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An Examination of Time-Use among Adults Diagnosed with Severe Mental Illnesses Using Daily Interviews

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Abstract

Objective—The authors examined clinical, demographic and programmatic predictors of average time-use during weekdays and weekends.

Methods—Mental health consumers ($N = 22$) participating in day treatment (DT) and assertive community treatment (ACT) programs first completed measures of symptoms and substance use, and then completed daily interviews on time-use for up to 20 days.

Results—Consumers who were participating in DT, as opposed to ACT, spent more weekday time in productive activity, but only when treatment was considered productive activity. DT participants also reported more weekend productive time-use. Clinical and demographic variables did not predict productive time-use, with the exception of negative symptoms (which predicted less) and African-American ethnicity (which predicted more).

Conclusions and Implications for Practice—Findings are consistent with previous studies indicating that many mental health consumers spend considerable amounts of time involved in sleep and passive leisure. However, structural factors, rather than symptoms, may be the greatest determinants of productive time-use. Rehabilitation interventions may need to be tailored to increase such opportunities for productive time-use.

Keywords

functional assessment; severe mental illness; ACT services; community integration

Valuable information on the community functioning of adults with severe mental illness can be gleaned by examining time-use. Previous research suggests that people with severe mental illness spend considerable time involved in passive leisure activities (e.g., sleeping and watching television) and that symptom severity may be associated with less time spent in productive activity (see Eklund et al.'s [2009] review).

Most previous studies on the time-use of people with severe mental illness have relied on reports of one or two days of time-use. Studies have also not usually discussed weekend time-use, which research with the general population suggests differs substantially from weekday time-use. Another area that has been seldom studied is the manner in which mental health programming affects time-use. Addressing these limitations of prior research, the

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present study used daily interviews to examine average time-use from up to 20 days, and compared daily activities during weekdays and weekends. To examine program factors, we compared time-use between persons receiving assertive community treatment (ACT) services and day treatment (DT) services, and explored the impact of clinical and demographic variables.

Method

Participants

Twenty-two people (14 male and 8 female) diagnosed with severe mental illness were recruited from 2 mental health agencies: a DT program located in Newark, New Jersey ($N=12$), and ACT teams in New York City ($N=10$). Participants' mean age was 46.14 ± 9 and mean years of education was 10.88 ± 2.19 . Three (13.6%) participants were European-American, 14 (63.6%) African American, 4 (18.2%) Latino and 1 (4.5%) Asian. Seven (31.8%) were diagnosed with schizophrenia, 5 (22.7%) schizoaffective disorder, 2 (9.1%) bipolar disorder, 6 (27.3%) major depression or mood disorder, and 2 (9.1%) post-traumatic stress disorder. Almost all participants had a co-occurring substance abuse diagnosis ($N=21$). Institutional Review Board approval was received and participants provided informed consent.

Procedure

Baseline Interviews—Participants first completed a baseline interview that included the Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein, & Opler, 1997), and the substance use section of the Addiction Severity Index (ASI; McLellan, Luborsky, & Woody, 1980). The PANSS is a 30-item rating scale. For this study, the PANSS' positive, negative and mood factor components (Bell et al., 1994) were used. The ASI assesses substance and alcohol use in the past 30 days. We examined total number of days of combined substance and alcohol use at baseline.

Daily Telephone Interviews—Participants then completed daily structured telephone interviews for 10 consecutive days on two different occasions. After the baseline clinical interviews were completed, participants were instructed about the format of the daily interviews. The first 10 interviews were scheduled for 2-3 weeks after the baseline interviews. Daily interviews began on a Tuesday and ended on the following Thursday. Telephone interviews were conducted from 8-10 PM (participants without phones were provided with cellular phones). Questions focused on a systematic review of activities since the previous interview and their duration (e.g., "what did you do after you woke up?" "how long did you do that for?"). The second 10 days of interviews occurred roughly 3 months after the first 10-day period.

Data Coding

Activities were coded using the code-book of the American Time Use Survey (ATUS) (BLS, 2007). Primary activity codes were then recoded into broader categories. Categories included: sleep, passive leisure (including television watching), eating/personal care, purchasing goods, travel, work, socialization, active leisure (e.g., hobbies), treatment, and childcare/volunteering. The raw number of minutes spent in each activity was recorded by the interviewer; the proportion of daily time spent in a given activity was computed by dividing the number of minutes spent in the activity by the total number of minutes recorded for the day.

Two indices were created to reflect the proportion of the day spent in "productive" activity. The first index consisted of all activities with the exception of sleep and passive leisure. The

second excluded treatment in order to address the possible confounding effect of structured day programming.

Activity data were aggregated, creating a weekday and weekend composite for each participant. Due to missing data, an average of 10.36 weekdays was available per participant (data were drawn from a total of 228 days of weekday data), while an average of 3.05 weekend days were available (61 days total).

