

# Improving Propensity for Patient Self-Advocacy Through Wellness Recovery Action Planning: Results of a Randomized Controlled Trial

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**Abstract** A fundamental aspect of successful illness self-management for people with serious mental illnesses is the ability to advocate for themselves in health and rehabilitation settings. This study reports findings from a randomized controlled trial comparing propensity for patient self-advocacy among those who received a peer-led mental illness self-management intervention called Wellness Recovery Action Planning (WRAP) and those who received usual care. Outcomes were self-reported engagement in self-advocacy with service providers, and the relationship between patient self-advocacy and other key recovery outcomes. In a multivariable analysis, at immediate post-intervention and 6-month follow-up, WRAP participants were significantly more likely than controls to report engaging in self-advocacy with their service providers. Higher self-advocacy also was associated with greater hopefulness, better environmental quality of life, and fewer psychiatric symptoms among the intervention group. These findings provide additional support for the positive impact of peer-led illness self-management on mental health recovery.

**Keywords** Mental illness self-management · Patient self-advocacy · Mental health recovery outcomes

## Introduction

Effective self-care has long been viewed as fundamental for coping with long-term illnesses (Baker and Stern 1993; Kennedy et al. 2007). As a form of self-care education, illness self-management programs convey information, provide symptom management and health communication skills, enhance hope and empowerment, offer emotional support, and improve self-advocacy skills (Bodenheimer et al. 2002; Lorig et al. 2001; Mueser et al. 2002; Sterling et al. 2010; Von Korff et al. 1998). One popular illness self-management program, called Wellness Recovery Action Planning (WRAP), helps participants to identify and access personal resources and natural supports to facilitate recovery from mental illness (Copeland 2001). WRAP participants develop an individualized plan for managing mental health difficulties and creating a meaningful life, while acquiring skills to become self-advocates by increasing their knowledge, making choices, and expressing personal preferences (Copeland 2002). Recent research indicates that WRAP has a positive impact on key recovery outcomes including hopefulness, environmental quality of life, and psychiatric symptoms (Cook et al. 2011). WRAP additionally has been found to improve mental health recovery attitudes (such as hope and personal responsibility) and skills (such as recognizing symptom triggers and engaging in daily self-care) (Cook et al. 2010; Doughty et al. 2008; Fukui et al. 2011).

A fundamental aspect of successful illness self-management is the ability to be a self-advocate within health and rehabilitation settings, in order to receive services and treatments of choice (Bastian 1998; Onken et al. 2002; Walsh-Burke and Marcusen 1999). Studies demonstrate that the more comfortable patients are interacting with their medical providers, the more information they gain and the

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better their contributions to decision-making (Auerbach 2001; Brashers et al. 1999; Hamann et al. 2006), which in turn improves their health outcomes (Lambert and Loiselle 2007). Studies generally find that patients who actively seek health information, openly communicate with health care providers, and express treatment preferences have better information to inform their decision-making, greater desire to engage in services/treatment, and fewer symptoms (Adams and Drake 2006; Charles et al. 1997; Loh et al. 2007; Stewart 1995). Yet, research also shows that there are many barriers to effective patient self-advocacy, including feeling hopeless, having high levels of emotional distress or symptoms, perceiving a power imbalance, and fear of challenging a provider or wasting her/his time (Brashers et al. 1999; Ciechanowski et al. 2003).

This analysis presents findings from a randomized controlled trial to determine the impact of WRAP on varying dimensions of recovery attitudes and behaviors. In an earlier study, we demonstrated that peer-delivered WRAP reduces psychiatric symptoms, enhances participants' hopefulness, and improves environmental quality of life over time (Cook et al. 2011). Based on the important role that patient self-advocacy may play in mental health recovery, as well as the multifaceted nature of recovery (Jacobson and Curtis 2000), our research questions for the current study were whether peer-led mental illness self-management education leads to increased propensity to engage in patient self-advocacy, and whether there is a relationship between patient self-advocacy and other important recovery outcomes. Specifically, we hypothesized that WRAP participants would report higher levels of patient self-advocacy than controls, and that this difference would be maintained over time. We also hypothesized that patient-self-advocacy would be positively and significantly associated with other indicators of recovery such as lower symptoms, greater hopefulness, and higher self-perceived environmental quality of life.

