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BRIEF REPORT

Patient Financial Distress and Treatment Outcomes in Naturalistic Psychotherapy

Mindi N. Thompson
University of Wisconsin-Madison

Simon B. Goldberg
University of Wisconsin-Madison and Veterans Affairs Puget Sound Health Care System–Seattle Division, Seattle, Washington

Stevan Lars Nielsen
Brigham Young University

Although psychotherapy is on the whole an effective health care practice, treatment efficacy for patients with varying levels of reported financial distress is less clear. The purpose of this study was to examine the impact of patient self-reported financial distress on psychotherapy outcomes using a large, naturalistic psychotherapy dataset of college students who sought psychotherapy services (n = 5,078 patients, n = 238 therapists). Multilevel models accounted for the nesting of patients within therapists and treatment outcome was assessed using the Outcome Questionnaire-45. Patients on the whole showed treatment effects in the moderate to large range (d = 0.73). However, patients with higher financial distress at baseline were more likely to drop out of treatment after 1 session and, when controlling for baseline severity, had worse outcomes at the end of treatment. Though the effects were small, these findings held when controlling for age, gender, and treatment length. Further, the relationship between baseline financial distress and treatment retention (but not treatment outcome) varied between therapists, though the effects were also small. Patients' financial distress specifically and social class more generally may be patient contributors to psychotherapy outcome (and therapist effects) that warrant further attention.

Public Significance Statement
This study suggests that patients who are more financially distressed when entering psychotherapy as college students are somewhat more likely to drop-out of treatment after 1 session and may show smaller benefits from treatment. Some therapists, however, appear to be better able to retain financially distressed patients than others. Taken together, this study supports the notion that financial distress and other social class-related patient characteristics are important to consider in psychotherapy.

Keywords: social class, financial distress, psychotherapy outcome, treatment retention, therapist effects

Social class is a cultural variable that is relevant to health and experiences in mental health treatment (e.g., Adler et al., 1994; Thompson, Cole, & Nitzarim, 2012). Yet, social class has mostly been ignored within the psychotherapy literature (e.g., Lott, 2002; Thompson & Dvorscek, 2013). Scholars (e.g., Diemer, Mistry, Wadsworth, López, & Reimers, 2013; Williams, 2009) have argued that limited research related to this cultural variable is due, in part, to unclear definitions and imprecision in measurement.

To address critiques that the clinical training and practice literature had mostly ignored social class as a cultural variable, Liu and

Mindi N. Thompson, Department of Counseling Psychology, University of Wisconsin-Madison; Simon B. Goldberg, Department of Counseling Psychology, University of Wisconsin-Madison, and Veterans Affairs Puget Sound Health Care System–Seattle Division, Seattle, Washington; Stevan Lars Nielsen, Counseling and Psychological Services, Brigham Young University.

Data used in this study were drawn from a large university counseling center that has been measuring outcome data for clinical and research purposes for several decades. The data used in the current study are from a data export that occurred in May 2014. Data from this same export, that partially overlap with the current sample, were used in two published manuscripts (Goldberg et al., 2016; Goldberg, Hoyt, Nissen-Lie, Nielsen, & Wampold, in press) though these studies did not address the research questions in this article and did not include data from the Presenting Problem Checklist.

Correspondence concerning this article should be addressed to Mindi N. Thompson, Department of Counseling Psychology, University of Wisconsin-Madison, 1000 Bascom Mall, Madison, WI 53715. E-mail: mindi.thompson@wisc.edu

his colleagues (Liu, 2001; Liu, Soleck, Hopps, Dunston, & Pickett, 2004) proposed the social class worldview model (SCWM). The SCWM encouraged psychologists to move away from reliance upon traditional sociological indicators of social class (e.g., income, education level) toward an understanding of how individuals interpret and internalize their social context. Specifically, the SCWM suggests that individuals live in particular economic realities with unique demands and expectations that facilitate the development of an intrapsychic lens, or worldview, by which they come to understand their ability to access resources and opportunities. This worldview impacts behaviors (e.g., manners), lifestyle considerations (e.g., how one spends time), and relationships to material objects.

SCWM's articulation of the presence of demands placed on individuals who are members of specific social class groups is consistent with that of strain theorists. In particular, strain theorists have suggested that an individual's understanding of stress or strain related to one's experience (in this case, limited access to financial resources) is a mediating mechanism by which individuals experience the negative effects of low socioeconomic status (SES) or social class (e.g., Krieger, Williams, & Moss, 1997; Pope & Arthur, 2009). For example, Gallo and Matthews (2003) argued that exposure to stressors related to social class results in the health costs to individuals. Financial distress, in particular, captures the extent to which individuals perceive financial resources to be diminished and threatened (Creed & Macintyre, 2001). Although no research has examined financial distress in relationship to psychotherapy outcomes, research has demonstrated its relationship to a number of educational, vocational, socioemotional, and health-related outcomes (e.g., Dahling, Melloy, & Thompson, 2013; Price, Choi, & Vinokur, 2002).

Examining the implications of financial strain on psychotherapy outcomes in college student samples is important because college represents a developmental stage in which mental health disorders emerge (e.g., half of lifetime diagnosable mental health disorders begin by age 14 and three fourths have onset by age 24; Knopf, Park, & Mulye, 2008) and a time during which individuals begin to internalize their identity and have contact with individuals from differing backgrounds (e.g., Langhout, Rosselli, & Feinstein, 2007). As such, Langhout and colleagues urged scholars to study "issues of class during these transitional phases" (p. 147). Psychotherapy research examining social class-related factors such as financial distress within college student samples is, however, nonexistent. Taken together, the purpose of this study was to examine the extent to which patients' self-reported level of financial distress relates to their psychotherapy treatment outcomes within a large, naturalistic sample of college students.

