

Mid-Ohio Psychological Services

Youth Consumer Outcome Measure

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Table of Contents

Introduction.....	1
Instrument Development	2
Descriptive Statistics—First Administration	4
Correlation Table—First Administration	5
Paired T-Test Results	7
Administration Procedure	10
Discussion/Further Research.....	11
Appendix A--Youth Consumer Outcome Form.....	12

Introduction

Broadly speaking, consumer outcome can be described as the extent to which an intervention results in a desirable condition. Within the scope of mental health treatment services, consumer outcome can be thought of as encompassing a range of domains including client satisfaction, self-perceived improvement in functioning, and/or a decrease in maladaptive behaviors/activities. Consumer outcome can be derived through self-report or external observation. Unfortunately, no universal or widely accepted definition of consumer outcome can be established by reviewing the available literature or reviewing the general practices of the mental health treatment community.

Historically, the Ohio Department of Mental Health attempted to create outcome measures and required all community mental health agencies to utilize these measures. Although the required measures provided superficially reasonable psychometric properties including reliability and validity, the instruments lacked utility and were rather expensive to administer from a staff perspective and a client perspective. Further, the time frame required for the administration of the instrument by ODMH did not result in a reasonable ability to track ongoing treatment progress or consistently measure the effectiveness of treatment over time. In fact, some of the measures utilized by the Ohio Outcomes System suggested that as individuals engaged in treatment services that they got worse. This negative trend appears to be related to a natural inclination by clients to underestimate their pathology early in treatment and to become more honest with their level of pathology within several months of engaging in treatment. Because of the measurement time intervals required by the Ohio Outcomes System, many clients only had an initial measure and one subsequent measure during their course of treatment, spanning this period of time when they went from minimizing their level of pathology to acknowledge in their level of pathology. As a result, in many cases, data supported that the most effective treatment providers actually garnered scores reflecting a decrease in functioning by their clients. In a response to the shortcomings of the Ohio Outcomes System, the Ohio Department of Mental Health stopped requiring the utilization of their outcome system and has allowed agencies to select their own method for measuring consumer outcome.

In an attempt to address the shortcomings of the Ohio Outcomes System and to facilitate good measurement of consumer outcomes, Mid-Ohio Psychological Services has undertaken the task of developing an effective consumer outcome measurement system. In the development of this outcome measurement system, four broad guiding principles were utilized. These four guiding principles include: measuring valid constructs, integrating results into the current computer information system, being non-intrusive for both the clinician and the client, and broadly linking to norm referenced data.

The first guiding principle was that the outcome system must reliably and validly measure constructs directly related to the reasons that individuals are seeking services through this agency. Typically, clients are referred to this agency because there are some foundational qualities to their life that are no longer working. This may result in difficulties with the criminal justice system, psychiatric hospitalizations, involvement with child protective services, or educational problems. A number of ancillary issues are

viewed as tying in to the general deficiencies including unstable housing, emotional instability, physical difficulties, and substance abuse. Any outcome measure to be utilized by this agency must assess the degree to which these conditions/problems are being ameliorated.

The second guiding principle was that the outcome measurement system must integrate into the current clinical information system. The outcome measure must be easily used, must be able to be easily integrated into a computerized format, and must facilitate easy data analysis. Clinicians use an integrated clinical information system at this agency, and therefore any outcome measure must be easily integrated into the system, requiring minimal intervention by the clinician in order to administer the instrument and analyze the resulting data.

The third guiding principle is that the outcome measure must be nonintrusive. Ideally, the outcome measure should require less than 10 minutes to administer and should easily integrate into the "session flow". By having clients complete an outcome form each time that a treatment plan is being developed or revised, the outcome measure can be utilized as a way of gauging progress and providing information for the establishment and modification of treatment goals. By attaching the timeframe by which the outcome forms are being completed to other naturally occurring events such as updating treatment plans, no additional system is required to track when the forms need to be completed and ensure that reasonable intermittent measurements are taken. If a client prematurely terminates in an unplanned fashion, the last outcome measure would be no more than 90 days old and should reasonably reflect an approximation of the client's condition at the time of this disengaging from treatment.