## Methods

### Study Intervention

The intervention consisted of eight, 2.5-h sessions of WRAP, delivered free of charge by two instructors who were in recovery from a mental illness, with one or more trained back-up instructors available in case of illness or emergency. All instructors were certified by the Copeland Center for Wellness and Recovery and had experience teaching WRAP.

Classes of 5–12 participants met in accessible community settings each week for 2 months. For this study, class format consisted of lectures, individual and group

exercises, personal examples from the lives of the peer instructors and students, and voluntary homework to continue developing one's personalized WRAP plan outside of class. During the first class, instructors presented the key concepts of WRAP and recovery. For the next two classes, they reviewed personal strategies to maintain wellness and self-manage one's disability. For the fourth class, instructors helped participants to develop their own daily maintenance plans, for which each student identified feasible and affordable strategies to facilitate mental and physical wellness each day. This class also included emphasis on advance planning for students to recognize and proactively respond to their self-defined symptom triggers. During class five, instructors introduced the concept of early warning signs that a crisis might be impending and advance planning for extra services/supports when this occurs. The next two classes focused on advance crisis planning, including identification of preferred medications, treatments, supporters, facilities, and helpful strategies others can employ when participants experience crisis and are unable to advocate for themselves. During the last class, instructors discussed the value of post-crisis planning, strategies to revise one's WRAP plan after a crisis, and a graduation that allowed instructors and students to reflect upon personal growth as a result of the 2-month class.

Throughout all 8 classes, participants were exposed to information and activities designed to increase their hopefulness, as well as enhance their skills in taking personal responsibility for their wellness and education. Specifically, participants discussed: (1) their civil and patient rights; (2) how to access credible, personally meaningful treatment information; and (3) how to advocate for themselves with providers and other supporters. They also practiced making choices and expressing preferences, based on their personal knowledge of successful illness self-management strategies and their personal beliefs and values.

Prior to implementing the intervention, all instructors received comprehensive training on how to teach WRAP in accordance with its research fidelity standards. The researchers also convened a weekly teleconference with the local study coordinators and instructors to conduct refresher training, review each site's attendance and fidelity, problem-solve challenges that arose during classes, and discuss the coming week's course materials and modalities. At all sites, one or both of the instructors remained the same across all WRAP classes offered during the study period. The intervention was delivered simultaneously across study sites, with five waves of classes taught over a 3-year period. WRAP classes were offered five times in four of the six study sites, four times at a fifth site, and one time at the sixth site when the fifth site's facilitators were unavailable. While in the WRAP class, all participants also

received their usual services, receipt of which was measured at each assessment point.

### Intervention Fidelity

As recommended by the NIH Behavior Change Consortium (Bellg et al. 2004), study personnel monitored fidelity throughout the entire period of service delivery, reviewed fidelity findings weekly with instructors, and made plans to ensure that missed material was covered in subsequent sessions. Intervention fidelity was monitored in several ways. First, as lead developer of the WRAP model, one of our co-authors (Copeland) worked with UIC research personnel (JC, JJ) to design a comprehensive checklist that was used weekly to track adherence to the prescribed topics, time frames, and instructional modalities in the intervention manual from which all instructors taught. During each class, a score of 1 was given for every requisite intervention component that was delivered as intended; any missed components during that same class were scored as 0. Additionally, the local study coordinators observed each instructor delivering the intervention on multiple occasions and offered detailed feedback to ensure continued adherence to fidelity standards.