Factors That Contribute to Psychotherapy Outcome

Accumulating evidence has demonstrated that individuals who engage in psychotherapy benefit from treatment. Large-scale meta-analyses have revealed that the average individual who receives psychotherapy will fare better psychologically than those who do not receive treatment (Smith & Glass, 1977; Smith, Glass, & Miller, 1980). Scholars (e.g., Wampold & Imel, 2015) have examined patient characteristics, therapist characteristics, and elements of the therapeutic relationship that may explain variation in the effectiveness of psychotherapy. A number of patient factors have been associated with psychotherapy outcomes, including: initial symptom severity, readiness to change, and attachment and coping style (e.g., Holdsworth, Bowen, Brown, & Howat, 2014; Prochaska & DiClemente, 1982).

Psychotherapy Outcomes and Patient Social Class

Although patient demographic and life experiences also may relate to patient outcomes, these and other cultural factors have received less research attention (e.g., Bernal & Scharrón-del-Río, 2001). For example, some scholars (e.g., Benish, Quintana, & Wampold, 2011) have focused on cultural components, including culturally adapted treatments and adaptation of the illness myth, that have implications for psychotherapy experiences and outcomes. The extent to which social class and social class-related experiences have been centralized in psychotherapy research remains limited (Thompson & Dvorscek, 2013), though two findings have emerged from these limited data. First, psychotherapy patients who are from low-income backgrounds have higher attrition rates relative to their middle- to- upper-class counterparts (Smith, 2005). In their meta-analysis of 125 studies examining therapy dropout, Wierzbicki and Pekarik (1993) showed the following demographic factors to be moderately associated with increased dropout: low levels of education, low self-reported annual income, and underrepresented racial group identification. In an update to this meta-analysis, patients with lower levels of education continued to show higher rates of treatment drop-out as compared to those with higher levels of education ($d = 0.29$; Swift & Greenberg, 2012).

Second, a small body of research using secondary analysis of data from randomized clinical trials (RCTs) has demonstrated that psychotherapy patients from lower, as opposed to upper, social class backgrounds (as measured by patient self-reported social class level and income) have decreased treatment gains (e.g., Cohen et al., 2006; Organista, Muñoz, & González, 1994). Results from one study (Falconnier, 2009) demonstrated patient low SES as measured by Hollingshead's Two-Factor Index of Status Position (ISP; Hollingshead, 1971), but not amount of education completed or self-reported family income, was associated with less improvement in depression treatment across treatment modalities. The ability of the ISP, which is a composite indicator of social position (Miller & Salkind, 2002), but not income or education level to detect differences highlights the importance of precision in definition and measurement of social class-related constructs when attempting to discern implications for psychotherapy experiences and outcomes.

Taken together, research has demonstrated that individuals from lower social class backgrounds have increased attrition (e.g., Wierzbicki & Pekarik, 1993) and poorer treatment outcomes (e.g., Falconnier, 2009) as compared to patients from middle- and upper-class backgrounds. As no studies have examined patient financial distress in relationship to psychotherapy outcomes and findings have not yet been replicated within college student samples, we sought to examine the impact of patient financial distress on treatment outcomes within a large, naturalistic psychotherapy dataset. The following hypotheses were proposed:

H1: Patients with higher financial distress at baseline will show lower retention rates in treatment.

H2: Patients with higher financial distress at baseline will show smaller gains on psychological outcomes over the course of treatment.

Psychotherapy Outcomes and the Therapist–Client Relationship

Psychotherapy researchers also have begun to focus on characteristics of the therapist that may contribute to differential treatment outcomes. Baldwin and Imel (2013) defined *therapist effects* as "the effect of a given therapist on patient outcomes as compared to another therapist" (p. 260). Meta-analytic evidence has demonstrated that therapist effects explain significant variance in patient outcomes (i.e., 5%; Baldwin & Imel, 2013) and there is evidence that therapists vary in their influence on key psychotherapeutic mechanisms (e.g., therapeutic alliance; Del Re, Flückiger, Horvath, Symonds, & Wampold, 2012). Results from one study demonstrated that therapist effectiveness varied based upon patients' race/ethnicity (Imel et al., 2011) but no research has examined the possibility that some therapists may be better equipped to work with and contribute to enhanced outcomes for patients with differing levels of financial distress.

The ability of the therapist and patient to form an effective working alliance also has been demonstrated to relate to positive psychotherapy outcomes (Holdsworth et al., 2014). Although the impact of patient financial distress on the alliance–outcome relationship has not been tested, available evidence suggests that alliance is important for all patients. In their investigation of therapists' attention to economic stress topics during the first two sessions of psychotherapy with patients who were depressed in an RCT, Falconnier and Elkin (2008) demonstrated that 86% of patients across all patient SES groups introduced problems in at least one of three economic stress topics (financial, work, and unemployment) and patients had better outcomes across treatment modalities when working with therapists who engaged these economic stress conversations. Relatedly, Thompson et al. (2012) highlighted the importance of the working alliance in findings from their grounded theory investigation of clients from low-income backgrounds' experiences in psychotherapy. The clients described their ability to form effective working relationships with their therapist even though they perceived differences in social class between themselves and their therapist. The clients highlighted their therapists' willingness to address social class topics and misses and to extend their "traditional" (p. 557) role by enhancing the 50-min hour through acts of advocacy as factors that contributed to alliance and positive treatment experiences and outcomes.

Taken together, results seem to suggest that there are components of the therapist and the client (as well as the relationship between therapist and client) that may contribute to patient outcomes. Given the importance of the working alliance (e.g., Holdsworth et al., 2014) and data suggesting therapists' outcomes do vary by clients' racial and ethnic group (Imel et al., 2011), it is critical to assess the degree to which the relationship between patients' financial distress and outcome varied across therapists. As such, the following exploratory hypothesis was proposed:

H3: The relationship between financial distress and outcome (i.e., treatment retention and treatment gains) will vary across therapists.

