you expect to get definite advice from your therapist,” “How strongly do you expect to ‘carry the ball’ conversationally,” “How strongly do you expect to act as freely as you would with your best friend,” and “How strongly do you expect to be concerned with the impression you make on your therapist.” Responses to the items were summed to produce a total score for role

expectations, with internal consistency found to be excellent ($\alpha = .89$) in this study. In previous studies, the factor structure of the measure has been supported (Bleyen et al., 2001) as has the convergent and discriminant validity (Rickers-Ovsiankina et al., 1971), with the measure previously used in clinical populations for the purpose of quantifying role expectations (e.g., Al Darmaki & Kivlighan, 1993; Tracey & Dundon, 1988).

An eight-item, novel measure focusing on treatment effectiveness was also administered. These items were extracted from a longer measure currently in development for use in training clinics, with measure development data indicating good convergent and divergent validity with other expectancies and symptom distress measures (Wetterneck, Norberg, & Hynan, 2006). Participants responded on a Likert-type scale ranging from 0 (*not at all*) to 10 (*very much so*) to the face valid items. Four of the items focused on clients' expectations of improvement following therapy (e.g., “At the end of the therapy period, how much improvement in your problem(s) do you think will occur,” and “By the end of therapy, how satisfied do you expect to be with the treatment results?”), with the remaining four items focusing on clients' expectations of personal improvement as a function of therapy (e.g., “Therapy will provide me with an increased level of self-respect,” and “After therapy, I will be a much more optimistic person.”). Responses to the eight items were summed to provide a total score of effectiveness expectations. Internal consistency of this measure was excellent in this study ($\alpha = .92$) and somewhat higher than previous reports ($\alpha = .79$ to 0.81; Wetterneck et al., 2006).

Procedure

After completing informed consent, former clients from regional clinics completed a survey that included demographic and clinical information, including “how was your most recent course of treatment discontinued” with four broad response options: no plan to discontinue/simply stopped attending; client planned to discontinue (clinician may or may not have known); therapist suggested discontinuing; client and therapist mutually agreed to discontinuation.

For a period of 1 training year, all adult clients seen in a training clinic were asked to prospectively complete the measures of expectancies, following informed consent but prior to initiating a course of psychotherapy. Consent was obtained specifically for this study and treatment services were not contingent on participation. Client files were reviewed following termination to capture termination status as recorded at discharge by the treating clinician and supervising psychologist. All participants were treated in accordance with APA's *Ethical Principles of Psychologists and Code of Conduct* (American Psychological Association, 2002). This study was approved and conducted in compliance with the university Institutional Review Board.

Sample Construction

Research within training clinic settings is a more recent line of inquiry with few studies thus far, but those that are in existence report comparable, or smaller, sample sizes than the present study (e.g., Callahan & Hynan, 2005; Callahan et al., 2006; Kadera et al., 1996). For most university-based programs, which may be ideally positioned to further this much needed area of research, accom-

plishing the large sample sizes necessary to answer important training questions may pose a significant barrier. Such programs typically admit only a small number of students annually (Council of University Directors of Clinical Psychology, 1998), who are likely to carry a small caseload of clients (Heffer, Cellucci, Lassiter, Pantesco, & Vollmer, 2006). Indeed, this barrier was observed in the current investigation for analyses involving the clinical sample.

Power analysis indicated that 863 participants would be necessary to detect a small effect size at the .05 level using regression analyses (Faul, Erdfelder, Lang, & Buchner, 2007). No more than a small effect was hypothesized given the established literature indicating that only small amounts of variance in treatment outcome are attributable to specific components (e.g., Wampold, 2001). As a result, the existing sample was augmented using a bootstrapping procedure, with resampling, until the minimum requisite number of cases represented was reached ($N = 863$).

This procedure, recommended for small sample research (Hoyle, 1999), involved random selection of participant data that was then copied and added to the end of the dataset. This random selection, copy, and addition process was repeated until the desired sample size for analyses was achieved. Introduced by Efron in 1979 (for good introductions, see Efron, & Tibshirani, 1993; Good, 2000), the bootstrap technique is particularly well suited when a small sample size is involved (Linden, Adams, Roberts, 2005) and has been used in a range of health care research when obtaining a larger sample size was infeasible (e.g., Akins, Tolson, & Cole, 2005; Bredell, Crookes, du Heynes, Schoub, & Morris, 2003; Chen & Kianifard, 2000).

