

Competence to Complete Psychiatric Advance Directives: Effects of Facilitated Decision Making

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Abstract Psychiatric advance directives (PADs) statutes presume competence to complete these documents, but the range and dimensions of decisional competence among people who actually complete PADs is unknown. This study examines clinical and neuropsychological correlates of performance on a measure to assess competence to complete PADs and investigates the effects of a facilitated PAD intervention on decisional capacity. $N = 469$ adults with psychotic disorders were interviewed at baseline and then randomly assigned to either a control group in which they received written materials about PADs or to an intervention group in which they were offered an opportunity to meet individually with a trained facilitator to create a PAD. At baseline, domains on the Decisional Competence Assessment Tool for PADs (DCAT-PAD) were most strongly associated with IQ, verbal memory, abstract thinking, and psychiatric symptoms. At one-month follow-up, participants in the intervention group showed more improvement on the DCAT-PAD than controls, particularly among participants with pre-morbid IQ estimates below the median of 100. The results suggest that PAD facilitation is an effective method to boost competence of cognitively-impaired clients to write PADs and make treatment decisions within PADs, thereby maximizing the chances their advance directives will be valid.

Keywords Psychiatric advance directives · Treatment competence · Severe mental illness · Mental health law

At the heart of an evolving debate in mental health policy, law, and bioethics lies a tension between the principle of respect for patient autonomy in healthcare decisions and the responsibility to provide appropriate services to people with severe mental illness, many of whom experience intermittent impairment of decisional capacity and fluctuating attitudes towards accepting treatment. The acute controversy over involuntary outpatient commitment and other mandated

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treatment in the United States is a part of this larger debate, and perhaps no other issue has so polarized stakeholders in recent years (Monahan et al., 2001). Involuntary treatment may well be “effective” for improving treatment engagement and other clinical outcomes, but at the same time may override the personal liberty of people with mental illness (Swartz et al., 1999).

Many believe psychiatric advance directives (PADs) may help resolve this dilemma by promoting both autonomy and beneficial treatment for people with mental illness (Appelbaum, 2004; Backlar, 2004; Saks, 2004; Srebnik, Russo, Sage, Peto, & Zick, 2003; Swanson, Tepper, Backlar, & Swartz, 2000; Varma & Goldman, 2005). In the past fifteen years, twenty-five states have passed psychiatric advance directives (PAD) laws allowing competent people to authorize proxy decision makers and document advance instructions or preferences regarding future mental health treatment in the event of an incapacitating psychiatric crisis. The legislative intent of PAD laws is to enhance patient autonomy when patients with mental illness are most vulnerable and in need of high-quality care (Srebnik, 2004). PADs also provide a transportable document to convey information about a patient’s treatment history, including medical disorders, emergency contact information, and medication side effects (Swartz, Swanson, & Elbogen, 2004). Finally, PADs may improve consumers’ access to beneficial mental health treatment during crises and be used as a clinical tool to increase therapeutic alliance and patient engagement (Swanson et al., *in press*, 2003).

To illustrate, mental health clinicians in crisis settings often know little about the background of individual psychiatric patients who present in crisis centers or hospital emergency rooms (Elbogen, Tomkins, Pothuloori, & Scalora, 2003). But this is exactly when clinicians are required to make decisions regarding treatment and management of suicide and violence risk; as a result, civil commitment decisions may be made under these circumstances with suboptimal patient data. However, clinicians presented with a patient’s PAD would gain access to critical medical and psychiatric information at the very moment when the patient would be least able to communicate it.

In addition to recognizing the potential benefits of PADs, many states are beginning to recognize legal obligations under the federal Patient Self-Determination Act (PSDA) of 1991, which includes informing all hospital patients that they have a right to prepare advance directives and—with certain caveats—that clinicians are obliged to follow these directives (Hoge, 1994). Though intended mainly to give people control over their own healthcare at the end of life, the PSDA also inspired mental health advocates to promote advance planning as a means for people with mental illness to retain autonomy (e.g., by proxy) during periods of incapacity (Backlar & McFarland, 1996). Thus, people with mental illness residing in states without specific PAD statutes may be able to use medical advance directives to specify mental health treatment preferences or assign proxy decision makers for mental health decisions.

Despite the promise of PADs, relatively few patients have completed these legal documents. Research indicates that although approximately 70% of patients with mental illness would want a PAD if offered assistance in completing one, less than 10% have actually completed a PAD (Swanson, Swartz, Ferron, Elbogen, & Van Dom, 2006). One reason is that most patients report barriers to completing PADs, such as not understanding how they work or having trouble notarizing the document while obtaining appropriate witnesses (Swanson et al., 2003). Further, studies show that mental health professionals are concerned about following PADs with medically inappropriate instructions and are not convinced that they will realistically be able to access a patient’s PAD during a crisis (Srebnik, 2004; Swartz et al., 2005; Van Dom et al., 2006).