The fourth guiding principle was that the outcome measurement system should attempt to link to "norm referenced data." A number of outcome measures are available with some known psychometric properties on a variety of larger samples. Although initially it would appear prudent to simply utilize those established outcome measurement systems, in practice those systems do not comply with the preceding three guiding principles. However, elements of the larger datasets from the other instruments should be able to be at least, on a limited basis, tied into the results of any developed outcome system.

Instrument Development

Prior to initiating the development of the current outcomes measurement system, a thorough review of the literature was conducted to determine whether other instrumentation that has already been developed might be appropriate. In reviewing the available research, no instrument that complied with the four guiding principles identified above could be identified. A committee of skilled independent licensed clinicians including doctoral level psychologists and counselors was assembled to identify the most important domains to assess and consumer outcome for this agency. Additionally, extensive discussion occurred regarding issues such as scaling, administration, and methodology for establishing concurrent validity. The committee then generated the draft *Youth Consumer Outcome Form* which was then broadly distributed throughout the agency to solicit feedback regarding face validity and to receive feedback regarding ease of administration. Additional modifications were made to the form in response to this

feedback. An initial pilot study of approximately 100 administrations of the instrument was utilized to gather feedback from consumers regarding the ease of administration and clarity of items. The final result of this cumulative feedback resulted in a final draft version of the instrument which can be seen in appendix A, the *Youth Consumer Outcome Form*. The committee collectively determined that the instrument had adequate face validity.

The resultant form is conceptually broken into two sections. The first section reflects the consumer's self-perception of functioning in a number of domains including: involvement with the criminal justice system, substance abuse, academic and vocational activity, relationships with boyfriend/girlfriend, relationship with parent figures, involvement with other family members, involvement with friends and social interactions, behavior, emotional stability, bizarre/unusual thoughts, physical health, and overall functioning. The overall functioning scale is similar to a widely recognized consumer outcome measure with national norm references. The second section is viewed as a more objective measure of pathology, reflecting the client's involvement in terms of number of days/episodes with law-enforcement, criminal activity, involvement with the emergency department as a result of mental health issues, days psychiatrically hospitalized, days utilizing alcohol or illicit substances, days of missed school/work because of mental health issues, times they were victimized, attempts at self-harm/mutilation, and days running away from home. Finally, the clinician records the client's Global Assessment of Functioning (GAF) as defined in the *Diagnostic and Statistical Manual of Mental Disorders -- Fourth Edition* as an additional concurrent measurement.

Between January 1, 2010 and March 30, 2011 every child/youth client seen by this agency was administered the *Youth Consumer Outcome Form* each time an Individualized Service Plan was created and/or updated. A total of 614 clients completed an initial form while an additional 137 clients completed at least one subsequent form. Descriptive statistics for the initial administration of the 12 self-reports items, nine functional scales and GAF can be viewed below. The 12 self-reports items maintained a relatively good internal consistency (Cronbach's alpha= .8365) for the 144 initial administration cases where all of the items were administered (because some items do not apply in a particular case, four of the items are only administered when they do apply). The eight self-report items that must be completed by all clients (School, Parents, Family, Friends, Behavior, Emotions, Health, and Overall Functioning) provided excellent internal consistency (Cronbach's alpha= .8496) for the 485 initial administration cases. Given the nature of the instrument and the collaborative method for administering the instrument, other measures of internal consistency such as inter-rater reliability are not appropriately computed. Test-retest reliability is not viewed as an appropriate statistic for this instrument, given that it is assumed that change will occur over even relatively brief periods of time.

All 12 self-report items correlated significantly at or better than the $p=.01$ level with the GAF scale with the exception physical health. This suggests adequate concurrent validity.