Results

Regional Prevalence of Premature Termination

Of the 199 participants, 4 participants failed to respond as to whether they prematurely terminated and were therefore excluded from the analyses; 71 participants (35.7%) reported that they simply stopped attending sessions and that their termination of treatment was not planned. An additional 19 participants (9.5%) reported that they terminated treatment as a result of formulating an intention to stop, though they did not tell the treating clinician of their intention. Twenty-five (12.6%) noted that it was their treating providers encouragement that they discontinue services, while 80 (40.2%) indicated that termination resulted because of a mutually agreed plan to terminate services.

Consistent with the established literature, premature termination was deemed if the client failed to complete the planned course of treatment (e.g., Hansen et al., 2002; Henggeler, Pickrel, Brondino, & Crouch, 1996). Thus, based on this definition, combining those individuals who indicated that they had no preconceived plan to terminate services, but did so (i.e., simply stopped attending), and those that reported a self-created plan for termination that was not shared with the treating provider yields a prevalence rate of 45.2% for premature termination of outpatient psychotherapy services in the geographic region surrounding the training clinic. This rate falls near the lower limit of the range reported for premature termination, which indicates prevalence rates of 40% to 60% for premature termination (e.g., Clarkin & Levy, 2003; Garfield, 1994; Wierzbicki & Pekarik, 1993).

Training Clinic Prevalence of Premature Termination

Of the 42 training clinic clients, 2 were excluded from termination analyses because the clinical record did not note the termination circumstances. To ease comparison to the regional data, frequency tallies were composed for each of the same categories reflected in the regional data. In the training clinic, 27 clients (67.5%) simply stopped attending sessions (35.7% in regional sample) though it is not possible to know how many of these formed a plan to stop without discussing it with their treating clinician (9.5% in regional sample reported doing this). An additional 4 clients (10%) previously told their treating clinician of their intention to stop, but the clinician encouraged continuation of the course of treatment. In no cases did the treating clinician encourage discontinuation of treatment (0%, compared to 12.6% in regional sample); though for 9 clients (22.5%, compared to 40.2% in the regional sample) termination resulted because of a mutually agreed plan to terminate services. Consistent with the method used to establish premature termination in the regional sample, training clinic clients were classified as prematurely terminating if they did not complete the planned course of treatment. By that definition, 77.5% of the cases in the training clinic were considered to have prematurely terminated.

Training Clinic Expectancies Analyses

As is evident from Table 1, augmentation of the sample produced confidence intervals for each measure that overlap with the original sample. Moreover, the frequency of premature termination is nearly identical, with 77.4% in the first augmented sample and 76.4% in the second augmented sample compared to 77.5% in the original sample. As such, only the augmented samples were used for hypothesis testing to ensure adequate power for analyses.

Within the first augmented sample, small, but significant, point biserial correlations were found between the premature termination status (yes/no) and scores on both the measure of effectiveness expectations ($r_{pb} = 0.08, p = < .01$) and the measure of role expectations ($r_{pb} = -0.10, p = .01$). Further, scores on the

Table 1
Descriptive Statistics and Confidence Intervals of Expectancy Measures in Each Sample

Sample	Role expectations	Effectiveness expectations
Original ($n = 71$)		
<i>M</i>	105.25	54.27
<i>SD</i>	20.30	15.89
95% Confidence Interval	99.89 to 110.61	50.31 to 58.23
First augmented ($n = 863$)		
<i>M</i>	103.82	49.86
<i>SD</i>	22.92	17.62
95% Confidence Interval	102.08 to 105.56	48.59 to 51.13
Second augmented ($n = 863$)		
<i>M</i>	104.04	48.89
<i>SD</i>	23.01	23.01
95% Confidence Interval	102.28 to 105.80	47.60 to 50.18

Note. For illustration purposes, demonstrating that the use of the bootstrap with replacement method results in overlapping confidence intervals.

effectiveness and role (PEI-R) measures were also significantly correlated ($r = .30, p < .01$).