Still, clinicians with more legal knowledge about PADs are more likely to endorse PADs as a beneficial part of patients’ treatment planning, according to one survey (Elbogen et al., 2006). Additionally, research suggests PADs typically contain clinically useful information and rarely include medically inappropriate information (Srebnik et al., 2005; Swanson et al., *in press*). Evidence is also emerging from a randomized clinical trial suggesting that a manualized PAD

facilitation helps overcome patient barriers to completing PADs and improve working alliance and treatment satisfaction among people with mental illness (Swanson et al., [in press](#)).

Competence is central to implementing PADs; patients must be competent when they prepare and sign these documents and have them notarized (Srebnik, Appelbaum, & Russo, 2004). Conceptually, decisional competence is defined as the capacity to understand, appreciate, reason, and make choices in the context of specific decisions (e.g., make treatment decisions, provide informed consent for research, manage one's own finances, or write a will) (Grisso & Appelbaum, 1998). From this perspective, competence to complete a PAD involves two abilities: a capacity to write the PAD document and a capacity to make the treatment decisions recorded within the PAD (Srebnik et al., 2004). In other words, someone may understand, appreciate, and reason satisfactorily about what a PAD is and how to fill one out, but be less competent with respect to the specific treatment preferences documented within, such as making choices about medications or hospital treatment.

Although clinicians will inevitably need to consider both kinds of capacities in the course of implementing PAD laws, little is known about the characteristics associated with competence to complete PADs or about mechanisms by which competence can be improved so that PADs are more likely to be valid and followed by clinicians. This study, part of a larger project on the use of PADs, examines among adults with mental illness the clinical and cognitive correlates of performance on a measure of PAD decisional competence and investigates whether an intervention to facilitate PAD completion in this clinical population improves performance on PAD competence measures.

Broadly, the intervention to facilitate PAD completion provides education and orientation to PADs, as well as direct assistance that may be necessary for adults with mental illness to complete a legal PAD. Because those who receive the facilitated PAD intervention have the opportunity to meet individually with a trained facilitator to be informed about PADs and have the experience of completing a PAD, we hypothesize that participants in the intervention group will show greater improvement in decisional capacity to complete PADs compared to participants in the control group. We also expect that, since PADs are relatively new laws and involve complex concepts, we will find lower decisional capacity initially among participants with lower cognitive functioning. However, we anticipate that participants from this same cohort assigned to the intervention group will show the greatest improvement in decisional capacity because of the concrete experience of engaging in the PAD facilitation and completing a PAD.

Method

Participants

The primary target population for PADs is a subset of individuals who experience psychotic symptoms associated with fluctuating decisional capacity, and who are at risk for involuntary treatment. Accordingly, the study's sampling criteria were: (1) age 18–65; (2) chart diagnosis of schizophrenia, schizoaffective disorder, other psychotic disorder, or major mood disorder with psychotic features; and (3) currently receiving community-based treatment provided through one of two area programs in the state mental health system of North Carolina (Durham and Guilford Counties).

The two community mental health programs provided comprehensive de-identified lists of clients pre-screened for study eligibility criteria. From these lists, a random sample of client cases was screened. Sequential admissions from these programs to the regional state psychiatric hospital were also screened. Treating clinicians verified that the identified patient met study selection

criteria and approached the patient initially for permission to be contacted by a researcher. Patients willing to be contacted were then approached by a research interviewer to obtain informed consent and conduct the baseline interview. Of those approached, 8% refused to participate but did not differ from those who ultimately consented in terms of gender, ethnicity, or diagnosis. At baseline, the study enrolled 469 participants who met the aforementioned criteria and provided informed consent. Immediately following, the following instruments were administered.

Materials

Competence to complete psychiatric advance directives

The Decisional Competence Assessment Tool for Psychiatric Advance Directives (DCAT-PAD) was developed to mirror the structure of the MacArthur Competency Assessment Tool for Treatment (MacCAT-T) (Appelbaum & Grisso, 1995; Grisso, Appelbaum, Mulvey, & Fletcher, 1995). The DCAT-PAD is a briefer version of the CAT-PAD (Srebnik et al., 2004) but follows the same overall framework of assessing two types of competence as related to PADs. Specifically, the DCAT-PAD first evaluates participants' ability to (1) understand the key components of PADs, (2) appreciate whether or not PADs would be relevant to them and their treatment, (3) reason about how PADs would affect their lives, and (4) choose whether they would want to fill out a PAD. The items measuring these showed high internal consistency ($\alpha = .91$) and appear to reliably tap into a single construct of the ability to write a PAD (called "*Competence to Write a PAD*").

Second, the DCAT-PAD assesses competence to make treatment choices within the PAD document. For this, we chose hospital treatment as the 'treatment choice' because hospital preferences are a typical set of instructions documented in PADs. Thus, the DCAT-PAD also evaluates participants' abilities to (1) understand the pros and cons of hospital treatment, (2) appreciate whether hospitalization may be a relevant option for them, (3) reason about how hospital treatment would affect their lives, and (4) choose whether they would want to be hospitalized if they became ill. The items measuring these showed high internal consistency ($\alpha = .80$) and appear to reliably tap into a single construct of the ability to make decisions about hospital treatment (called "*Competence to Make Treatment Decisions within a PAD*").