### Control Condition

Study participants in the control group were placed on a waiting list guaranteeing them the opportunity to receive the 8-week WRAP class after each person in the cohort completed their final interview. While on the waiting list, control group participants received all of their usual services, including psychotropic medications and medication management, individual and group outpatient therapy, vocational services, residential services, substance abuse treatment, and inpatient care. Because no other WRAP classes were taught at any of the sites throughout the study period, we were able to maintain the integrity of the no-treatment condition.

### Participants

The sample included people aged 18 or older who met the federal definition of having a serious mental illness other than substance use disorder for at least 12 months that resulted in serious functional impairment (Epstein et al. 2002). Subjects were receiving publicly-funded outpatient mental health services and/or peer support in six Ohio communities: Canton, Cleveland, Columbus, Dayton, Lorain, and Toledo. These cities were chosen because they had an adequate number of certified WRAP peer instructors, but had not yet widely offered WRAP. Enrolled study participants also were willing and able to provide informed

consent, were able to communicate orally in English, and had never developed their own WRAP plan.

### Recruitment and Consent Procedures

The majority of the sample was recruited from outpatient settings (including community mental health centers, clinics, residential programs) and self-help and peer-run programs (drop-in centers, consumer-run recovery centers) from October 2006 through April 2008. Individuals also were recruited via clinician and peer referral, self-referral, newspaper advertisement, county mental health board web sites and meetings, and word-of-mouth. Research personnel located in Ohio visited programs to make presentations about WRAP and the study, encouraging all interested persons to use a toll-free number to call staff at the University of Illinois at Chicago (UIC) to enroll. Recruitment procedures are more fully described elsewhere (Cook et al. 2011). All participants provided written informed consent to participate using procedures approved by the UIC Institutional Review Board. The study was registered at ClinicalTrials.gov under identifier NCT01024569. There are no known conflicts of interest for any author and all authors certify responsibility.

The initial sample size was 555 adults (276 in the experimental condition and 279 in the control condition) who were eligible, willing to participate, and available for the 9-month study period. Of the 276 experimental subjects, 233 (84%) received the intervention and 43 (16%) did not. Eleven control subjects and 25 intervention subjects were lost to follow-up because of death or ill health, moving away from the area, or formal withdrawal from the study. No other subjects were excluded from the analysis for any other reason given the “intent-to-treat” design (Gross and Fogg 2004). Thus, the analyzed sample consisted of 251 in the experimental and 268 in the control condition, for a total of 519 individuals.

### Interviewing and Randomization Procedures

Trained UIC Survey Research Laboratory (SRL) personnel administered 1-h structured telephone interviews at three time points: Time 1 (T1) or 6 weeks before the start of WRAP classes; Time 2 (T2) or 6 weeks following the end of WRAP classes; and Time 3 (T3) or 6 months post-T2. The protocol consisted of valid and reliable scales to measure symptoms (Derogatis 1993), self-advocacy (Brashers et al. 1999), recovery (Giffort et al. 1995), hopefulness (Snyder et al. 1991), empowerment (Rogers et al. 1997), environmental quality of life (Skevington et al. 2004), social support (Sherbourne and Stewart 1991), and physical health (Ware et al. 1996). Study subjects were provided with an incentive of \$20 for the first interview,

\$25 for the second, and \$30 for the third, with a \$10 bonus for completing all three. Interviews were conducted via computer-assisted personal interviewing (CAPI) software, with data downloaded into SPSS Inc. and analyzed using MIXREG software version 1.2 (Hedeker and Gibbons 1996).

The interviewers randomized subjects into one of the two study conditions at the conclusion of the first interview via a random allocation sequence programmed into the CAPI software allowing for complete allocation concealment up to the point of assignment (Gluud 2006). All respondents were reminded not to reveal their assigned study condition during subsequent interviews. At the conclusion of the two follow-up assessments (T2 and T3), each interviewer recorded whether s/he ascertained and/or the subjects had revealed their actual study condition at any point during the interview. The blind was found to be compromised in only 4% of all second and third interviews.