Results

There were no significant differences between participants in the DT and ACT samples on any of the demographic or clinical variables, with the exception that participants in the DT sample were significantly more likely to be African-American.

Table 1 reports findings on weekday time-use and differences in mean weekday time-use between participants enrolled in ACT and DT (with t-test comparisons). Overall, participants spent the majority of their weekdays involved in sleep, passive leisure, and treatment. The DT sample spent significantly more time in treatment and engaged in less passive leisure than the ACT sample. DT participants spent more time in “productive activity” when that category included treatment, but did not when only other types of productive activity were considered.

Table 2 reports findings on weekend time-use. Overall, participants slept more on weekends than weekdays, and spent more time socializing and in passive leisure. On weekends, ACT participants spent significantly less time involved in eating/personal care and travel than DT participants.

Table 3 presents Pearson correlations between demographic and clinical variables and the proportion of weekday time spent in productive activity (both including and excluding treatment). The only significant predictor of involvement in productive activity (including treatment) was negative symptoms, such that persons with more negative symptoms had less productive activity. The only significant predictor of productive activity not including treatment was race, with African-Americans significantly more likely to participate in productive activity than other participants.

Discussion

Findings are consistent with previous studies indicating that many people diagnosed with severe mental illness spend considerable time involved in sleep and passive leisure (Eklund et al., 2009). During weekends, participants spent almost half the day sleeping and another quarter involved in passive leisure. While we did not collect data on a comparison group of general population participants, recent findings from the ATUS indicate that average Americans spend 10% of their weekdays watching television and roughly 34% sleeping (BLS, 2009), both lower than the proportions found in the current study (17% and 40%, respectively). However, it is important to consider that general population estimates vary considerably by employment status and the presence of children in the home; in the ATUS, unemployed adults without children in the home reported spending 18% of their weekdays watching television and 37% sleeping, estimates similar to what we found (BLS, 2009).

The current study sheds some light on factors that are associated with productive activity. DT participants spent roughly 10% more of their weekdays in productive activity than ACT participants. While this finding was attributable to involvement in mental health treatment as a “productive activity,” it is interesting to note that these participants also spent more time in productive activity on weekends, when the difference was accounted by more time spent

eating and travelling, and less time watching television. It is possible that more active involvement during the weekday led to a “spill-over” into weekends.

Regarding clinical and demographic variables, only negative symptoms negatively predicted involvement in productive activity including treatment, while African-American ethnicity positively predicted productive activity excluding treatment. A prior study found that African-Americans with severe mental illness were more involved in organizations such as churches and social clubs (Wong, Nath, & Solomon, 2007), suggesting that African-Americans living in predominantly African-American communities may have greater opportunities for social participation.

Limitations of the current study include the small sample size and limited generalizability, since the participants were predominately middle-aged African-Americans and some participants may have self-selected out of the study, so that study participants may not be representative of other mental health consumers. Despite these limitations, the present study suggests that structural factors, rather than “illness” factors (such as symptoms and diagnosis), may determine time-use. The extent to which treatment programs and local community resources impact opportunities for productive time-use needs to be studied further so that rehabilitation interventions can be tailored to increase such opportunities.

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Reference

- Bell MD, Lysaker PH, Beam-Goulet JL, et al. Five-component model of schizophrenia: Assessing the factorial invariance of the positive and negative syndrome scale. *Psychiatry Research* 1994;52:295–303. [PubMed: 7991723]
- Bureau of Labor Statistics. American time use survey coding rules, 2007. 2007. Retrieved from: <http://www.bls.gov/tus/tu2007coderrules.pdf>
- Bureau of Labor Statistics. American time use survey, 2008 Results. 2009. Retrieved from: <http://www.bls.gov/news.release/atus.nro.htm>
- Eklund M, Leufstadius C, Bejerholm U. Time use among people with psychiatric disabilities: Implications for practice. *Psychiatric Rehabilitation Journal* 2009;32:177–191. [PubMed: 19136350]
- Kay S, Fiszbein A, Opler L. The Positive and Negative Syndrome Scale for schizophrenia. *Schizophrenia Bulletin* 1987;13:261–276. [PubMed: 3616518]
- McLellan A, Luborsky L, Woody G. An improved diagnostic evaluation instrument for substance abuse patients: The Addiction Severity Index. *Journal of Nervous and Mental Disease* 1980;168:26–33. [PubMed: 7351540]
- Wong Y-LI, Nath SB, Solomon PL. Group and organizational involvement among persons with psychiatric disabilities in supported housing. *Journal of Behavioral Health Services and Research* 2007;34:152–167.