Method

Participants and Procedures

Data were obtained from the treatment research archive at the counseling center of a large university in the United States. Psychotherapy at the counseling center was provided to students without session limits or fees. Patients completed the Outcome Questionnaire-45 (OQ-45; Lambert, 2004) prior to each session and the Presenting Problems Checklist (Research Consortium of Counseling and Psychological Services in Higher Education, 1998) at the start of treatment. Patients agreed to use of de-identified records in research and the university's human subject review board approved use of the records.

Analyses of the available data are limited in ways that are consistent with studies examining naturalistic psychotherapy data (e.g., Baldwin, Berkeljon, Atkins, Olsen, & Nielsen, 2009; Goldberg, Hoyt, Nissen-Lie, Nielsen, & Wampold, 2016). First, only outcome data from individual counseling sessions (excluding group and couples therapy) were included. Second, to avoid cross-classification of patients and therapists, data were limited to individuals who met with only one therapist at a time. Third, only the first episode of care was included; an episode of care was defined as ending if a period of 120 days had elapsed between sessions. Fourth, the sample was limited to patients whose first OQ-45 total score was in the clinical range (i.e., 64 or above; Lambert, 2004).

Because we were interested in the potential impact of patient financial distress on early termination (e.g., patients not returning following an initial session of therapy), no restrictions were placed on the minimum number of sessions. We also did not set a minimum number of patients per therapist, although primary models were rerun as sensitivity analyses with restrictions applied to increase the reliability of therapist-level variables (i.e., requiring at least two sessions of treatment to reflect a minimum dosage of therapy, requiring at least 10 patients per therapist for reliable estimates of therapist-level variables; Baldwin & Imel, 2013).

Patients. Based on these requirements, data were available for 5,078 treated patients: 62.2% were women and the average age at intake was 22.40 years ($SD = 4.01$). Self-reported race/ethnicity of the sample was as follows: 81.9% White; 6.0% Hispanic; 3.4% Asian; 1.4% Indigenous American, 1.3% Pacific Islander; 0.8% Black; 0.5% Other; and 4.6% gave no report. The data set included OQ-45 measurements from a total of 26,964 sessions. On average, patients attended 5.31 sessions ($SD = 6.01$, range = 1 to 103, *Median* [*Mdn*] = 4).

Therapists. Psychotherapy was provided by 238 therapists. On average, therapists saw 66.84 patients in the data set ($SD = 108.54$, range = 1 to 773, $Mdn = 29$). Assignment to therapist can be described as quasi-random. Patients were assigned to therapists primarily based on availability (although occasionally clients requested a therapist by gender and such requests were honored); therapist assignment was not based on patient severity, chronicity, or prognosis. The majority of therapists described themselves as following an integrative or eclectic approach to treatment. There were four exceptions: one therapist described himself as a dedicated practitioner of rational emotive behavior therapy, another described herself as a psychodynamically oriented therapist, and two others identified themselves as ACT therapists.

Variables

OQ-45. Progress in treatment was measured with the OQ-45 (Lambert, 2004) developed to assess three domains: symptom distress (25 items, e.g., "i feel no interest in things"), interpersonal relationships (11 items, e.g., "I have frequent arguments"), and social role functioning (nine items, e.g., "I feel stressed at work/school"). Respondents rate the frequency at which each event or situation occurred on a five-point rating scale ranging from 1 (*never*) to 5 (*almost always*). A total score is supported by factor analytic work (Bludworth, Tracey, & Glidden-Tracey, 2010). The OQ-45 has been widely used and shown to possess desirable psychometric properties, including high internal consistency reliability ($\alpha = .94$ for the total scale in the current sample) and adequate test–retest reliability over a 3-week range (.78 to .84; Snell, Mallinckrodt, Hill, & Lambert, 2001).

Financial Distress. Patient level of financial distress was assessed using an item drawn from the Presenting Problems Checklist (PPC; Research Consortium of Counseling and Psychological Services in Higher Education, 1998), which is comprised of 43 items designed to tap client's level of distress related to a range of presenting concerns (e.g., academics, dating, ethnic/racial discrimination, sleeping problems). Patients rate their level of distress for each item (response options include *none*, *a little bit*, *moderate*, *quite a bit*, and *extreme*). A second item assesses the duration of each concern (response options include *none*, *less than a week*, *1 to 4 weeks*, *1 to 6 months*, *6 to 12 months*, *1 to 3 years*, and *more than 3 years*). We examined the item designed to tap patients' distress related to "Finances" for this study.

Statistical Analyses

Estimation of treatment outcomes. A prepost Cohen's *d* effect size was computed for each patient using her or his first OQ-45 observation minus her or his last OQ-45 observation (these difference scores were then divided by the pooled standard deviation of pre- and posttreatment OQ-45 scores within the full sample, yielding a metric of change in standardized units). As lower scores on the OQ-45 indicate better functioning, positive prepost *d*s indicate patient improvement. To model predictors of treatment outcomes (e.g., level of financial distress), two-level multilevel models with patients nested within therapists were then constructed. The last available OQ-45 observation was modeled when controlling for the first available OQ-45 observation (i.e., baseline OQ-45). A random intercept was included at the therapist-level. In addition, subsequent models assessed the impact of financial distress on the rate of change in therapy by predicting prepost *d*s divided by the length of treatment. Finally, models assessed the extent to which the relationship between financial distress and outcomes varied by therapist. In particular, we examined whether adding a random slope at the therapist-level improved model fit.