Descriptive Statistics—First Administration

Outcome Measure	N	Minimum	Maximum	Mean	Std. Deviation
Criminal Justice System	302	0.00	10.00	8.1829	2.9023
Alcohol/Drug Use	269	0.00	10.00	8.8615	2.3248
School/Work	578	0.00	10.00	6.6985	3.1028
Boyfriend/Girlfriend	271	0.00	10.00	7.3561	3.1375
Parent Figures	578	0.00	10.00	6.2431	3.2427
Other Family	553	0.00	10.00	6.4855	3.0642
Friends/Social Interactions	577	0.00	10.00	7.1594	2.8586
Behavior	580	0.00	10.00	5.7897	3.0869
Emotions	577	0.00	10.00	5.169	3.0816
Bizarre/Unusual Thoughts	322	0.00	10.00	6.6553	3.6030
Physical Health	577	0.00	10.00	8.2721	2.2319
Overall, how are you doing	571	0.00	10.00	6.5915	2.6171
Days involved with Law Enforcement	610	0.00	90.00	1.37	7.94
Number of Crimes	610	0.00	10.00	0.26	0.95
Times in the ER for Mental Health Issues	611	0.00	8.00	0.11	0.58
Days Psychiatrically Hospitalized	611	0.00	90.00	1.11	8.33
Days of AOD use	608	0.00	90.00	0.6	4.95
Days missed school/work for Mental Health Issues	609	0.00	10.00	2.11	9.62
Times Victimized	610	0.00	20.00	0.24	1.4
Times Attempted to Self Harm	607	0.00	60.00	0.6	3.62
Days Gone When Ran Away	611	0.00	60.00	0.57	4.0
Global Assessment of Functioning	614	35.00	80.00	58.24	6.52

Correlation Table—First Administration

		Criminal Justice System	Alcohol / Drug Use	School / Work	Boyfriend Girlfriend	Parent Figures	Other Family	Friends / Social Interactions	Behavior	Emotions	Bizarre / Unusual Thoughts	Physical Health	Overall, how are you doing
Criminal Justice System	Pearson Correlation	1.000	.514	0.226	0.263	0.105	0.077	0.098	0.115	0.045	.197	0.067	0.109
	Sig. (2-tailed)	.	0.000	.000	.000	.072	.189	.096	.049	.440	.003	.252	.065
	N	302	246	294	190	295	290	291	291	291	219	293	287
Alcohol / Drug Use	Pearson Correlation	.514	1.000	.164	.298	.121	.107	.019	.025	.023	.188	.083	.191
	Sig. (2-tailed)	.000	.	.000	.000	.052	.086	.761	.668	.71	.006	.184	.002
	N	246	269	259	190	260	258	259	261	260	211	260	256
School / Work	Pearson Correlation	.226	.164	1	.354	.344	.290	.389	.401	.409	.256	.216	.421
	Sig. (2-tailed)	.000	.008	.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	294	259	578	267	558	534	560	559	557	311	560	555
Boyfriend / Girlfriend	Pearson Correlation	.263	.298	.354	1.000	.310	.253	.400	.206	.381	.277	.307	.401
	Sig. (2-tailed)	.000	.00	.000	.	.000	.000	.000	.001	.000	.00	.000	.000
	N	190	190	267	271	261	260	266	265	264	199	264	267
Parent Figures	Pearson Correlation	.105	.121	.344	.310	1.000	.577	.377	.489	.461	.248	.185	.510
	Sig. (2-tailed)	.072	.052	.000	.000	.	.000	.000	.000	.000	.00	.000	.000
	N	295	260	558	261	578	540	562	561	562	314	562	553
Other Family	Pearson Correlation	.077	.107	.290	.253	.577	1.000	.415	.496	.432	.354	.207	.463
	Sig. (2-tailed)	.189	.086	.000	.000	.000	.	.000	.000	.000	.000	.000	.000
	N	290	258	534	260	540	553	540	544	539	304	537	538