The DCAT-PAD was administered to participants by six research assistants who were required to undergo training that included: (1) watching the MacCAT-T Training Video; (2) reading the MacCAT-T Instructional Manual (Grisso & Appelbaum, 1998); (3) observing a mock DCAT-PAD interview; (4) administering and scoring a mock DCAT-PAD; (5) obtaining feedback on a mock DCAT-PAD; (6) administering and scoring a DCAT-PAD interview with a participant while observed by a clinical psychologist; and (7) obtaining feedback on the DCAT-PAD. Administration time of the DCAT-PAD was between 15–20 min.

To ensure ongoing reliability, the research assistants met with a clinical psychologist every week during the study to address DCAT-PAD administration and scoring issues. Additionally, we formally tested DCAT-PAD reliability multiple times during the course of the study: at the start of data collection, six months into the study, and one year into the study. At each time point, a clinical psychologist randomly selected three completed DCAT-PAD protocols, deleted the scores, and then made copies of each for the research assistants, whom independently coded them. The research assistants achieved a Cohen's *Kappa* for multiple raters of .74 at the start of data collection; at six months they achieved a *Kappa* = .78 and at one year *Kappa* = .82. Initial training, weekly meetings, and ongoing checks thus assured reliable administration and scoring of the DCAT-PAD.

Demographic and clinical data

Demographic variables included age, education, ethnicity, and gender. The anchored version of the Brief Psychiatric Rating Scale (BPRS) was used to assess current psychiatric symptoms (Woerner, Mannuzza, & Kane, 1988). The Global Assessment of Functioning scale (GAF) was used to score functioning, with low scores indicating more severe functional impairment (Endicott, Spitzer, Fleiss, & Cohen, 1976). The Insight and Treatment Attitudes Questionnaire (ITAQ) was used to measure awareness of mental health problems and acknowledgment of need for treatment in the past, currently, and in the future (McEvoy, Apperson, Appelbaum, & Ortlip, 1989). Additional clinical variables included diagnosis as obtained from the participant's medical record.

Neurocognitive functioning

The American National Reading Test (AMNART), which asks participants to read a list of words that become progressively more advanced, was used to estimate pre-morbid IQ (Blair & Spreen, 1989). The Similarities subtest from the Wechsler Adult Intelligence Scale—Third Edition (WAIS-III) taps into abstract versus concrete thinking and involves participants indicating how two items are alike (Wechsler, 1997). The Controlled Oral Word Association Task (COWAT) captures a participant's verbal fluency abilities and asks participants to name as many animals as possible in 60 seconds (Sumerall et al., 1997). The Hopkins Verbal Learning Task (HVLT) involves reading to participants a list of 12 words three times and asking what the participant remembers after each repetition and again after 30 minutes; the HVLT provides measures of immediate and delayed recall of verbal information (Brandt, 1991).

Design and procedure

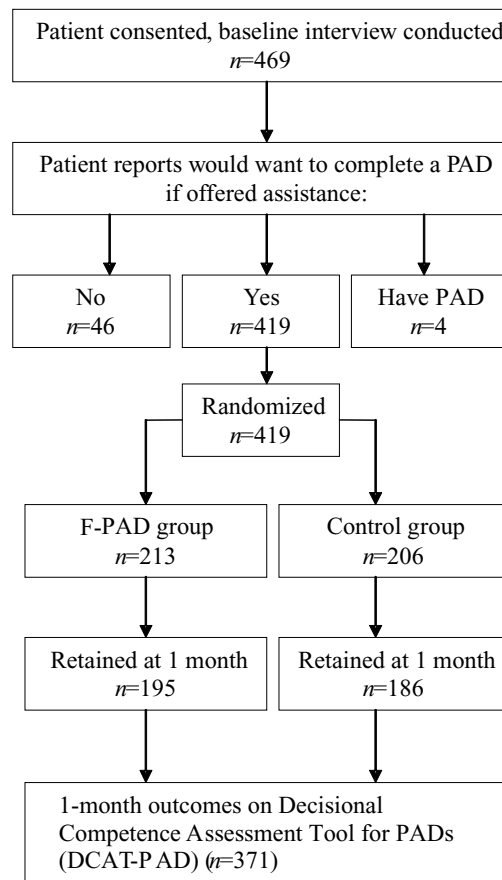
Randomization

Following baseline administration of the aforementioned measures, participants who said they wanted a PAD were randomly assigned to an intervention or control group (see Fig. 1). Procedures and study protocol were approved by the Duke University Medical Center Institutional Review Board (IRB) and by the local IRBs of the public mental health programs and the state psychiatric hospital from which patients were recruited.