The primary two-level model was constructed as follows:

$$Y_{ij} = B_{00} + B_{10}(Baseline\ \ OQ) + B_{20}(Financial\ \ Distress) + [U_{0_j} + e_{ij}]$$

where Y_{ij} reflects the outcome (e.g., last session OQ-45) of a given patient (i) seen by a given therapist (j). The fixed intercept (B_{00}) reflects the last session OQ-45 for the average patient of each therapist. The first fixed slope (B_{10}) reflects the average impact of the baseline OQ-45 on the last session OQ-45. The second fixed slope (B_{20}) reflects the average impact of financial distress on the last session OQ-45. The parameters inside the brackets were random effects included. Therapist variability around the fixed intercept was modeled with a random intercept coefficient (U_{0j}) indexing *therapist j*'s deviation from the overall mean outcome (B_{00}). Random slope models added an additional random effect as well. Lastly, e_{ij} reflects the error of prediction or residual for patient i seen by therapist j. Models were constructed with financial distress predicting patients' treatment engagement (operationalized as whether a patient attended more than one session of treatment), final OQ-45 score (controlling for baseline OQ-45 score).

Statistical software. Data were analyzed in the R programming language (version 3.1.2, R Development Core Team, 2015) using the 'nlme' and 'lme4′ multilevel modeling packages (Pinheiro, Bates, DebRoy, Sarkar, & the R Development Core Team, 2013). The default covariance structure in 'nlme' and 'lme4′ were used which assumes that e_{ij}s are independent.

Results

Descriptive Data

Overall, the sample showed a significant drop in psychological symptoms on the OQ-45 over the course of treatment. The average drop was 13.29 points ($SD = 19.07$), with a corresponding prepost d of 0.73 ($SD = 1.05$). Less than half of the sample fell within the nonclinical range at the last session ($n = 1{,}654$, 32.6%) and less than half of the sample showed a drop on the OQ-45 at or larger than the previously established reliable change index (RCI; Jacobson, Follette, & Revenstorf, 1984) cut-off for the OQ-45 (i.e., 14 points; $n = 2050$, 40.4%).

Patients' mean rating on the financial distress item was 1.82 ($SD = 1.42$), reflecting an average response between "a little bit" and "moderate." Across the five potential distress responses, 27.2% endorsed "none," 15.2% endorsed "a little," 20.5% endorsed "moderate," 22.3% endorsed "quite a bit," an 14.8% endorsed "extreme." Of the portion of the sample endorsing some level of financial distress ($n = 3{,}699$; 71.1%), the average duration response was 3.38 ($SD = 1.45$); 4.5% of patients endorsed "less than a week," 14.4% endorsed "1 to 4 weeks," 17.4% endorsed "1 to 6 months," 16.3% endorsed "six to 12 months," 14.4% endorsed "one to three years," and 4.2% endorsed "more than three years."

To examine potential relationships of other sample characteristics, we assessed the extent to which baseline OQ-45 scores, age, and gender related to financial distress. Financial distress was correlated with baseline OQ-45 scores, $r = .22$, $p < .001$, with patients endorsing higher baseline OQ-45 reporting greater financial distress. Financial distress was correlated with patient age, $r = .08$, $p < .001$ and women ($M = 1.89$, $SD = 1.43$) were significantly more likely than men ($M = 1.72$, $SD = 1.40$) to endorse higher levels of financial distress, $t(5076) = -4.19$, $p < .001$. As such, we controlled for these variables in subsequent hypothesis testing.

Predicting Patient-Level Outcomes From Financial Distress

Treatment engagement. A multilevel logistic regression model examined the relationship between patients' engagement in treatment and their baseline financial distress. Results were consistent with Hypothesis 1 and demonstrated that patients with higher baseline financial distress were less likely to stay for more than one session of therapy ($B = -0.073$, $p = .006$; Model 1, Table 1). Patients who stayed for only one session ($n = 948$) had an average score of 1.95 ($SD = 1.41$) on the finances item compared with those who attended follow-up sessions of treatment ($n = 4{,}130$) who had an average score of 1.80 ($SD = 1.42$), reflecting a small effect ($d = 0.11$). This effect persisted with the coefficient essentially unchanged when controlling for baseline OQ-45 ($B = -0.075$, $p = .006$, Model 2), age and gender ($B = -0.073$, $p = .007$), and when requiring a minimum of 10 patients per therapist ($B = -0.076$, $p = .005$).

Treatment outcome. Next, the relationship between financial distress and treatment outcome was examined. Multilevel models predicted last session OQ-45 scores (controlling for baseline OQ-45). Consistent with Hypothesis 2, financial distress was a significant predictor of last session OQ-45 in these models ($B = 0.015$, $p < .001$, Model 3, Table 1), with higher financial distress associated with higher OQ-45 scores at the end of treatment (i.e., worse treatment outcomes). This effect remained significant when excluding patients with only one session of therapy ($B = 0.012$, $p = .008$), when requiring a minimum of 10 cases per therapist ($B = 0.015$, $p < .001$), and when controlling for patient age, gender, and length of treatment ($B = 0.014$, $p < .001$). In order to index the magnitude of this effect in readily interpretable units, we computed baseline financial distress for patients who achieved reliable change and those who did not. Although in the expected direction (Ms = 1.80 and 1.84, SDs = 1.44 and 1.41, for those patients achieving reliable change and those not achieving reliable change, respectively), the difference was very small in magnitude ($d = -0.029$).

Predicting Variation Across Therapists

The primary models (i.e., without controlling for additional potential confounds) predicting treatment engagement and last session OQ-45 were reestimated with financial distress entered as a random slope coefficient at the therapist-level in order to Test Hypothesis 3. This allowed assessment of the degree to which the relationship between financial distress and treatment engagement and last session OQ-45 varied across therapists. In order to provide reliable estimates of therapist-level variables, the sample was restricted to patients seen by therapists who saw at least 10 cases in the dataset (this resulted in 216 therapists).