## Measures

The current study's outcome was patient self-advocacy assessed with Brashers' Patient-Self-Advocacy Scale (PSAS), an instrument designed to measure a person's propensity to engage in self-activism during health care encounters (Brashers et al. 1999). The study employed the eighteen-item instrument in which statements are rated on a 5-point response scale ranging from strongly agree to strongly disagree, and averaged to produce a total score and three subscale scores. The first subscale, Education, measures the patient's belief in the benefits of acquiring information and his/her propensity to learn about the illness and treatment options. The second subscale, Assertiveness, measures the patient's willingness to be assertive during a health care encounter in order to gain more information and to appropriately challenge a provider's recommendations or expertise. The third subscale, Mindful Non-adherence, assesses the patient's inclination to disregard a provider's recommendations based on that patient's own medical knowledge, health care needs, and personal beliefs and values. The PSAS was found to correlate well with self-advocacy concepts such as the desire for autonomy in decision-making, the preference for receiving information, and desired level of behavioral involvement (including self-care and active treatment participation) in clinical encounters (Brashers et al. 1999). The education and assertiveness dimensions were found to be reciprocal but not necessarily synonymous, since individuals can educate themselves but still not follow-through with assertive behaviors during the clinical encounter and vice versa (Brashers et al. 1999). In our study, internal consistency was good ( $\alpha = 0.77$ ) for the total score, as well as the education subscale ( $\alpha = 0.76$ ), the assertiveness

subscale ( $\alpha = 0.77$ ), and the mindful non-adherence subscale ( $\alpha = 0.70$ ).

Also of interest was the relationship between PSAS scores and other recovery outcomes including hopefulness, environmental quality of life, and reduced symptom severity. Hopefulness was measured with the Hope Scale (HS) which assesses the presence of hope on two dimensions: determination to meet one's goals (agency) and perceived availability of means to meet one's goals (pathways) (Snyder et al. 1991). Twelve items are rated on a four-point scale ranging from "definitely false" to "definitely true" and summed to produce a total score. HS scores have been positively associated with goal-related activities and coping strategies in prior studies (Snyder et al. 1996). Quality of life was assessed with the World Health Organization Quality of Life Brief Instrument (WHOQOL-BREF) environment subscale (Skevington et al. 2004), which assesses respondents' feelings of security and freedom, access to needed skills and information, and participation in recreation and leisure activities. Finally, reduction of psychiatric symptom severity was measured using the Brief Symptom Inventory (BSI), a self-report research instrument showing high concordance with clinician symptom assessment (Derogatis 1993). The BSI assesses how much respondents are bothered in the past week by 53 symptoms with a 5-point scale ranging from "not at all" to "extremely." The BSI's Global Severity Index is designed to quantify a person's illness severity and provides a single composite score measuring the outcome of an intervention based on reducing symptom severity (Derogatis 1993). It is a validated self-report scale with strong test-retest and internal consistency reliabilities. Factor analytic studies of the internal structure of the scale have demonstrated its construct validity (Derogatis and Melisaratos 1983).

Given that randomization was successful (described below), the only control variable used in the analysis was study site (also described below). Indicator variables were created for each of the sites with the Lorain site used as the contrast. The other model variables were time and the interaction of study condition by time.

## Data Analysis

After evaluating the success of randomization and variable inter-correlations, multivariate, longitudinal random-effects linear regression analysis was conducted to test for differences between experimental and control subjects' outcomes over time. A two-level random intercepts model was fitted to the data, controlling for study site as a fixed effect. This approach was chosen to address problems of serial correlations among repeated observations within individual participants, missing observations given that not all subjects

completed all assessments, and inclusion of both time-varying and fixed covariates (Gibbons et al. 1993).