		Criminal Justice System	Alcohol / Drug Use	School / Work	Boyfriend Girlfriend	Parent Figures	Other Family	Friends / Social Interactions	Behavior	Emotions	Bizarre / Unusual Thoughts	Physical Health	Overall, how are you doing
Friends / Social Interactions	Pearson Correlation	.098	.019	.389	.400	.377	.415	1.000	.481	.524	.378	.230	.490
	Sig. (2-tailed)	.096	.761	.000	.000	.000	.000	.	.000	.000	.000	.000	.000
	N	291	259	560	266	562	540	577	563	564	314	563	560
Behavior	Pearson Correlation	.115	.025	.401	.206	.489	.496	.481	1.000	.646	.404	.169	.541
	Sig. (2-tailed)	.049	.668	.000	.001	.000	.000	.000	.	.000	.000	.000	.000
	N	291	261	559	265	561	544	563	580	566	318	559	559
Emotions	Pearson Correlation	.045	.023	.409	.381	.461	.432	.524	.646	1.000	.485	.218	.662
	Sig. (2-tailed)	.440	.71	.000	.000	.000	.000	.000	.000	.	.000	.000	.000
	N	291	260	557	264	562	539	564	566	577	316	561	558
Bizarre / Unusual Thoughts	Pearson Correlation	.197	.188	.256	.277	.248	.354	.378	.404	.485	1.000	.178	.453
	Sig. (2-tailed)	.003	.006	.000	.000	.000	.000	.000	.000	.000	.	.002	.000
	N	219	211	311	199	314	304	314	318	316	322	312	314
Physical Health	Pearson Correlation	.067	.083	.216	.307	.185	.207	.230	.169	.218	.178	1.000	.319
	Sig. (2-tailed)	.252	.184	.000	.000	.000	.000	.000	.000	.000	.002	.	.000
	N	293	260	560	264	562	537	563	559	561	312	577	558
Overall, how are you doing	Pearson Correlation	.109	.132	.421	.401	.510	.463	.490	.541	.662	.453	.319	1.000
	Sig. (2-tailed)	.065	.034	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	287	256	555	267	553	538	560	559	558	314	558	571
GAF	Pearson Correlation	.159	.191	.209	.173*	.158	.137	.217	.306	.273	.200	.039	.351
	Sig. (2-tailed)	.008	.002	.000	.010	.000	.002	.000	.000	.000	.000	.289	.000
	N	300	268	576	270	576	551	575	578	575	321	575	569

To aid in determining the statistical utility of the instrument, a paired t-test was conducted, contrasting the core 12 self-report items for those cases where multiple administrations occurred. Unfortunately, for many items a relatively low sample size was available, resulting in a relatively low level of statistical power. The results of the paired t-test can be seen in the table below. Clearly, directional change can be observed by comparing the means between the pre-and post-measures, in spite of the lack of statistical significance on many of the scales. Further analysis with a larger sample size will need to be conducted in order to further clarify the statistical utility of the instrument.

Paired T-Test Results

Paired Sample Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Criminal Justice System	Pre	8.0077	65	3.0739	0.3813
	Post	8.0077	65	3.0739	0.3813
Alcohol/Drug Use	Pre	8.3387	31	2.6089	0.4686
	Post	8.2016	31	3.0567	0.5490
School/Work	Pre	7.0401	131	2.9860	0.2609
	Post	7.2901	131	2.6813	0.2343
Boyfriend / Girlfriend	Pre	8.0904	47	2.5967	0.3788
	Post	7.1649	47	3.3792	0.4929
Parent Figures	Pre	6.9688	128	3.0011	0.2653
	Post	7.0898	128	2.5363	0.2242
Other Family	Pre	7.0300	125	2.8342	0.2535
	Post	6.8920	125	2.8736	0.2570
Friends/Social Interactions	Pre	7.6772	134	2.6708	0.2307
	Post	7.9216	134	2.3692	0.2047
Behavior	Pre	6.3899	134	2.9168	0.2520
	Post	7.1026	134	2.5494	0.2202
Emotions	Pre	5.8609	133	2.9661	0.2572
	Post	6.6541	133	2.6385	0.2288
Bizarre/Unusual Thoughts	Pre	7.2361	36	3.5832	0.5972
	Post	6.3819	36	3.7333	0.6222
Physical Health	Pre	8.1723	132	2.4017	0.2090
	Post	7.9148	132	2.4293	0.2114
Overall, how are you doing	Pre	7.1947	131	2.5740	0.2249
	Post	7.6966	131	2.2466	0.1963
Global Assessment of Functioning	Pre	60.2263	137	6.8706	0.5870
	Post	61.7591	137	6.6736	0.5702