Therapists accounted for a small amount of variation in last session OQ-45 when controlling for baseline OQ-45 (intraclass correlation coefficient [*ICC*] = .021, i.e., 2.1%). The addition of a random slope coefficient did not improve model fit for models predicting last session OQ-45 when controlling for first session OQ-45, $\chi^2[2] = 3.04$, $p = .218$, reflected by a very small ICC associated with this random slope ($ICC = .00063$). Therapists accounted for a larger proportion of variance in whether patients remained in therapy beyond the first session ($ICC = .223$[1]). Consistent with expectations, the addition of a random slope coefficient significantly improved model fit ($\chi^2[2] = 7.55$, $p = .023$, random slope $ICC = .0035$) in the model predicting whether patients remained in treatment beyond the first session. This suggests that for some therapists, the increased risk of early termination for patients with high financial distress was attenuated. Thus, Hypothesis 3 was partially supported. For purposes of illustration, a standardized mean difference (i.e., Cohen's d) was computed at the therapist level to reflect baseline financial distress for patients who engaged with treatment versus patients who did not. As expected, the overall d was small and slightly negative ($d = -0.075$), although therapists varied considerably in the difference between these groups in a given therapist's particular caseload (see Figure 1).

Discussion

Patients with heightened self-reported financial distress showed a decreased likelihood to continue in treatment for more than one session, supporting Hypothesis 1. Although this is the first study to examine financial distress in relation to treatment outcomes, it is consistent with findings from prior research that demonstrated higher attrition rates for individuals from lower social class backgrounds as compared to individuals from middle or upper class backgrounds (e.g., Wierzbicki & Pekarik, 1993) and individuals who have lower (as opposed to higher) levels of education (Swift & Greenberg, 2012). These results also are the first to demonstrate this finding within a large, naturalistic psychotherapy dataset and within a college student sample, as well as when controlling for age, gender, and baseline functioning (as measured via the OQ-45).

Results also supported Hypothesis 2. Patients with higher financial distress at baseline reported smaller treatment gains and financial distress was associated with worse treatment outcomes at the final session when controlling for baseline OQ-45 scores. This relationship held when controlling for patient age, gender, and length of treatment. Although this finding is the first to demonstrate these relationships when assessing patient self-reported financial distress, it also fits within those from prior RCTs (e.g., Cohen et al., 2006; Falconnier, 2009; Organista et al., 1994) that demonstrated that patients from lower-, as opposed to middle- and upper-class backgrounds have smaller gains over the course of treatment.

Finally, we explored whether the relationship between patient financial distress and patient outcomes (i.e., treatment retention, treatment gains) varied by therapist (Hypothesis 3). Contrary to expectations, results demonstrated that the relationship between financial distress and symptom change did not vary significantly by therapist. Differences in early attrition rates, however, did vary by therapists. This suggests that therapists may be differently able to engage patients with high levels of financial distress in treatment following the first session. This is consistent with a growing body of research highlighting the impact of the therapist on patient outcomes, including patients' trajectories of change (Goldberg et al., in press).

In combination, these results extend those from prior research and suggest that financial distress is one of many factors that has

[1] ICCs were computed based on the random effects variance components provided in the 'nlme' and 'lme4' packages. For the multilevel logistic regression, the residual variance was assumed to be $\pi^2/3$ (Wu, Crespi, & Wong, 2012).

Table 1
Multilevel Model Results Predicting Treatment Outcomes From Patient Financial Distress

Model	Outcome	Predictor	*B*	*SE*	*t*/*z*	*p*
Model 1	1+ sessions	Financial distress	−.073	.027	−2.73	.006
Model 2	1+ sessions	Financial distress	−.075	.028	−2.73	.006
		Baseline OQ	.037	.12	.323	.747
Model 3	Posttreatment OQ	Financial distress	.015	.0041	3.67	<.001
		Baseline OQ	.64	.017	37.17	<.001
Model 4	Rate of change	Financial distress	−.00028	.0026	−.11	.915
Model 5	Rate of change	Financial distress	−.012	.0026	−4.44	<.001
		Baseline OQ	.21	.011	19.27	<.001

Note. 1+ = staying for more than one session of psychotherapy; OQ = Outcome Questionnaire-45 (Lambert, 2004).

a small influence on outcomes in psychotherapy. First, they are the first to examine the implications of financial distress within a large, naturalistic dataset. Prior findings that have demonstrated decreased improvement for individuals from lower SES backgrounds relied upon secondary data analysis from RCTs. It is important to note that in general, the RCT literature has been critiqued for its inattention to culture and its samples have been criticized for their relative exclusion of racially, ethnically, and socioeconomically diverse clients (e.g., Bernal & Scharrón-del-Río, 2001; Thompson & Dvorscek, 2013). Although our reliance upon data from college students in a university counseling center poses restrictions to the generalizability of results to noncollege student samples, our use of a large, naturalistic dataset increases the potential generalizability of these findings.

Second, these results are the first to examine the relationship of financial distress to psychotherapy outcome rather than relying on objective indicators of class (e.g., income level, education level) or a client's self-identified social class category. Although reliance upon a single financial distress item has its limitations (as discussed below), doing so allowed us to isolate the link between individuals' experience of financial distress and psychotherapy outcome. As such, we have more confidence that the relationships highlighted in these data specifically reflect individuals' perceptions of "distress" related to "finances" as opposed to capturing additional variance related to other social class-related factors. This is consistent with Gallo and Matthews' (2003) suggestion that the stressors experienced in relation to social class are partially responsible for the negative consequences associated with limited access to resources. Increasing specificity when examining social class as a cultural variable is an important step in disentangling the multifaceted components of social class and its relation to mental health and treatment outcomes and to better understanding the intrapsychic dimensions of these experiences for individuals (e.g., Pope & Arthur, 2009). In other words, as we begin to examine social class as a relevant cultural variable in psychotherapy research, it is critical that we become increasingly clear about the way this construct is operationalized (particularly given psychology's history of variable definitions and measurement of social class; Liu & Ali, 2008).