Logistical regression analysis was then conducted to examine whether the relationship between pretreatment role expectations and premature termination was moderated by pretreatment effectiveness expectations. The continuous variables of role expectations and effectiveness expectations were centered by subtracting the sample mean from the individual scores to reduce multicollinearity (Cohen, Cohen, West, & Aiken, 2003) prior to entering them into the equation. The interaction of role expectations and effectiveness expectations was then allowed to enter in Step 2 if it could account for significant additional variance.

As shown in Table 2, univariate analysis indicated that there was a significant main effect for role expectations, $\chi^2(1, N = 863) = 23.69, p < .01$, such that as role expectations decrease, there is an increase in the odds of premature termination by about 2%, controlling for other variables in the model. There was also a significant main effect for effectiveness expectations $\chi^2(1, N = 863) = 11.60, p < .01$, such that for every increase in these expectations, the odds of premature termination increased by approximately 3%, controlling for other variables in the model. Finally, the expectations about the effectiveness of treatment significantly moderated the relationship between role expectations and premature termination, $\chi^2(1, N = 863) = 21.13, p < .01$. This interaction effect is illustrated in Figure 1. As an approximation to ordinal least squares R^2 (Nagelkerke, 1991), the Nagelkerke's R^2 strength of this association model accounts for approximately 11% of the variance overall.

For replication, a second augmented sample was constructed and subjected to analyses. Just as with the first augmented sample the second augmented sample yielded small, but significant, point biserial correlations between the premature termination status (yes/no) and scores on both the measure of effectiveness expectations ($r_{pb} = 0.08, p = <.01$) and the measure of role expectations ($r_{pb} = -0.13, p = .01$). Scores on the effectiveness and role (PEI-R) measures were also significantly correlated ($r = .38, p < .01$), just as was found with the first augmented sample.

As with the first augmented sample, logistical regression analysis was then conducted to examine whether the relationship between pretreatment role expectations and premature termination was moderated by pretreatment effectiveness expectations. Variables were again centered prior to entering them into the equation, with the interaction of role expectations and effectiveness expectations allowed to enter in Step 2 if it could account for significant additional variance.

Univariate analysis (see Table 2) indicated that there was a significant main effect for role expectations, $\chi^2(1, N = 863) = 30.67, p < .01$, such that as role expectations decrease, there is an increase in the odds of premature termination by about 3%, controlling for other variables in the model. There was also a significant main effect for effectiveness expectations, $\chi^2(1, N = 863) = 9.39, p < .01$, such that for every increase in these expectations, the odds of premature termination increased by approximately 3%, controlling for other variables in the model. Finally, the expectations about the effectiveness of treatment significantly moderated the relationship between role expectations and premature termination, $\chi^2(1, N = 863) = 26.60, p < .01$. Finally, the Nagelkerke's R^2 indicates that this model accounts for approximately 14% of the variance overall.

Discussion

The regional prevalence rate for premature termination was found to be 45.2% for outpatient psychotherapy services provided in the geographic area surrounding the identified training clinic in this study. This range is commendable and falls near the lower limit of the range reported in the broader psychotherapy literature for premature termination that indicates prevalence rates of 40% to 60% (e.g., Clarkin & Levy, 2003; Garfield, 1994; Wierzbicki & Pekarik, 1993).

In contrast, a very high rate of premature termination, 77%, was observed in the identified training clinic. It is unknown whether the premature termination rate is similarly high when trainee clinicians offer services in other setting (e.g., outlying practicum or externship settings), but research investigating such possibilities is needed. Moreover, with no other published studies examining the prevalence of premature termination in the training clinic environment, replication is also strongly encouraged to determine the generalizability of these findings.