Paired Samples Correlations

Pre & Post Measures	N	Correlation	Sig.
Criminal Justice System ^a			
Alcohol/Drug Use	31	0.660	5.368E-05
School/Work	131	0.378	8.667E-06
Boyfriend/Girlfriend	47	0.317	2.972E-02
Parent Figures	128	0.537	6.044E-11
Other Family	125	0.511	1.118E-09
Friends/Social Interactions	134	0.588	4.092E-14
Behavior	134	0.417	5.254E-07
Emotions	133	0.391	3.344E-06
Bizarre/Unusual Thoughts	36	0.613	6.955E-05
Physical Health	132	0.388	4.182E-06
Overall, how are you doing	131	0.459	3.466E-08
Global Assessment of Functioning	137	0.834	2.463E-19

^aThe correlation and t cannot be computed because the standard error of the difference is 0

Paired Samples Test

Paired Differences

Pre & Post Measures	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Criminal Justice System ^a								
Alcohol/Drug Use	0.1371	2.3716	0.4259	-0.7328	1.00699	0.322	30	0.750
School/Work	-0.2500	3.1712	0.2771	-0.7982	0.29815	-0.902	130	0.369
Boyfriend/Girlfriend	0.9255	3.5485	0.5176	-0.1164	1.96742	1.788	46	0.080
Parent Figures	-0.1211	2.6964	0.2383	-0.5927	0.35052	-0.508	127	0.612
Other Family	0.1380	2.8239	0.2526	-0.3619	0.63792	0.546	124	0.586
Friends/Social Interactions	-0.2444	2.3024	0.1989	-0.6378	0.14901	-1.229	133	0.221
Behavior	-0.7127	2.9665	0.2563	-1.2196	-0.20580	-2.781	133	0.006
Emotions	-0.7932	3.1057	0.2693	-1.3259	-0.26053	-2.946	132	0.004
Bizarre/Unusual Thoughts	0.8542	3.2196	0.5366	-0.2352	1.94351	1.592	35	0.120
Physical Health	0.2576	2.6716	0.2325	-0.2024	0.71758	1.108	131	0.270
Overall	-0.5019	2.5223	0.2204	-0.9379	-0.06592	-2.278	130	0.024
GAF	-1.5328	3.9071	0.3338	-2.1930	-0.87272	-4.592	136	0.000

Administration Procedure

The Mid-Ohio Psychological Services *Youth Consumer Outcome Form* is to be administered to all clients when an Individualized Service Plan is being developed or revised. This includes at the initiation of services and at least every 90 days subsequent to the initiation of services. Additionally, the form should be completed any time a major revision to the treatment is being made, resulting in an updated Individualized Service Plan. This would include times when a particular service is being added, a goal is being added or deleted, or other material changes to the Individualized Service Plan occur.

Prior to administering the consumer outcome form, the client should be instructed as to the purpose of the instrument, highlighting the importance of the client being honest in their responses and discussing that the form will be used as a way of tracking progress over time. Initially, the client should be asked complete the form with little feedback from the clinician, attempting to get an unadulterated response set. The client should be instructed to enter their name and date that the form is being completed. The clinician is to enter the client ID at a later time. The form instructs the client to put an "X" on the scale rating how they have been doing in each of the areas of their life in the last 90 days. It is important that the client mark the line clearly so that a specific point can be identified on the continuum line on the form. If a particular item does not apply to the client, they may circle NA. If the item does not have a box for NA, then the item must be marked. For the next nine items, the client is to enter a number in response to the questions. If the response is zero, the client should still enter a zero rather than simply leaving the item blank. The clinician is to then enter the client's GAF score.