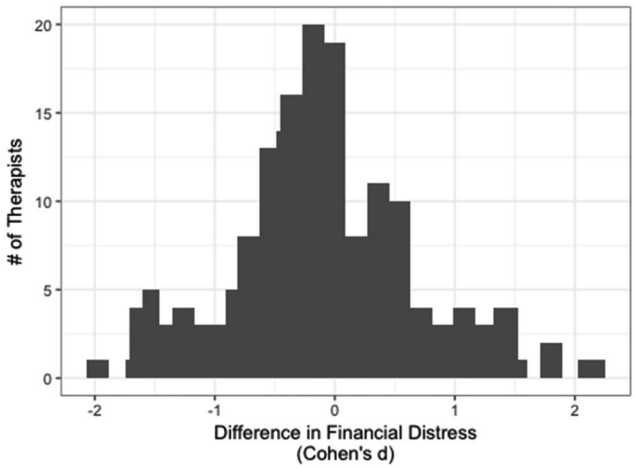

Figure 1. Histogram displaying variation across therapist on the relationship between financial distress and treatment engagement. Distribution of therapists is plotted as a function of the difference in baseline financial distress between patients who remained beyond one session and patients who did not. Differences were computed as the mean of patients seeing a given therapist who remained in treatment minus the mean of patients who did not. These difference scores were converted to Cohen's *d* units (i.e., negative *d*s indicate patients who remained had lower financial distress at baseline).

' the notion that therapists play an important role in treatment outcome (i.e., evidence for therapist effects). This builds upon prior work indicating that therapists vary in their ability to work successfully with patients from various racial and ethnic groups (Imel et al., 2011) and results from a qualitative study indicating that mental health professionals vary in their self-reported ability to meet the needs of clients from lower income backgrounds (Thompson et al., 2015). In this case, it appears that the risk of early attrition linked with higher baseline financial distress was attenuated (or amplified) depending on the therapist. Further research examining specific practices of therapists who are effective at retaining patients who are experiencing financial stress in treatment could be helpful for improving outcomes for these patients and deepening our understanding of therapist competence in working with clients from diverse groups.

Limitations

These results must be considered alongside limitations to the measurement, analysis, and sample. First, our use of a naturalistic dataset limited our ability to measure additional facets of social class. We relied on the use of a single indicator from the Presenting Problems Checklist: participant's self-reported level of financial

distress. Although there was variability on this item across participants (including a sizable proportion of the sample [14.8%] reporting "extreme" levels of financial distress), relying upon a single item measuring a specific experience related to social class narrowed our ability to make inferences about the impact of other dimensions (e.g., perceived social status; experiences of classism) on treatment outcome. The use of a single indicator is not uncommon within the psychotherapy literature (though generally research has focused upon more traditionally sociological indicators such as income level, census track, or education; e.g., Cohen et al., 2006). Yet, interpretations regarding the extent to which these findings can be extended to patient social class are limited. Replication with other samples that use measurement of additional facets of social class-related experiences is warranted.

Relatedly, the single financial distress item does not purely reflect objective financial hardship. It is possible that this item was at least partially confounded with variance related to general distress (and the correlation with baseline OQ-45 scores suggests this may be the case). The fact that relationships remained when controlling for baseline general distress (i.e., OQ-45 scores), however, supports the notion that potential confounding between financial and general distress was not driving the observed relationships. Future research is needed to explore the possibility that financial distress includes variance related to social class and other patient characteristics not specific to social class (e.g., neuroticism, social or familial support, self-efficacy beliefs).

These results also are limited by the particular characteristics of the patient and therapist samples. First, the sample was drawn from naturalistic data at a university counseling center. This means that all patients were currently enrolled at least part-time in an institution of higher education. As such, these results may not extend to other groups of patients (e.g., adult community members) or to those seen in other treatment settings (e.g., a community mental health agency, independent practice, Veteran Affairs hospital). Second, individuals who identified as Caucasian were overrepresented in this sample. Third, the mean age of participants in this sample was 22.40 years, overrepresenting young adults. It seems possible that financial distress manifests or functions differently for individuals in this age group as compared to children or older adults (e.g., financial distress related to paying for college or student loan debt vs. financial distress related to housing instability). As such, these results should be considered within the context of a population that is relatively young and upwardly mobile. Caution is warranted when generalizing these findings to other groups of psychotherapy patients.

Finally, limited data existed regarding specific identity characteristics of the therapists in this study. This restricted our ability to examine the extent to which particular therapist characteristics (e.g., race/ethnicity, self-identified social class or levels of financial distress) may have related to their ability to work with patients or have differential effects on patient outcomes. Further research is needed to explore the possibility that some therapists may be better suited to work with clients who have higher financial distress. This seems especially important given findings that have demonstrated that therapist competencies may be domain or disorder specific (e.g., Kraus, Castonguay, Boswell, Nordberg, & Hayes, 2011).

References

Adler, N. E., Boyce, T., Chesney, M. A., Cohen, S., Folkman, S., Kahn, R. L., & Syme, S. L. (1994). Socioeconomic status and health. The challenge of the gradient. *American Psychologist, 49,* 15–24. http://dx.doi.org/10.1037/0003-066X.49.1.15

Baldwin, S. A., Berkeljon, A., Atkins, D. C., Olsen, J. A., & Nielsen, S. L. (2009). Rates of change in naturalistic psychotherapy: Contrasting dose-effect and good-enough level models of change. *Journal of Consulting and Clinical Psychology, 77,* 203–211. http://dx.doi.org/10.1037/a0015235

Baldwin, S. A., & Imel, Z. E. (2013). Therapist effects: Findings and methods. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 258–297). Hoboken, NJ: Wiley.