Unfortunately, it was not possible to determine how many training clinic clients formed an intention to stop, but withheld this information from their treating provider. However, nearly 10% of those that prematurely terminated services from other regional clinics formed an intention to stop services without disclosing that information to their treating provider. This brings to attention that the data source may have influenced the assessment of prevalence rate. For the training clinic termination status could only be inferred because client report was, by definition, not available. Although a variety of other sources for identifying premature termination have been noted in the literature (e.g., failure to attend

Table 2
Logistic Regression Analyses Predicting Premature Termination With Moderation Effects

Step	Variable	B	Exp(B)	Wald χ^2	df	Nagelkerke R^2
Bootstrap Sample 1: Predicting premature termination with role and effectiveness expectations and Role \times Effectiveness						
1	Role	-0.02	0.98**	23.69	(1,863)	.11
	Effectiveness	0.03	1.03**	11.60	(1,863)	
2	Role \times Effectiveness	0.00	1.00**	21.13	(1,863)	
Bootstrap Sample 2: Predicting premature termination with role and effectiveness expectations and Role \times Effectiveness						
1	Role	-0.03	0.97**	30.67	(1,863)	.14
	Effectiveness	0.03	1.03*	9.39	(1,863)	
2	Role \times Effectiveness	0.00	1.00**	26.60	(1,863)	

* $p < .01$. ** $p < .001$.

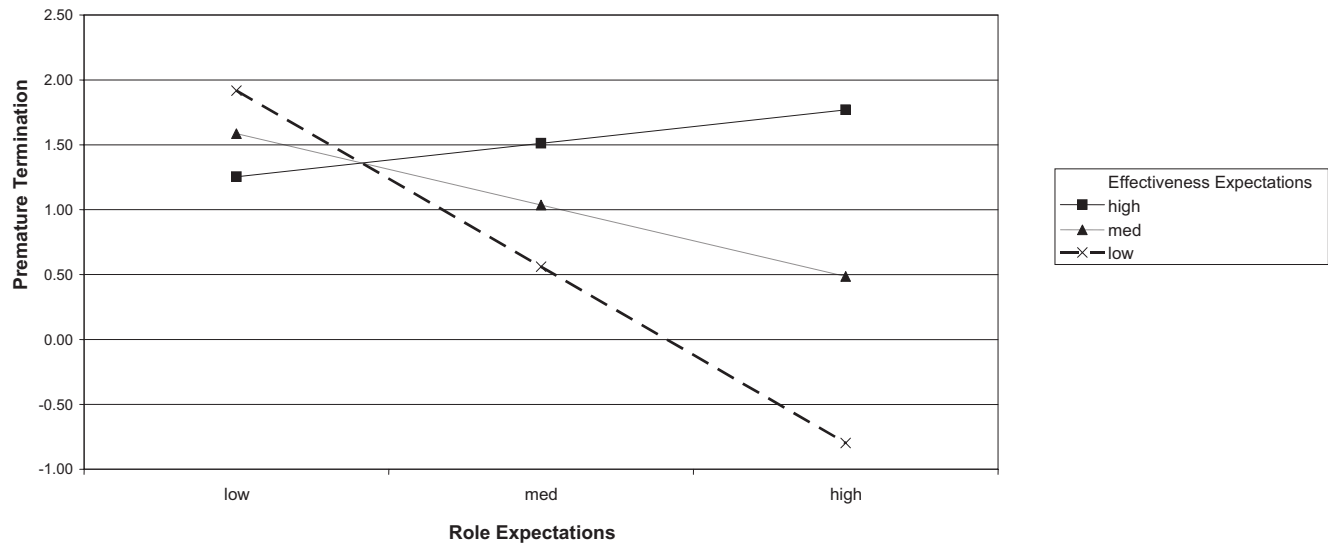


Figure 1. Effectiveness expectations moderate the effect of role expectations on premature termination.

a scheduled session, failure to attend a certain number of sessions, and therapist judgment, Garfield, 1994; Weberziki & Pekarik, 1993), it has been concluded that therapist judgment is the most accurate option (Pekarik, 1983; Reis & Brown, 2006). Thus, therapist judgment, which was endorsed by the supervising psychologist, was used in this study.

An additional limitation of this study is that it involved a small sample. As noted previously, accomplishing the large sample sizes necessary to answer important training questions may pose a significant barrier due to the typically small number of students admitted annually to training programs (Council of University Directors of Clinical Psychology, 1998), and their correspondingly small caseloads of clients (Heffer et al., 2006). To deal with this limitation, we did two things.