## Results

### Subject Characteristics

Descriptive statistics of the sample are presented in Table 1. There were no statistically significant differences by study condition on any of the variables examined, including use of mental health services. Among the experimental participants, there were no significant differences in attendance by study wave ( $F(4,271) = 1.12$ ,  $P = .34$ ), but there were significant differences in attendance by site ( $F = (5,270) = 3.30$ ,  $P = .007$ ). Therefore, site was used as a control variable in the next phase of the analysis. Throughout the intervention period and 6-month follow-up, WRAP was not made locally available outside of the study to either experimental or control subjects. However, control subjects did participate in mental health self-help groups, with 41.9% ( $n = 98$ ) of them reporting attending such groups between the first and second study interview, and 44.9% ( $n = 97$ ) doing so between the second and third study interviews. Thus, all models also were re-run controlling for exposure to peer-led support groups.

Fidelity scores were computed as the proportion of prescribed elements present for that module. Across all modules taught in all waves, total course fidelity averaged 91.3% ( $SD = 0.01$ ). There were no significant differences in course fidelity by wave or by study site. Overall, results indicated excellent intervention fidelity.

Of the 519 subjects who completed T1 assessments, 458 subjects (88.2%) completed T2 interviews, and 448 (86.3%) completed T3 interviews, for a combined attrition rate of 6.6%. There were no statistically significant differences in follow-up rates between intervention and control conditions. Finally, there were no significant differences in completion of T2 or T3 interviews by study site.

### Participant Outcomes

Table 2 presents the means and SD of outcome variables. Next, we examined the hypothesis that WRAP would lead to increased propensity to engage in patient self-advocacy behaviors. As shown in Table 3, compared to controls, experimental condition participants reported significantly greater improvement over time than controls in self-advocacy as measured by total PSAS score. Those who received WRAP also reported significantly greater improvement than controls in the mindful non-adherence subscale measuring self-expressed willingness to rationally disregard a provider's recommendation based on personal health

knowledge, health needs, and personal beliefs, but not in the other two subscales measuring propensity to self-educate about one's illness (education) or willingness to be assertive in health care encounters (assertiveness).

To address whether degree of exposure to the WRAP intervention was related to increased self-advocacy, we used ordinary least squares regression to predict patient self-advocacy at the final follow-up (T3). In an analysis restricted to experimental subjects, we examined the effect of number of WRAP sessions attended (ranging from 0 to 8) and intervention completion (defined as attending 6 or more sessions) by calculating  $\beta$  coefficients in models controlling for study site. Exposure was significant in both of these models, with  $\beta = 0.05$  ( $P < .001$ ) for number of classes and  $\beta = 0.23$  ( $P < .01$ ) for WRAP completion, indicating a .05 unit increase in self-advocacy for each class attended and a quarter of a point increase in self-advocacy for intervention completion.

Next, we tested our second hypothesis that the propensity to endorse patient self-advocacy beliefs and behaviors would be associated with recovery outcomes of increased hopefulness, better environmental quality of life, and reduced psychiatric symptom severity. At the third study interview, WRAP participants reporting higher levels of patient self-advocacy also reported higher levels of hopefulness ( $r = 0.45$ ,  $P < .001$ ), better environmental quality of life ( $r = 0.28$ ,  $P < .001$ ), and lower symptom severity ( $r = -0.23$ ,  $P < .01$ ) than WRAP participants with lower levels of self-advocacy. Significant relationships in the same directions were also observed for scores on the PSAS assertiveness and education subscales. However, no significant relationships were found between scores on the PSAS mindful non-adherence subscale and the three recovery outcomes. Since all of these outcomes were self-assessed, and hopefulness and quality of life are known to be strongly correlated with mood state, it may be that these relationships are simply a byproduct of the severity of depressive symptoms. To test this possibility, we adjusted for depression level, using the BSI depression subscale, in OLS analyses testing relationships between self-advocacy and hopefulness as well as environmental quality of life. Controlling for depression did not change the significance of self-advocacy total or subscale scores for assertiveness or education. This suggests that relationships between self-advocacy and hopefulness as well as quality of life are independent of the severity of depressive symptoms.