Facilitated psychiatric advance directive (F-PAD) intervention

For the intervention group, we designed the F-PAD as a structured but flexible session to provide orientation to PADs, as well as direct assistance that may be necessary for patients with mental illness to complete a legal PAD. The F-PAD focused on the requirements for PADs in North Carolina law, using the forms promulgated in these statutes. The F-PAD reviewed past treatment experiences and educated participants about writing an advance instruction and designating proxy decision makers. If participants wished to prepare a PAD, the facilitator provided assistance in doing so by (1) eliciting preferences and advance consent/refusal for psychotropic medications, hospital treatment, or ECT; and (2) gathering information about crisis symptoms, relapse and protective factors, and instructions for inpatient staff (e.g., effective strategies to avoid use of seclusion and restraints).

In terms of F-PAD process, facilitators asked open-ended questions about participants' preferences and helped clarify vague preferences. If the participant wished to document a request

Fig. 1 Study protocol: CONSORT flow diagram

unlikely to be followed (e.g., “I want to smoke in the Emergency Room”), the facilitator would provide some feasibility testing (e.g., “I don’t think the hospital policy would allow you to smoke in the Emergency Room.”). At this point the participant could either not document the preference (e.g., “You’re right, there’s no way they’d let me smoke in the ER.”) or write it down in the PAD anyway (e.g., “I realize that but I want doctors to know how important my smokes are.”). Thus, although the F-PAD intervention prompted participants to assess the feasibility and appropriateness of PAD instructions, it strictly supported participants’ preferences in recording any instructions they wished. As such, the F-PAD intervention does not change the substance of the participant’s preferences or directives; instead, it helps participant’s clarify their instructions and express the reasons underlying them. F-PAD facilitators made intentional effort to never use leading questions that might influence participants’ stated instructions.

Assistance was provided to draft the PAD document, obtain witnesses, notarization, ensure that the PAD was recorded in the participant’s medical record, and register the PAD with the U.S. Living Will Registry. Consumers who consented to store their advance care documents with the Registry received an identifying sticker to affix to their ID card and/or driver’s license to carry on their person at all times. The F-PAD offered participants a bracelet or laminated card to carry at all times, noting that he or she had a PAD, indicating the proxy decision maker’s name if applicable, the case manager’s name, emergency contact information, and the toll-free

telephone number of the Registry. Completing a PAD via the F-PAD intervention involved on average a total of 2 hours.¹

Evaluation of F-PAD intervention fidelity

The F-PAD was conducted by six trained research assistants, one with a master's degree and the others with bachelor's degrees. Ph.D.-level clinicians evaluated fidelity to the F-PAD using 15 criteria considered critical to both the content and process of the intervention. After research assistants obtained a high level of fidelity on both content and process items (at least 13 out of 15, i.e., greater than 87%), they were deemed qualified to conduct the F-PAD independently. This typically required 2–3 observed F-PAD sessions. To ensure ongoing reliability, random observations of each research assistant performing F-PADs were conducted every 9–12 months throughout the study. We found high levels of fidelity on random observations and research assistants never required significant improvement in conducting the F-PAD, suggesting that the initial training was effective.

Control group

Participants in the control group were presented with a brief introduction to PADs as part of the informed consent process. They received written materials made available at the outpatient mental health programs describing the purpose of PADs, copies of the standard forms to complete PADs in North Carolina, and referral to the toll-free telephone number of the state mental health consumer organization that provides consultation and assistance to people who wish to prepare PADs.

Follow-up interview

Participants in both the intervention and control groups were administered the DCAT-PAD approximately one month after baseline in order to ascertain changes in decisional capacity.

Results

Sample characteristics and descriptive analyses

Data were collected and entered onto SAS version 8.0. Descriptive statistics were employed to obtain baseline frequencies, measures of central tendency, and dispersion on DCAT-PAD domains, demographic variables, clinical characteristics, and cognitive functioning. Raw scores from all cognitive tests were converted to standardized scores based on available normative

¹ It is important to note that as soon as participants were randomized to the intervention group, an F-PAD facilitator immediately initiated contact with the participant to discuss the definitions and limits of PADs, evaluate whether the participant thought PADs would be useful, and ask if the participant wanted help writing a PAD. However, being assigned to the F-PAD intervention arm should not be confused with someone completing a PAD. Since PADs intend to promote patient choice and autonomy, there was no requirement that participants in the F-PAD intervention group complete a PAD; instead, assistance to do so was offered. At the one-month follow-up, more than half the participants in the F-PAD intervention group had completed a PAD ($n = 107$) while the remainder were at different stages of completing PADs or deliberating whether they wanted to complete a PAD at all. Only four subjects in the control group completed a PAD by one-month. For more details about the content of these PADs, please see Swanson et al. ([in press](#)).

samples correcting for age and/or education (Blair & Spreen, 1989; Brandt, 1991; Sumerall et al., 1997; Wechsler, 1997). When data were skewed, Wilcoxon-Mann-Whitney non-parametric procedures were used to test for group differences. Variables indicating skewed distributions when analyzed were therefore transformed into a dichotomous variable split at the median. This transformation was necessary for the following: age, BPRS, GAF, ITAQ, standardized scores for each of the cognitive measures, and both understanding domains of the DCAT-PAD.

