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Addressing defeatist beliefs in work rehabilitation

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Abstract

Background—Adults with serious mental illness (SMI) may struggle with expectations of failure in vocational rehabilitation. These expectations can be global and trait-like or performance-specific and related to ability.

Aims—To date, it has not been examined whether global or performance-specific defeatist beliefs are related to functional outcomes.

Method—The Indianapolis Vocational Intervention Program (IVIP) is a CBT intervention used to address expectations of failure and improve work performance. We examined the relationships between defeatist beliefs, self-esteem, social functioning, and work behaviors in 54 adults with SMI who completed IVIP within a work therapy program.

Results—Baseline work-specific defeatist beliefs were related to baseline self-esteem, employment attitude, and work behaviors. Decline in work-specific defeatist beliefs was associated with better social functioning, self-esteem, and work behaviors. Decline in global defeatist beliefs was only associated with improvements in social functioning.

Conclusions—Performance-specific expectations about work may be an appropriate therapeutic target to enhance work outcome in SMI.

Keywords

schizophrenia; severe mental illness; defeatist beliefs; vocational rehabilitation

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1. Introduction

Work is an important part of recovery in serious mental illness (SMI) (McGurk et al., 2009; Twamley et al., 2003) and most patients report a strong interest and desire to work (Bell & Choi, 2012), yet only 10–20% work competitively (Anthony & Blanch, 1987; Mueser et al., 2001). Of those who work, less than one-third work regularly, and most are underemployed in relation to expectations based on premorbid functioning (Bellack et al., 2007; Marwaha et al., 2007; Salkever et al., 2007). Barriers to gainful employment include increased stress related to performance, inability to successfully navigate workplace social situations, and inaccurate understanding of personal strengths and weaknesses. These struggles with adapting to a new environment can lead to expectations of failure that make maintaining a job challenging—even in supported employment programs (Bell et al., 2007)—and so, changing beliefs about negative expectations may be an important step to improving work outcomes (Bell & Choi, 2012; Davis et al., 2004; Johanessen et al., 2007).

More specifically, defeatist beliefs are a prominent expectation-based barrier that can be parsed into global attitudes or traits that expect failure at every turn and the inflated need for acceptance (Rector, 2004) or more task-specific beliefs about performance and competency (Granholm et al., 2009, Granholm et al., 2013). When an individual believes he or she cannot succeed or has expectations of failure reinforced by negative outcomes, it is not surprising to see a decrement in motivation and forward momentum. Defeatist beliefs have also been shown to predict functioning in multiple domains (Couture et al., 2011; Davis et al., 2004; Grant & Beck, 2009, 2010; Horan et al., 2010; Rector, 2004), and successfully challenging defeatist beliefs in one area of thinking can generalize to other major areas of life and function (Davidson & Strauss, 1992). While defeatist beliefs are important targets for therapeutic intervention, how any changes therein might relate to work functioning is not well understood. Of equal importance, we can distinguish between global defeatist traits that might influence a person's life, regardless of situation, from those beliefs on performance that are specific to a task, whether one at hand or called up in the mind. It is presently unclear if either or both of these categories of defeatist beliefs might be the agent for improvement in work and/or social functioning.

In the current study, we examined the effects of the cognitive-behavioral therapy (CBT)-based Indianapolis Vocational Intervention Program (IVIP; Lysaker et al., 2005, Lysaker et al., 2009) on work functioning. IVIP was designed to help people with SMI learn to identify and ameliorate their expectations of failure (defeatist beliefs) and its success is mechanistically attributed to the restoration of metacognitive capacity, permitting self-reflection and recognition of others' thoughts (Lysaker et al., 2007, 2010, 2012). Its use has been associated with improvements in patient work duration and frequency, work behavior, and also sustained baseline levels of hope and self-esteem (Lysaker et al., 2005, Lysaker et al., 2009). The more advanced segments of IVIP itself allow people with SMI to create a sense of self and meaning through reflection on ideas and beliefs. As IVIP's relationship to metacognition has been well replicated across several studies, the field is ripe to open a discussion on how IVIP and defeatist beliefs, which draw on both cognitions and motivation components, interplay over a therapeutic treatment course.

The present study examined defeatist beliefs at both the global and task-specific level to see how they would relate to self-esteem, work behavior, and social functioning following IVIP. We sought to distinguish global defeatist traits, which are more general in scope but nevertheless related to positive and negative symptoms (Rector, 2004), from performance-specific defeatist beliefs, which may be a more malleable, situation-specific target for psychotherapeutic treatment and a possible link to improving negative symptoms (Grant & Beck, 2009). We hypothesized that baseline performance-specific defeatist beliefs about work would be inversely correlated with baseline self-esteem, and that any changes from baseline defeatist beliefs about work performance following IVIP would be related to changes in social functioning, work-related behaviors, and negative symptoms. As an exploratory aim, we evaluated any differences between defeatist beliefs about work performance and global defeatist traits.