Benish, S. G., Quintana, S., & Wampold, B. E. (2011). Culturally adapted psychotherapy and the legitimacy of myth: A direct-comparison meta-analysis. *Journal of Counseling Psychology, 58,* 279–289. http://dx.doi.org/10.1037/a0023626

Bernal, G., & Scharrón-del-Río, M. R. (2001). Are empirically supported treatments valid for ethnic minorities? Toward an alternative approach for treatment research. *Cultural Diversity & Ethnic Minority Psychology, 7,* 328–342. http://dx.doi.org/10.1037/1099-9809.7.4.328

Bludworth, J. L., Tracey, T. J. G., & Glidden-Tracey, C. (2010). The bilevel structure of the Outcome Questionnaire-45. *Psychological Assessment, 22,* 350–355. http://dx.doi.org/10.1037/a0019187

Cohen, A., Houck, P. R., Szanto, K., Dew, M. A., Gilman, S. E., & Reynolds, C. F., III. (2006). Social inequalities in response to antidepressant treatment in older adults. *Archives of General Psychiatry, 63,* 50–56. http://dx.doi.org/10.1001/archpsyc.63.1.50

Creed, P. A., & Macintyre, S. R. (2001). The relative effects of deprivation of the latent and manifest benefits of employment on the well-being of unemployed people. *Journal of Occupational Health Psychology, 6,* 324–331. http://dx.doi.org/10.1037/1076-8998.6.4.324

Dahling, J. J., Melloy, R., & Thompson, M. N. (2013). Financial strain and regional unemployment as barriers to job search self-efficacy: A test of social cognitive career theory. *Journal of Counseling Psychology, 60,* 210–218. http://dx.doi.org/10.1037/a0031492

Del Re, A. C., Flückiger, C., Horvath, A. O., Symonds, D., & Wampold, B. E. (2012). Therapist effects in the therapeutic alliance-outcome relationship: A restricted-maximum likelihood meta-analysis. *Clinical Psychology Review, 32,* 642–649. http://dx.doi.org/10.1016/j.cpr.2012.07.002

Diemer, M. A., Mistry, R. S., Wadsworth, M. E., López, I., & Reimers, F. (2013). Best practices in conceptualizing and measuring social class in psychological research. *Analyses of Social Issues and Public Policy (ASAP), 13,* 77–113. http://dx.doi.org/10.1111/asap.12001

Falconnier, L. (2009). Socioeconomic status in the treatment of depression. *American Journal of Orthopsychiatry, 79,* 148–158. http://dx.doi.org/10.1037/a0015469

Falconnier, L., & Elkin, I. (2008). Addressing economic stress in the treatment of depression. *American Journal of Orthopsychiatry, 78,* 37–46. http://dx.doi.org/10.1037/0002-9432.78.1.37

Gallo, L. C., & Matthews, K. A. (2003). Understanding the association between socioeconomic status and physical health: Do negative emotions play a role? *Psychological Bulletin, 129,* 10–51. http://dx.doi.org/10.1037/0033-2909.129.1.10

Goldberg, S. B., Hoyt, W. T., Nissen-Lie, H. A., Nielsen, S. L., & Wampold, B. E. (2016). Unpacking the therapist effect: Impact of treatment length differs for high- and low-performing therapists. *Psychotherapy Research*. Advance online publication. http://dx.doi.org/10.1080/10503307.2016.1216625

Goldberg, S. B., Rousmaniere, T., Miller, S. D., Whipple, J., Nielsen, S. L., Hoyt, W. T., & Wampold, B. E. (2016). Do psychotherapists improve with time and experience? A longitudinal analysis of outcomes in a

clinical setting. *Journal of Counseling Psychology, 63,* 1–11. http://dx.doi.org/10.1037/cou0000131

Holdsworth, E., Bowen, E., Brown, S., & Howat, D. (2014). Client engagement in psychotherapeutic treatment and associations with client characteristics, therapist characteristics, and treatment factors. *Clinical Psychology Review, 34,* 428–450. http://dx.doi.org/10.1016/j.cpr.2014.06.004

Hollingshead, A. B. (1971). Commentary on "the indiscriminate state of social class measurement." *Social Forces, 49,* 563–567. http://dx.doi.org/10.1093/sf/49.4.563

Imel, Z. E., Baldwin, S., Atkins, D. C., Owen, J., Baardseth, T., & Wampold, B. E. (2011). Racial/ethnic disparities in therapist effectiveness: A conceptualization and initial study of cultural competence. *Journal of Counseling Psychology, 58,* 290–298. http://dx.doi.org/10.1037/a0023284

Jacobson, N. S., Follette, W. C., & Revenstorf, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behavior Therapy, 15,* 336–352. http://dx.doi.org/10.1016/S0005-7894(84)80002-7

Knopf, D., Park, J., & Mulye, T. (2008). The mental health of adolescents: A national profile, 2008. *Mental Health Brief*. Retrieved from http://nahic.ucsf.edu/downloads/MentalHealthBrief.pdf

Kraus, D. R., Castonguay, L., Boswell, J. F., Nordberg, S. S., & Hayes, J. A. (2011). Therapist effectiveness: Implications for accountability and patient care. *Psychotherapy Research, 21,* 267–276. http://dx.doi.org/10.1080/10503307.2011.563249

Krieger, N., Williams, D. R., & Moss, N. E. (1997). Measuring social class in US public health research: Concepts, methodologies, and guidelines. *Annual Review of Public Health, 18,* 341–378. http://dx.doi.org/10.1146/annurev.publhealth.18.1.341

Lambert, M. J. (2004). *Administration and scoring manual for the OQ 45.2* (3rd ed.). Salt Lake City, UT: OQ-45 Measures.