The average age of participants was 42 years ($SD = 10.7$ years). The sample was demographically representative of the population of consumers in the public mental health system in North Carolina: 60% female, 58% African American, 39% white, and the remainder from other racial backgrounds. Only 11% were married or cohabiting and 28% of the sample had less than a high school education. At the time of enrollment, 57% of participants were living independently. Only 23% of participants had worked for pay in the past month. With respect to clinical characteristics, 59% of participants had a chart diagnosis of schizophrenia, 27% had bipolar disorder, and 14% had depression with psychotic features.

Table 1 shows means, standard deviations, and ranges on the DCAT-PAD, clinical variables, and the neurocognitive measures. On both understanding domains, the sample at baseline performed in the upper half of the range of possible scores, meaning generally that most participants got most questions at least partially correct. For the reasoning domains, the sample at baseline obtained about half the possible points on competence to write a PAD and more than half of all total points on competence to make treatment decisions within a PAD (i.e., hospital treatment). Appreciation domains are not displayed in the table since they are based on one question for which 70% of the sample obtained full scores for competence to write a PAD and 85% of the sample obtained full scores for appreciating hospital treatment. Over 90% of the sample showed they were able to make a choice about PADs or hospital treatment, as well.

Clinically, the sample showed a relatively high mean score on the ITAQ and low average means on the GAF. BPRS mean scores were slightly below the middle of the range for measurement of psychiatric symptoms. The sample had pre-morbid IQ estimates with scores that would be

Table 1 Descriptive statistics on decisional competence, clinical information, and neurocognitive functioning ($n = 469$)

	Mean	SD	Range
<i>Competence to write a PAD^a</i>			
Understanding domain	14	7.6	0–24
Reasoning domain	2.8	1.9	0–6
<i>Competence to make treatment decisions within a PAD^a</i>			
Understanding domain	10.2	4.8	0–16
Reasoning domain	3.8	1.6	0–6
<i>Clinical information^a</i>			
Brief psychiatric rating scale (BPRS)	33.6	9.2	18–64
Insight and treatment attitudes questionnaire (ITAQ)	18.1	4.3	2–22
Global assessment of functioning scale (GAF)	40	10.3	21–97
<i>Neurocognitive functioning^b</i>			
American national reading test (AMNART) IQ	100.7	10.4	82–125
WAIS-III Similarities—Abstract vs. Concrete Thinking	7.1	2.8	1–15
Controlled oral word association task (COWAT)	8.6	4.3	1–18
Hopkins verbal learning task (HVLN)—Immediate recall	30.7	11.7	20–64
Hopkins verbal learning task (HVLN)—Delayed recall	32	12.1	20–61

^aRaw scores.

^bStandardized scores.

considered similar to the general population. Mean standard scale scores on tests of verbal fluency (COWAT) and abstract thinking (WAIS-III Similarities) were in the low-average range compared to the general population. Similarly, the Hopkins domains, transformed into standardized T-scores, showed low average verbal memory relative to the general population. It is important to note there were no significant differences between experimental and control participants on demographic, clinical, DCAT-PAD, or neurocognitive variables.

Multivariate predictors of competence to complete PADs

DCAT-PAD scores were regressed onto demographic, clinical, and neurocognitive variables, using logistic regression for understanding domains (“above median” vs. “below median”). The appreciation domains were scored from 0 to 2 and most participants obtained full scores; hence, appreciation domains were dichotomized to “full score” vs. “not full score” and then regressed onto the independent variables using logistic procedures. Reasoning scores for both types of competency showed a normal distribution and therefore were predicted using multiple linear regression techniques. The choice domains were not subject to multivariate analyses since there was little variability in scores, consistent with other research on decisional capacity (Srebnik et al., 2004).

Demographic, clinical, and neurocognitive factors were entered into a logistic regression to ascertain predictors of total DCAT-PAD scores (Table 2). With respect to competence to write PADs, the understanding domain was predicted by: estimated pre-morbid IQ, female gender, fewer psychiatric symptoms as measured by the BPRS, higher abstract thinking abilities as measured by better scores on WAIS-III similarities, and superior immediate memory and delayed memory as measured by the Hopkins. This model was statistically significant, explaining about one-third of the variance.

With respect to competence to make treatment decisions within PADs, the understanding domain was predicted by estimated pre-morbid IQ, being older, higher abstract thinking abilities, and superior immediate memory and delayed memory. Additionally, participants with psychotic disorders showed lower performance compared to participants with affective disorders. This model was statistically significant, explaining about one-quarter of the variance.

The appreciation domain for competence to write PADs was predicted by estimated pre-morbid IQ, fewer psychiatric symptoms, and higher abstract thinking abilities. This model was statistically significant, explaining one-tenth of the variance. For competence to make treatment decisions in PADs, the appreciation domain was predicted by estimated pre-morbid IQ, fewer psychiatric symptoms, GAF, and non-white. This model was statistically significant, explaining about one-tenth of the variance.

Independent variables were entered into a linear regression to ascertain predictors of DCAT-PAD reasoning scores. For competence to write a PAD, reasoning was predicted by lower psychiatric symptoms, higher insight as measured by the ITAQ, and higher IQ. This model was significant and accounted for one-fifth of total variance. For competence to make treatment decisions with a PAD, reasoning was only predicted by higher insight. This model was significant and accounted for about one-tenth of total variance.