First, we continued to gather the pretreatment expectancy data for the full approval period allowed by the IRB knowing that some of the participants would not complete treatment within our data gathering window. Indeed, 29 individuals completed the pretreatment expectancy measures but did not complete treatment within the approved data gathering window. It is possible that this introduced some bias in the sample toward overestimating the prevalence rate of premature termination. Although the prospective study design may be considered a strength of this investigation, it may be that an archival investigation replicating this finding in another training clinic could be informative.

Second, we employed a bootstrap method, with resampling, to build a sample large enough for hypothesis testing (Hoyle, 1999). For good measure, we constructed a second sample and repeated all analyses, which yielded stable results. However, as with all statistical approaches, there are potential limitations to the bootstrap. In particular, bootstrap methods are sample sensitive and rely on the sample being representative of the population from which it is derived (Mooney & Duval, 1993). Again, we encourage replication of the findings reported here to determine the generalizability of the findings.

In examining role and outcome expectations, it was found that approximately 11% to 14% of the variance in premature termina-

tion was accounted for by client pretreatment expectancies in this training clinic. This finding provides a useful underscoring of Lambert's (1992) estimation that 15% of improvement in psychotherapy is due to expectancy effects. Nevertheless, some might question how clinically meaningful these findings are, considering that so much variance remains unexplained. However, in the context of the broader psychotherapy literature, 11 to 14% of the variance is very comparable to the amount of variance due to specific components associated with different treatment interventions (e.g., 8%; Wampold, 2001). Such elements, although small in isolation, may significantly contribute to eventual treatment outcome. The present findings suggest that future research that examines expectancy effects in concert with other variables might be particularly beneficial.

For example, one might broaden the examination of expectancies to include process expectations. Perhaps even more useful would be the inclusion of working alliance into a predictive model of premature termination. Previous research has consistently demonstrated that working alliance is also related to successful treatment outcome, with several meta-analytic studies reporting modest effect sizes that range from .22 to .26 (i.e., Horvath & Greenberg, 1994; Horvath & Symonds, 1991; Howgego, Yellowlees, Owen, Meldrum, & Dark, 2003; Martin, Garske, & Davis, 2000). However, there are no studies that have attempted to integrate role expectations, effectiveness expectations and working alliance into a testable model of premature termination.

Aside from client expectancies, there are several other variables identified in recent literature that are salient to premature termination. For example, aspects of the client's personal history, such as physical or sexual abuse (Claus, & Kindleberger, 2002), or current difficulties involving marital separation or poor family/social functioning (Handelsman, Stein, & Grella, 2005; Sayre et al., 2002) may increase likelihood for attrition. Psychological functioning variables can also contribute, including comorbid psychiatric status (Claus, & Kindleberger, 2002) and maladaptive personality traits/style (Ball, Carroll, Canning-Ball, & Rounsaville, 2006), as can cognitive dysfunction (McKellar, Kelly,

Harris, & Moos, 2006). Legal related issues, such as delinquency behaviors (Pagnin, de Queiroz, & Saggese, 2005), fire setting or prostitution for drugs (Vourakis, 2005), and probation (Claus & Kindleberger, 2002), have all been implicated as related to premature termination. Finally, treatment service provision variables may also contribute to client attrition, including logistical problems (e.g., scheduling, transportation, etc.) and conflict with treatment providers (Ball et al., 2006) or programs (McKellar et al., 2006). However, a number of these variables are only rarely encountered in the training clinic due to screening out processes (e.g., the full spectrum of potentially legal related issues) or special arrangements (e.g., covering transportation or parking expenses when needed).