## Discussion

This is the first randomized controlled trial to examine the impact of peer-led mental illness self-management education on self-advocacy among people receiving public

**Table 1** Baseline characteristics of research participants by study condition and total sample

	Total (N = 519)	Experimental (n = 251) <sup>a</sup>	Control (n = 268) <sup>a</sup>
<b>Sex</b>			
Male	177 (34.1)	83 (33.1)	94 (35.1)
Female	342 (65.9)	168 (66.9)	174 (64.9)
<b>Ethnicity</b>			
Caucasian	328 (63.2)	156 (62.2)	172 (64.2)
Black	146 (28.1)	76 (30.3)	70 (26.1)
Hispanic/Latino	25 (4.8)	11 (4.4)	14 (5.2)
Asian/Pacific Islander	3 (0.6)	2 (0.8)	1 (0.4)
American Indian/Alaskan	15 (2.9)	6 (2.4)	9 (3.4)
Other race	2 (0.4)	–	2 (0.7)
<b>Education</b>			
<High school	95 (18.3)	44 (17.5)	51 (19.0)
High school/GED	182 (35.1)	95 (37.8)	87 (32.5)
Some college or greater	242 (46.6)	112 (44.6)	130 (48.5)
<b>Marital status</b>			
Married or cohabiting	62 (12.0)	26 (10.4)	36 (13.5)
All other	455 (88.0)	224 (89.6)	231 (86.5)
Lives in own home/Apt.	346 (66.7)	167 (66.5)	179 (66.8)
Employed	76 (14.7)	44 (17.6)	32 (11.9)
Ever Psychiatric Inpatient Tx	392 (75.8)	195 (78.0)	197 (73.8)
Mean (SD) # in household	2.3 (2.32)	2.3 (2.28)	2.4 (2.36)
Mean (SD) age (years)	45.8 (9.88)	45.7 (9.80)	45.8 (9.97)
<b>DSM-IV diagnosis</b>			
Schizophrenia	58 (11.7)	29 (11.9)	29 (11.6)
Schizoaffective	47 (9.5)	26 (10.7)	21 (8.4)
Bipolar	188 (38.1)	95 (38.9)	93 (37.2)
Depressive	125 (25.3)	60 (24.6)	65 (26.0)
Other	62 (12.6)	28 (11.5)	34 (13.6)
<b>Services received</b>			
Case management	397 (76.5)	195 (77.7)	202 (75.4)
Medication management	417 (80.3)	201 (80.1)	216 (80.6)
Individual therapy	413 (79.7)	195 (77.7)	218 (81.3)
Group psychotherapy	141 (27.2)	76 (30.3)	65 (24.3)
Employment services	124 (23.9)	62 (24.7)	62 (23.1)
Residential services	154 (29.7)	79 (31.5)	75 (28.0)
Substance abuse treatment	48 (9.2)	25 (10.0)	23 (8.6)
<b>Study site</b>			
Canton	81 (15.6)	38 (15.1)	43 (16.0)
Cleveland	98 (18.9)	51 (20.3)	47 (17.5)
Columbus	107 (20.6)	52 (20.7)	55 (20.5)
Dayton	26 (5.0)	12 (4.8)	14 (5.2)
Lorain	110 (21.2)	53 (21.1)	57 (21.3)
Toledo	97 (18.7)	45 (17.9)	52 (19.4)

\*  $P < .05$ , \*\*  $P < .01$ , variation in n due to missing data

<sup>a</sup> Chi-square and  $t$  tests indicated no significant differences by study condition

mental health services, as well as explore relationships between self-advocacy and other key recovery outcomes. We found that receipt of WRAP led to significantly greater

propensity to engage in patient self-advocacy behaviors. This was the case even after controlling for the effects of time, demonstrating that higher levels of self-advocacy