Effect of F-PAD intervention on PAD competence

To analyze the effect of the F-PAD intervention on decisional competence, analyses focused on participants who at baseline prior to randomization indicated that they wanted a PAD and who were retained in the study at one-month. Of these, 10 were excluded because of incomplete data for the analyses in this paper. This resulted in complete one-month data for a total of $n = 371$

Table 2 Predictors of competence to complete PADs ($n = 469$)

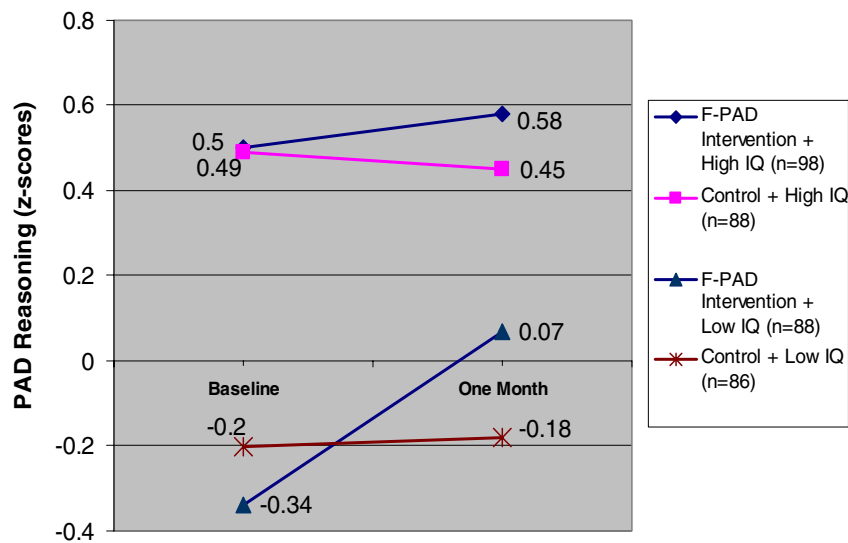
Variable	Understanding			Appreciation			Reasoning					
	Competence to Write a PAD		Competence to Make Treatment Decisions within a PAD	Competence to Write a PAD		Competence to Make Treatment Decisions within a PAD	Competence to Write a PAD		Competence to Make Treatment Decisions within a PAD			
	OR	p	OR	p	OR	p	β	p	β	p		
<i>Demographics</i>												
Age	1.45	ns	1.62	*	0.68	ns	0.74	ns	-0.22	ns	-0.09	ns
Non-white	0.96	ns	1.09	ns	1.24	ns	1.95	*	-0.11	ns	0.24	ns
Male gender	0.52	*	0.81	ns	0.70	ns	0.63	ns	-0.24	ns	-0.21	ns
High School Graduate	1.51	ns	1.27	ns	1.17	ns	1.24	ns	0.17	ns	0.03	ns
<i>Clinical information</i>												
Psychotic disorder	0.56	*	0.51	**	0.62	ns	0.62	ns	-0.27	ns	-0.11	ns
BPRS	0.48	**	0.74	ns	0.40	***	0.26	***	-0.43	*	-0.31	ns
GAF	1.08	ns	1.09	ns	0.69	ns	0.48	*	0.35	ns	0.23	ns
ITAQ	1.56	ns	1.18	ns	1.27	ns	1.81	ns	0.47	**	0.36	*
<i>Neurocognitive functioning</i>												
AMNART IQ	2.82	***	2.08	**	2.14	**	2.57	*	0.84	***	0.02	ns
WAIS-III Similarities	2.61	***	2.67	***	1.75	*	1.00	ns	0.13	ns	0.14	ns
COWAT Verbal fluency	1.56	ns	1.08	ns	1.08	ns	1.04	ns	0.25	ns	0.18	ns
Hopkins immediate recall	2.07	*	2.00	*	0.82	ns	0.63	ns	0.05	ns	0.16	ns
Hopkins delayed recall	2.26	**	2.40	**	1.47	ns	1.16	ns	0.37	ns	0.32	ns
$\chi^2 = 187.41, df = 13, \chi^2 = 148.97, df = 13, \chi^2 = 55.27, df = 13, \chi^2 = 33.97, df = 13,$ ***Pseudo $R^2 = .30$ ***Pseudo $R^2 = .24$ ***Pseudo $R^2 = .10$ ***Pseudo $R^2 = .10$ $F = 9.21, df = 13, F = 3.28, df = 13,$ *** $R^2 = .217$ *** $R^2 = .090$												

Note. Statistical significance: ns not significant; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

participants. For these, we compared those in the intervention and control groups on baseline and one-month DCAT-PAD scores—converted into *z*-scores—employing repeated measures Analyses of Variance (ANOVA) to test for the effects of the F-PAD intervention on competence to write a PAD and competence to make treatment decisions within a PAD.