Once the client has made an attempt to complete the instrument, the clinician should review the client's responses and provide some feedback. For example, if a client has recently broken up with their boyfriend but marked to the extreme right on the scale suggested that their relationship was "doing great" then a discussion should occur in an attempt to clarify the client's response. Additionally, many clients will perhaps have difficulties in understanding what issues might fall within a particular domain, and a clinician is welcome to help explore these issues with the client. For the last nine items, a client may have difficulties in providing a specific numeric value. The clinician should work with the client to make a reasonable estimate. Again, mild confrontation and processing may be necessary in order to help the client provide a rational and reasonable response to the items. It is important however, that the clinician not impose their views on the client, but rather allow the client to respond as honestly as possible.

Once the client has completed the scale, the scale is to be forwarded to support staff who will score the top 12 items. A scale on the bottom form has been created so that the responses can be recorded in a Likert scale format from 1 to 10. It is acceptable to provide half-point increments when the clients' mark falls approximately midway between two points on the scale. Support staff will then enter the results into the Consumer Outcome Database to be integrated at a later date with the Clinical Information System.

Discussion/Further Research

As noted previously, further research is needed to fully develop statistical utility. It is recommended that a sample size of at least 100 repeated administrations be conducted with at least a 90 day interval between administrations for a paired t- test analysis. It may also be appropriate to repeat this process with 180 day interval between administrations as well.

Although inter rater reliability is not generally appropriate for this instrument, it may be useful to conduct a small study to contrast a client's self-report on the instrument with a clinician's report on the instrument. Given the process nature of the outcomes process, even if the results reflect poor inter rater reliability, it does not negate the appropriateness of the instrument.

As with inter rater reliability, test -retest reliability is generally not an appropriate construct as applied to this instrument. However, it may again be appropriate to conduct a small study to determine how a client might respond to the instrument with no more than one week interval between administrations. In conducting this test-retest study, it will be important to know whether the client perceives themselves as experiencing any significant changes during the one week period.

Additional concurrent validity research should be conducted utilizing techniques such as that provided by Scott Miller. That is, a study looking at item number 12 on the self-report items, "Overall, how are you doing" should be correlated with the overall item on Dr. Miller's instrument.

Based on the current known psychometric properties and procedural advantages, it appears that the current *Youth Consumer Outcome Form* can adequately replace the Ohio Outcome System in clinical usage.

Appendix A--Youth Consumer Outcome Form

Rev 10/28/2010

Client Name: _____ ID: _____ Date: _____

Completed by someone other than the client—who: _____

GAF Per clinician _____

Put an x on the scale rating how you have been doing in each of these areas of your life during the last 90 days:

		Big Problems	Doing Great
Criminal Justice System	NA	-----	
Alcohol/Drug use	NA	-----	
School/Work		-----	
Boyfriend/Girlfriend	NA	-----	
Parent Figures		-----	
Other Family		-----	
Friends/Social Interaction		-----	
Behavior		-----	
Emotions		-----	
Bizarre/unusual thoughts	NA	-----	
Physical Health		-----	
Overall, how are you doing		-----	

In the last 90 days:

- ___ How many days/times has law enforcement been involved with you (ie. Police at your house, placed in detention, involved with the court sanction, etc.)?
- ___ How many crimes have you committed (not counting AOD related offenses)?
- ___ How many times have you been to the Emergency Department/Emergency Services for mental health related concerns and were not admitted?
- ___ How many days have you been psychiatrically hospitalized or placed in a residential facility?
- ___ How many days have you used illicit drugs/alcohol or taken medication in ways that were not prescribed?
- ___ How many days did you miss school or work because of your behavior or mental health issues?
- ___ How many times were you “victimized” (sexual or physical)?
- ___ How many times did you attempt to harm yourself, mutilate yourself, or make suicidal gestures?
- ___ How many days were you away from your home/placement while you were “running away”?

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