Finally, although the age ranges of each sample are very similar (18 to 50 among regional participants; 18 to 51 in local training clinic participants) and mode (19 in the regional sample, 21 in the training clinic), the difference between means (20.85 regionally; 25.38 locally) is statistically significantly different. However, psychotherapy studies generally indicate that age is not strongly related to treatment retention or treatment outcome (Dubrin & Zastowny, 1988; Sledge, Moras, Hartley, & Levine, 1990). Similarly, research examining the relationship of gender and psychotherapy outcome generally reveals no differences (Garfield, 1994; Petry, Tennen, & Affleck, 2000), with the possible exception of those in treatment for depression (Thase, Frank, Kornstein, & Yonkers, 2000). Thus, the significant difference in gender representation between the regional sample and the training clinic sample is not thought to have strongly impacted the marked difference in premature termination rates.

The high rate of premature termination in the training clinic studied here suggests some important training implications. Although student clinicians may be provided with many opportunities to initiate treatment, they appear to be receiving far fewer opportunities for learning skills and competencies uniquely associated with middle or late stage treatment (Spruill et al., 2004).

An exploratory idea generated in the review of the literature concerned whether client role expectations of trainee clinicians differ meaningfully from the expectations clients may have of established professionals. The mean total score on the measure of role expectations in the training clinic (PEI-R: 105.25 for the original sample; 103.82 and 104.04 for the augmented samples) indicate that client's role expectations of trainee clinicians are commensurate with those previously reported within a Finnish inpatient population (Bleyen et al., 2001; $M = 112.80$). Given the cultural, geographic, and sociopolitical differences, in addition to the inpatient versus outpatient settings and trainee versus professional clinicians, this is somewhat surprising. Further research examining the robustness of the PEI-R for use in a wide range of settings is encouraged as it may lend itself very well for comparative purposes across populations for both clinical and research purposes. In particular, it suggests that the PEI-R may be well suited to examining expectancies and premature termination in internship settings where trainee clinicians are working side-by-side with professional clinicians and investigating the question of whether interns are receiving more opportunities to develop the competencies associated with later stages of treatment.

In light of the very high rate of premature termination in the training clinic, it is recommended that trainees be instructed to inquire about thoughts of premature termination on a routine basis.

Supervisors are strongly encouraged to closely monitor early session recordings and help trainees identify the more subtle verbal and/or nonverbal behaviors that may indicate that a client is contemplating discontinuing services. Further, the prevalence rate established here could be useful to provide a basis for monitoring development and identifying training objectives with student clinicians. For example, a student trainee that demonstrates an 85% rate of premature termination, which is beyond the prevalence rate observed in the training clinic, might benefit from a training plan that incorporates skill building in areas known to be related to early treatment gains (e.g., alliance building, etc.). In contrast, a student with a much lower rate of premature termination, such as 25%, might benefit from a training plan focusing more heavily on other clinical skills with comparatively less instructional time devoted to premature termination considerations. In this way, data derived from training clinics can be helpful in improving the specificity of training plans for individual student clinician's strengths and weaknesses in clinical competencies.

In working with clients, there is evidence that addressing expectations may be beneficial and working with trainees to acquire this skill is therefore also encouraged. For example, previous studies have indicated that addressing role expectations prior to treatment can decrease the rate of dropout among clients (e.g., Orlinsky, Grawe, & Parks, 1994; Scamardo, Bobele, Biever, 2004; Walitzer et al., 1999; Zwick & Attkisson, 1985). Generally, it is thought that such education may decrease the rate of dropout by shifting expectations to be more congruent with what actually happens in psychotherapy (Reis & Brown, 2006). It would follow that education in the area of treatment effectiveness may also shift expectations to be more similar to the actual effectiveness of psychotherapy, thus further decreasing treatment drop-out. However, in a study examining this possibility it was found that discussing treatment length with clients prior to treatment had no significant effect on premature termination (Reis & Brown, 2006). Methodological issues may have constrained these findings and promising results are reported elsewhere (Swift & Callahan, in press). Further research on the novel measure of effectiveness expectancies is encouraged to facilitate such studies and trainees, supervisors, and established clinicians are encouraged to follow this emerging body of research.

As a final clinical implication, it is worth considering whether clients being seen in the training clinic should be informed during intake that treatment may progress more slowly than in other settings. Some individuals may choose to seek services elsewhere; however, it is possible that the fee reductions typically associated with training clinics may more than offset the cost associated with a longer course of treatment in the training clinic as compared to a shorter course of treatment in another outpatient setting.

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