Langhout, R. D., Rosselli, F., & Feinstein, J. (2007). Assessing classism in academic settings: Review of higher education. *Journal of the Association for the Study of Higher Education, 30,* 145–184.

Liu, W. M. (2001). *Expanding our understanding of multiculturalism: Developing a social class worldview model. The intersection of race, class, and gender in counseling psychology*. Thousand Oaks, CA: SAGE.

Liu, W. M., & Ali, S. R. (2008). Social class and classism: Understanding the psychological impact of poverty and inequality. In S. D. Brown, & R. W. Lent (Eds.), *Handbook of counseling psychology* (4th ed., pp. 159–175). Hoboken, NJ: Wiley.

Liu, W. M., Soleck, G., Hopps, J., Dunston, K., & Pickett, T., Jr. (2004). A new framework to understand social class in counseling: The social class worldview model and modern classism theory. *Journal of Multicultural Counseling and Development, 32,* 95–122. http://dx.doi.org/10.1002/j.2161-1912.2004.tb00364.x

Lott, B. (2002). Cognitive and behavioral distancing from the poor. *American Psychologist, 57,* 100–110. http://dx.doi.org/10.1037/0003-066X.57.2.100

Miller, D. C., & Salkind, N. J. (2002). *Handbook of research design & social measurement* (6th ed.). Thousand Oaks, CA: Sage. http://dx.doi.org/10.4135/9781412984386

Organista, K. C., Muñoz, R. F., & González, G. (1994). Cognitive-behavioral therapy for depression in low-income and minority medical outpatients: Description of a program and exploratory analyses. *Cognitive Therapy and Research, 18,* 241–259. http://dx.doi.org/10.1007/BF02357778

Pinheiro, J., Bates, D., DebRoy, S., Sarkar, D., & the R Development Core Team. (2013). *nlme: Linear and Nonlinear Mixed Effects Models* [Computer software manual]. Retrieved from http://cran.r-project.org/

Pope, J. F., & Arthur, N. (2009). Socioeconomic status and class: A challenge for the practice of psychology in Canada. *Canadian Psychology/Psychologie Candadienne, 50,* 55–65.

Price, R. H., Choi, J., & Vinokur, A. D. (2002). Links in the chain of adversity following job loss: How financial strain and loss of personal control lead to depression, impaired functioning, and poor health. *Journal of Occupational Health Psychology, 7,* 302–312. http://dx.doi.org/10.1037/1076-8998.7.4.302

Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research, & Practice, 19,* 276–288. http://dx.doi.org/10.1037/h0088437

R Development Core Team. (2015). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing. Retrieved from http://www.R-project.org/

Research Consortium of Counseling and Psychological Services in Higher Education. (1998). *Presenting Problems Checklist*. Austin, TX: Author.

Smith, L. (2005). Psychotherapy, classism, and the poor: Conspicuous by their absence. *American Psychologist, 60,* 687–696. http://dx.doi.org/10.1037/0003-066X.60.7.687

Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist, 32,* 752–760. http://dx.doi.org/10.1037/0003-066X.32.9.752

Smith, M. L., Glass, G. V., & Miller, T. I. (1980). *The benefits of psychotherapy*. London, UK: Johns Hopkins University Press.

Snell, M. N., Mallinckrodt, B., Hill, R. D., & Lambert, M. J. (2001). Predicting counseling center clients' response to counseling: A 1-year follow-up. *Journal of Counseling Psychology, 48,* 463–473. http://dx.doi.org/10.1037/0022-0167.48.4.463

Swift, J. K., & Greenberg, R. P. (2012). Premature discontinuation in adult psychotherapy: A meta-analysis. *Journal of Consulting and Clinical Psychology, 80,* 547–559. http://dx.doi.org/10.1037/a0028226

Thompson, M. N., Cole, O. D., & Nitzarim, R. S. (2012). Recognizing social class in the psychotherapy relationship: A grounded theory exploration of low-income clients. *Journal of Counseling Psychology, 59,* 208–221. http://dx.doi.org/10.1037/a0027534

Thompson, M. N., & Dvorscek, M. J. (2013). Social class and empirical support for treatment. In W. Ming Liu (Ed.), *The Oxford handbook of social class in counseling* (pp. 35–58). New York, NY: Oxford University Press. http://dx.doi.org/10.1093/oxfordhb/9780195398250.013.0003

Thompson, M. N., Nitzarim, R. S., Cole, O. D., Frost, N. D., Ramirez Stege, A., & Vue, P. T. (2015). Clinical experiences with clients who are low-income: mental health practitioners' perspectives. *Qualitative Health Research, 25,* 1675–1688. http://dx.doi.org/10.1177/1049732314566327

Wampold, B., & Imel, Z. E. (2015). *The great psychotherapy debate: The evidence for what makes psychotherapy work* (2nd ed.). New York, NY: Routledge.

Wierzbicki, M., & Pekarik, G. (1993). A meta-analysis of psychotherapy dropout. *Professional Psychology: Research and Practice, 24,* 190–195. http://dx.doi.org/10.1037/0735-7028.24.2.190

Williams, W. R. (2009). Struggling with poverty: Implications for theory and policy of increasing research on social-class based stigma. *Analyses of Social Issues and Public Policy, 9,* 37–56. http://dx.doi.org/10.1111/j.1530-2415.2009.01184.x

Wu, S., Crespi, C. M., & Wong, W. K. (2012). Comparison of methods for estimating the intraclass correlation coefficient for binary responses in cancer prevention cluster randomized trials. *Contemporary Clinical Trials, 33,* 869–880. http://dx.doi.org/10.1016/j.cct.2012.05.004

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