Table 1

AVERAGE PROPORTION OF WEEKDAY TIME-USE IN ACTIVITY CATEGORIES BY GROUP

Activity Category	DT (n = 12)	ACT (n = 10)	Total (n = 22)	p
Sleep				ns
Mean (SD)	.42 (.14)	.39 (.11)	.40 (.13)	
Range	.31-.84	.21-.54	.21-.84	
Eating and Personal Care				ns
Mean (SD)	.13 (.04)	.12 (.01)	.12 (.04)	
Range	.06-.19	.05-.21	.05-.21	
Purchasing Goods				ns
Mean (SD)	.01 (.01)	.02 (.01)	.01 (.01)	
Range	0-.03	0-.03	0-.03	
Travel				ns
Mean (SD)	.07 (.03)	.07 (.04)	.07 (.03)	
Range	0-.10	.02-.15	0-.15	
Work				ns
Mean (SD)	.00 (.01)	.02 (.04)	.01 (.03)	
Range	0-.03	0-.13	0-.13	
Socialization				ns
Mean (SD)	.04 (.03)	.06 (.04)	.05 (.03)	
Range	.01-.13	.01-.11	.01-.13	
Active Leisure				ns
Mean (SD)	.02 (.02)	.01 (.01)	.02 (.02)	
Range	0-.08	0-.04	0-.08	
Passive Leisure				<.01
Mean (SD)	.10 (.06)	.26 (.11)	.17 (.12)	
Range	0-.22	.15-.55	0-.55	

Activity Category	DT (<i>n</i> = 12)	ACT (<i>n</i> = 10)	Total (<i>n</i> = 22)	<i>p</i>
Treatment				<.01
Mean (<i>SD</i>)	.20 (.08)	.05 (.03)	.13 (.10)	
Range	0 - .29	.01 - .10	0 - .29	
Childcare/Volunteering				ns
Mean (<i>SD</i>)	.01 (.01)	0 (.01)	0 (.01)	
Range	0 - .05	0 - .02	0 - .05	
Productive Activity (all activities except passive leisure & sleep)				<.01
Mean (<i>SD</i>)	.48 (.12)	.35 (.11)	.42 (.13)	
Range	.11 - .60	.19 - .55	.11 - .60	
Productive Activity (excluding treatment)				ns
Mean (<i>SD</i>)	.29 (.07)	.30 (.07)	.29 (.08)	
Range	.11 - .39	.15 - .51	.11 - .51	

Table 2

AVERAGE PROPORTION OF WEEKEND TIME-USE IN ACTIVITY CATEGORIES BY GROUP

Activity Category	Day Treatment (n = 11)	ACT Consumers (n = 9)	Total Sample (n = 20)	p
Sleep				ns
Mean (SD)	.47 (.16)	.49 (.12)	.48 (.14)	
Range	.31 - .90	.27 - .90	.27 - .90	
Eating and Personal Care				<.05
Mean (SD)	.14 (.08)	.08 (.03)	.11 (.07)	
Range	.02 - .28	.02 - .14	.02 - .28	
Purchasing Goods				ns
Mean (SD)	.02 (.01)	.02 (.01)	.02 (.01)	
Range	0 - .12	0 - .07	0 - .12	
Travel				<.05
Mean (SD)	.05 (.04)	.02 (.02)	.04 (.04)	
Range	0 - .12	0 - .07	0 - .12	
Work				ns
Mean (SD)	.00 (.00)	.00 (.00)	.00 (.00)	
Range	0	0	0	
Socialization				ns
Mean (SD)	.07 (.05)	.07 (.07)	.07 (.06)	
Range	0 - .14	.01 - .24	0 - .24	
Active Leisure				ns
Mean (SD)	.02 (.04)	.01 (.01)	.02 (.03)	
Range	0 - .11	0 - .04	0 - .11	
Passive Leisure				ns
Mean (SD)	.20 (.14)	.32 (.15)	.25 (.15)	
Range	0 - .29	.14 - .61	0 - .61	

Activity Category	Day Treatment (n = 11)	ACT Consumers (n = 9)	Total Sample (n = 20)	p
Treatment				
ns				
Mean (SD)	.02 (.04)	0 (.00)	.01 (.03)	
Range	0 - .15	0	0 - .15	
Childcare/Volunteering				
ns				
Mean (SD)	.01 (.02)	0 (.00)	.01 (.01)	
Range	0 - .06	0	0 - .06	
Productive Activity				
<.05				
Mean (SD)	.33 (.16)	.19 (.10)	.27 (.15)	
Range	.03 - .69	.06 - .38	.03 - .69	

Table 3

CORRELATIONS BETWEEN DEMOGRAPHIC/CLINICAL FACTORS AND PRODUCTIVE WEEKDAY TIME-USE

	Productive Activity	Productive Activity; Excluding Treatment
Demographic Variables		
Age	.22	.15
Education	.21	.11
Ethnicity (0 = Other, 1 = African-American)	.31	.53*
Gender	-.13	.04
Clinical Variables		
Diagnosis (0 = Other, 1 = Schizophrenia Spectrum)	-.19	-.01
Positive Symptoms	-.23	-.10
Negative Symptoms	-.49*	-.43
Mood Symptoms	-.13	-.01
Substance Use	.11	-.01

* Significant Relationship at $p < .05$