**Table 2** Unadjusted mean scores and SD for patient self-advocacy

Measure by time point	Intervention		Control	
	Mean (SD)	No.	Mean (SD)	No.
PSA—total				
Baseline	3.47 (0.50)	251	3.46 (0.53)	268
Postintervention 1	3.61 (0.52)	224	3.53 (0.53)	234
Postintervention 2	3.65 (0.52)	220	3.55 (0.49)	227
PSA—mindful non-adherence				
Baseline	3.09 (0.74)	251	3.15 (0.76)	267
Postintervention 1	3.28 (0.74)	224	3.19 (0.74)	232
Postintervention 2	3.32 (0.78)	220	3.15 (0.76)	227
PSA—education				
Baseline	3.65 (0.67)	251	3.59 (0.67)	268
Postintervention 1	3.76 (0.74)	224	3.66 (0.71)	234
Postintervention 2	3.80 (0.75)	220	3.70 (0.67)	227
PSA—assertiveness				
Baseline	3.67 (0.72)	251	3.63 (0.76)	268
Postintervention 1	3.81 (0.76)	224	3.73 (0.73)	234
Postintervention 2	3.84 (0.75)	220	3.77 (0.65)	227

PSA patient self-advocacy

**Table 3** Effects of study condition (intervention vs. control) on patient self-advocacy, mixed effects random regression controlling for study site (n = 519)

	Estimate (SE) <sup>a</sup>	Z Score	P value
Patient self-advocacy—total			
Intercept	3.42 (0.05)	62.61	<.001
Intervention condition	−0.03 (0.06)	−0.51	.612
Time	0.04 (0.02)	2.85	.004
Intervention × time	0.05 (0.02)	2.19	.029
Patient self-advocacy—mindful non-adherence			
Intercept	3.09 (0.07)	44.74	<.001
Intervention condition	−0.15 (0.09)	−1.77	.077
Time	0.01 (0.02)	0.51	.609
Intervention × time	0.10 (0.04)	2.81	.005
Patient self-advocacy—education			
Intercept	3.58 (0.07)	49.10	<.001
Intervention condition	0.03 (0.07)	0.41	.682
Time	0.05 (0.02)	2.31	.021
Intervention × time	0.03 (0.03)	0.95	.341
Patient self-advocacy—assertiveness			
Intercept	3.56 (0.08)	45.80	<.001
Intervention condition	0.03 (0.08)	0.37	.712
Time	0.07 (0.03)	2.74	.006
Intervention × time	0.02 (0.03)	0.58	.577

<sup>a</sup> Estimates are unstandardized MIXREG coefficients and do not represent effect sizes; sign of coefficient indicates direction of effect

persisted for at least 6 months after the intervention concluded. Results also were consistent across study sites, indicating that WRAP's beneficial impact on patient self-advocacy was stable across diverse communities. Findings also revealed that the more WRAP people received, the more positive patient self-advocacy attitudes and behaviors they reported. Taken together with a similar finding

regarding exposure from our earlier study of WRAP outcomes (Cook et al. 2011), this provides considerable evidence for offering peer-led mental illness self-management as part of a broad array of recovery-oriented services for public mental health clients.

Although the observed changes in patient self-advocacy scores among WRAP participants were relatively modest,

they compare favorably to findings from other studies of patient-self-advocacy. For example, at study baseline, the group means for our experimental and control groups (3.47 and 3.46, respectively) were slightly lower than the mean (3.48) for the general population as reported in Brashers et al. (1999) original PSA study. At final follow-up, however, the group mean (3.65) for people who received WRAP exceeded the mean reported for people with the chronic medical condition of HIV/AIDS (3.59) (Brashers et al. 1999) and approached the mean reported for individuals with disabilities (3.76) (Tschopp et al. 2009). Also of interest is the level of mindful non-adherence reported by our WRAP participants compared to subjects in other studies. For instance, at study baseline, mindful non-adherence means in our experimental and control groups (3.09 and 3.15, respectively) were highly similar to those in the general population (3.16) (Brashers et al. 1999). Yet, at final follow-up, the mean for WRAP participants (3.32) had risen higher than the mean for self-described “HIV activists” (3.30) (Brashers et al. 1999), and much higher than means of adult cancer survivors (2.40) (Hermansen-Kobulnicky 2008) and HIV-positive non-activists (2.93) (Brashers et al. 1999). That WRAP could help people develop skills for reasoned treatment decision-making that exceed those reported by people who self-identify as activists is a particularly noteworthy finding.