With respect to competence to write a PAD, the intervention did not affect understanding or appreciation but did show a significant effect on reasoning. Participants in the intervention group showed significantly greater improvement on DCAT-PAD reasoning scores at one-month compared to controls ($F(1, 368) = 8.65, p < .01$). Participants in the F-PAD intervention group showed an increase in *z*-scores of 0.25 (equivalent to an 11 percentile increase) compared to a negligible change downward for control participants.

Since domains of the DCAT-PAD showed a strong relationship with intellectual functioning, we considered that one-month DCAT-PAD scores may be influenced by participants’ cognitive abilities (see Fig. 2). As expected from the multivariate analyses above, participants with lower estimated pre-morbid IQ had lower DCAT-PAD reasoning scores at baseline on competence to write a PAD. But participants in the intervention group below the median IQ of 100 showed significantly greater improvement at one-month on the DCAT-PAD compared to their counterparts in the control group ($F(1, 171) = 7.36, p < .01$), demonstrating an increase of DCAT-PAD reasoning *z*-scores of 0.41 (17 percentile increase) compared to a negligible change downward



Note. Participants in the intervention group below the median IQ of 100 showed significantly greater improvement on the reasoning scores compared to their counterparts in the control group ($F(1, 171) = 7.36, p < .01$). However, among participants with estimated pre-morbid IQs > 100, there was no effect of randomization.

Fig. 2. Effect of F-PAD Intervention on Competence to Write a PAD, Reasoning Domain stratified by estimated pre-morbid IQ (above median vs. below median)

among control participants. Among participants with estimated pre-morbid IQs > 100, though, randomization to the F-PAD intervention did not show an effect on reasoning scores at follow-up.

With respect to competence to make treatment decisions within a PAD, the intervention again did not affect understanding or appreciation but did show a significant effect on reasoning. Participants in the intervention group showed significantly greater improvement on DCAT-PAD reasoning scores at one-month compared to controls ($F(1, 355) = 4.30, p < .05$). Similar to the analyses above for competence to write a PAD, participants in the intervention group below the median IQ of 100 showed greater improvement on reasoning compared to their counterparts in the control group ($F(1, 164) = 3.75, p < .05$), showing an increase of DCAT-PAD reasoning *z*-scores of 0.16 (8 percentile increase) compared to a decline of .16 (8 percentile decrease) among control participants. Again, among participants with estimated pre-morbid IQs > 100, intervention and control participants did not show any difference on reasoning scores at one month for competence to make a treatment decision in a PAD.

Discussion

The descriptive data on competence to complete PADs reveal that, at baseline, the majority of participants were able to score more than half of all total possible points on the different domains of the DCAT-PAD. Further, scores on these domains were shown in multivariate analyses to be significantly related to participants' cognitive functioning and psychiatric symptomatology. These findings are consistent with prior research showing that (1) patients are generally able to understand, appreciate, and reason adequately with respect to PADs and (2) there is a strong connection between symptom severity and competence to complete PADs (Srebnik et al., 2004). To our knowledge, the current study is the first to record robust connections between these decisional capacities and neuropsychological status and to demonstrate that an intervention to facilitate PADs substantially improves certain facets of patients' competence to complete PADs. The findings bear on the implementation of PAD laws as they indicate a systematic method of assisting patients to complete the legal documents itself can affect patients' abilities to complete them properly. The analyses further imply that for more impaired clients, a facilitation of PADs may be helpful, or even necessary, to augment decisional capacity to a level that maximizes chances the PAD is valid.

In keeping with the usual conceptualization of competence as a multi-dimensional construct (Appelbaum & Grisso, 1995), the findings indicated that different characteristics were related to different domains of competence to complete PADs. Both of the understanding domains measured were highly predicted by neurocognitive variables whereas the appreciation domains were most strongly predicted by psychiatric symptoms as measured by the BPRS. Reasoning was somewhat different between the two competences assessed: while insight predicted both, estimated pre-morbid IQ was not related to reasoning about how hospitalization would affect one's life whereas it was significantly related to reasoning about how PADs would affect one's life. Assessing competence to complete a PAD is a complex task and, if attempted, should involve evaluating understanding, appreciation, reasoning, and choice for the two different types of abilities described above.

Although clinical consideration of these abilities and their correlates may, in some cases, cast doubt on a patient's ability to complete a PAD, the current data point to a systematic method for improving a patient's decisional capacity, even if he or she has lower intellectual functioning. We found that when the sample was stratified by estimated pre-morbid IQ, the F-PAD intervention had a significant effect on improving PAD reasoning among lower functioning clients. It may be that higher functioning participants, even before the intervention, were able to think more

abstractly about the potential consequences of having a PAD. However, for lower functioning participants, the F-PAD intervention may have been necessary to provide the participant with a concrete experience from which to better grasp how PADs would affect their lives (which, not surprisingly, is specifically measured by the reasoning domain for competence to write a PAD).