Regarding our first hypothesis, it bears noting that WRAP did not have an impact on participants’ acquisition of knowledge about their illness (Education Subscale), nor on their willingness to be assertive in treatment settings (Assertiveness Subscale). There are varied reasons why this may be so. Research has shown that, even with training prior to health visits, people rarely ask questions or offer opinions when interacting with providers, especially physicians (Cegala et al. 1996; Thompson et al. 1990). Additionally, studies have documented that people avoid health information if they find it distressing or feel that they cannot interpret it (Brashers et al. 1999), which may have been the case among the WRAP participants in our study. Finally, effective assertiveness within the provider-client relationship requires that providers be open to clients’ active involvement in decision-making (Bylund et al. 2010) and that providers interpret the request for more information as a positive sign of client engagement (Brashers et al. 1999). Perhaps the WRAP participants in our study did not perceive this mutuality within their client-provider relationships, and thus, were reluctant to exhibit assertive behaviors.

When considering findings related to our second hypothesis, among those who received WRAP, greater patient self-advocacy was related to having hope for the future, better environmental quality of life, and being less bothered by psychiatric symptoms. This finding reflects the

positive relationship between patient self-advocacy and improved service engagement and clinical outcomes. This correlational analysis also demonstrates the high level of convergent validity between scores on the PSAS and generally-accepted measures of recovery from mental illness, such as lower symptom levels, greater hopefulness, and enhanced quality of life. It is quite interesting that, even though WRAP did not appear to have a significant impact on the education or assertiveness dimensions of patient self-advocacy, we nonetheless found that people in the experimental condition who had higher assertiveness and education subscale scores also reported better outcomes on the three recovery dimensions assessed for this study. Again, this reflects prior research suggesting that receiving information about service/treatment options and actively participating in decisions pertaining to one’s illness leads to being better informed, more likely to engage in psychosocial treatment, and to have improved functioning (Cruz and Pincus 2002), regardless of participation in illness self-management training.

### Limitations

Due to several study limitations, caution should be used when interpreting these findings. Foremost, generalizability of our results is limited by two factors: the study sample was not drawn from a national probability sample of individuals with serious mental illnesses; and all study participants came from a single Midwestern state. Additionally, the study is limited by the fact that we relied upon participant self-report of propensity to engage in patient self-advocacy behaviors rather than observing actual behaviors in mental health care settings, although it bears noting that people’s self-concept can be an important precursor to behavior change (Bandura 1997). We similarly relied upon respondents’ reports of their feelings of hope, quality of life, and psychiatric symptoms, which were not corroborated by clinicians or other objective observers. Another limitation is the lack of assessment of cultural barriers—such as perceived similarity between clients and their providers—which are known to have an impact on people’s willingness and ability to engage in patient self-advocacy behaviors (Brashers et al. 2002; Patel and Bakken 2010). Adding more specific measures to assess cultural facilitators and barriers to self-advocacy attitudes and behaviors among people with mental illnesses will bolster our understanding of whether and how illness self-management impacts upon patient self-advocacy across cultures.

As people seek to self-manage their psychiatric disabilities, interventions designed to improve their ability to function as self-advocates could help to improve their



engagement in services, willingness to follow through on self-chosen treatments, and overall mental health and quality of life. This study contributes to the growing evidence base for the role that peer-led mental illness self-management can play in fostering self-advocacy behaviors that can, in turn, facilitate recovery from mental illness and a higher quality of life.

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