The F-PAD intervention also appeared to bolster competence to make treatment decisions within PADs. Going through the F-PAD intervention involved participants actively thinking about their preferences for hospitalization in the event of a crisis as well as how they would want hospital staff to treat them if confined to an inpatient unit. Over ninety percent of participants who completed PADs documented at least one preference about hospital treatment and all wrote how they wished staff to treat them, approximately half describing explicit instructions for reducing restraints and seclusions. As such, the F-PAD afforded participants in the intervention group an opportunity to consider consequences of hospital treatment, and again may have accounted for the increased scores measured by the DCAT-PAD at one month. For these reasons, clinicians concerned that patients may not be competent to complete PADs should consider ways of educating patients about these documents and facilitating their completion. Such efforts will maximize the likelihood that PADs will accurately reflect patients' preferences for future treatment and also increase the likelihood of clinicians adhering to said requests.

This study had several limitations. First, hospital treatment was selected as the index decision to assess competence to make treatment decisions. Had we chosen something else (e.g., medications), we may have had different findings. Second, it could be argued that higher functioning participants did not show improvement on the reasoning domains of the DCAT-PAD due to ceiling effects. However, at one month, participants above the median estimated pre-morbid IQ had overall mean reasoning scores in the 69th percentile on competence to write PADs and in the 56th percentile on competence to make treatment decisions with PADs, indicating ample room for improvement on both (especially given that the reasoning domain scores showed a normal distribution at baseline). Regardless, none of these considerations negate the actual gains achieved by participants with estimated pre-morbid IQ < 100 in the intervention group compared to their counterparts in the control group, all of whom were administered the same scale at baseline and follow-up.

Further, our study cannot answer the question of whether patients are “competent” or “not competent” to complete PADs. Following other empirical studies on decisional capacity (Grisso & Appelbaum, 1996) and competence to complete PADs (Srebnik et al., 2004), we maintain that arbitrary, fixed cut-off scores on competence instruments are neither feasible nor desirable. Instead, we believe the data reveal characteristics that may render a person with mental illness more or less likely to be competent. Use of the DCAT-PAD and consideration of the current data on DCAT-PAD means and standard deviations can provide important information, but this evidence is not sufficient to conclude whether someone is competent to complete a PAD.

It is also important to note that, although PAD statutes typically define ‘incapacity’ with respect to activating PADs in a psychiatric crisis, most PAD statutes—including North Carolina’s—simply state that someone must be of “sound mind” to complete a PAD. A few states are more detailed; for example, the Louisiana statute indicates that at the time a principal executes a PAD, “in determining the principal’s ability, the physician or psychologist should consider (1) whether the principal demonstrates an awareness of the nature of his illness and situation; (2) whether the principal demonstrates an understanding of treatment and the risks, benefits, and alternatives; and (3) whether the principal communicates a clear choice regarding treatment that is a reasoned one, even though it may not be in the person’s best interest.” (Advance Directives for Mental Health Treatment, 2001). To our knowledge, there is no case law defining competence to complete PADs.

In the relative absence of guidance about standards for competence to complete a PAD, we relied on the elements usually associated with decisional competence for medical treatment and developed the DCAT-PAD instrument to operationalize them in this related, but slightly different, context. We can not guarantee that this approach would be taken by a legislature or court that in the future attempted to define competence to complete a PAD. However, the DCAT-PAD has face validity given its similarity to established approaches to competence in related mental health care situations. Moreover, states such as Louisiana appear to have taken a similar conceptualization in writing and passing PAD statutes.

Finally, the data beg the question: Should clinicians assess competence among patients who want to complete PADs? Although the law presumes that people are competent to complete PADs, because mental illness often involves fluctuating decisional capacity, the patient's ability to write a PAD may be questioned (Varma & Goldman, 2005). However, some have noted that mandatory screening or placing the burden on people with mental illness to prove competence would amount to discrimination against disabled adults (Srebnik et al., 2004). Still, people who do not have mental illnesses may elect to have a competence assessment in legal contexts; for example, to ensure a will is followed according to one's wishes.

From a practical standpoint, clinicians may be most likely to raise the issue of competence to complete a PAD when a patient documents a refusal of standard treatment. If patients exhibit psychiatric symptoms or cognitive deficits while documenting a treatment refusal, the current data suggest a pragmatic need for the patient to undergo a competence evaluation to boost chances that the PAD is later deemed valid. If patients show no such impairments at the time, it may still be advisable for patients to explicitly state in the PAD their reasons for a treatment refusal. This tactic, which in fact was part of the F-PAD facilitation, would help doctors later infer whether the refusal was based on solid reasoning, thereby reducing the chances of doctors overriding the PAD because they perceive that the patient was incompetent when the PAD was completed.

In conclusion, the results elucidate characteristics associated with competence to complete PADs and suggest that cognitively impaired patients are good candidates for PAD facilitation to best ensure that their advance instructions are valid. At the same time, the findings raise important questions about how clinicians should deal with the issue of competence in the context of PADs. Such inquiry is needed if PAD laws are to succeed in meeting their original intent to help people with mental illnesses communicate to doctors important clinical information and become empowered to take charge not only of their own treatment, but ultimately, of their own lives.

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