2. Method

2.1 Participants

Fifty-four participants with SMI were enrolled in a four-month transitional incentive work therapy (IWT) program (Bell et al., 1993) that included IVIP. Clinics were informed of the study by research staff to refer patients they believed could benefit from IWT. Clinicians subsequently referred participants deemed not ready for supported employment due to their symptoms, poor employment history, and/or cognitive impairments. In order to qualify for the study, volunteers had to meet the following criteria: diagnosis of schizophrenia or schizoaffective disorder or bipolar type I, aged 18–65, outpatient status, no evidence of developmental delay, no evidence of traumatic brain injury or other neurological disorder, no evidence of substance abuse in past 30 days, and clinical stability as evidenced by no hospitalizations, no changes in psychotropic medications, and no changes in housing in the past 30 days. Participants were recruited from community mental health clinics affiliated with the New York State Psychiatric Institute, including the department's schizophrenia research clinic. This clinic serves a different patient population than many city programs in that patients tend to be higher educated and married with more family supports and financial resources. The study had been approved by the local Institutional Review Board.

2.2 Procedures

After providing written informed consent, all participants completed baseline assessments, as detailed in the Instruments section. DSM-IV diagnoses were based on Structured Clinical Interview for DSM-IV (SCID; First et al., 1997), administered by graduate-level staff. Trained master's level research assistants performed all symptom interviews, with PANSS and SANS inter-rater reliabilities of 0.72 and 0.73, respectively, and conducted all baseline and post assessments while the CBT intervention was conducted by a Ph.D. student who had been trained by the author of IVIP. Assessments were repeated at 4 months (post-IVIP).

Each participant was enrolled in a supervised work placement for 6 hours a week within the IWT program, while attending IVIP sessions once a week for 45 minutes. IWT is a transitional work therapy program where participants with SMI are placed at local work sites around the medical center depending on their preferences (patient library or gym, fitness

room, mailroom, etc.) under the supervision of an actual work supervisor at the site and paid a set rate of \$10 per hour. IWT is not competitive employment or supported employment but a model of work therapy developed by Morris D. Bell in the early 1990's (Bell et al., 1993) to provide opportunities for people with SMI who may benefit from an intermediary step prior to SE given their poor work history and/or severity of symptoms.

2.3 The Indianapolis Vocational Intervention Program

IVIP is designed to combat doubts about competence, social value, and success at work for people with SMI returning to work (Lysaker et al., 2005, Lysaker et al., 2009). In IVIP, CBT-based didactic materials and techniques address defeatist attitudes and beliefs by targeting maladaptive automatic thoughts about work, such as thinking errors ("I'm either good at this job or I'm not") that can lead to expectations of failure. During the weekly IVIP sessions, which are 45-minutes and separate from IWT, a group leader and co-therapist teach a schedule of didactic material to 2 to 3 participants. Therapists provide feedback about work experiences and help participants apply the didactic material through practice exercises. The lessons consist of four modules: (1) *thinking and working*, identifying and modifying self-defeating thoughts; (2) *barriers to work*, applying problem-solving strategies to work obstacles and coping with emotions; (3) *workplace relationships*, accepting and learning from feedback and effective self-expression; (4) *realistic self-appraisal*, thinking about strengths and limitations, as well as managing success.

2.4 Instruments

Global defeatist traits were assessed with the Dysfunctional Attitude Scale (DAS; Grant and Beck, 2009; Weissman and Beck, 1978;), covering cognitive distortions in 7 value systems: approval, love, achievement, perfectionism, entitlement, omnipotence, and autonomy. Performance-specific defeatist beliefs about work were evaluated with the Perceived Competency Scale (PCS; Williams et al., 1998), a self-report questionnaire, assessed participants' feelings of self-competence related to a particular task—in this case, how they felt about their competency to do well at work. The DAS was administered as part of the overall battery at baseline and post IVIP (4 months). The PCS was administered only after participants were sufficiently exposed to their work site and responsibilities since these questionnaires were specific to defeatist thinking in the context of the work experience. This was done after 6 hours of work, which was usually 1 week after the baseline battery. On the PCS, we specifically asked participants to answer the questions as related to their work therapy sites. At post, the PCS was given on the last day of work, which was usually 3 to 5 days prior to the post battery.

The Social and Occupational Functioning Assessment Scale (Goldman et al., 1992) is a continuous scale (scored from 0–100) that measures the quality of social and occupational function. The Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965) is a self-report questionnaire assessing global self-esteem, self-acceptance and self-worth. The Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987) is a 30-item rating interviewer-rated scale that captures positive, negative and generalized symptoms of schizophrenia. The SANS (Scale for the Assessment of Negative Symptoms; Andreasen, 1984) is an interviewer-rated scale that provides a more focused and in-depth evaluation of the five negative symptom

complexes: affective flattening, alogia, avolition, anhedonia, and attentional impairment. The Work Behavior Inventory (Bell & Bryson, 2001; Bryson et al., 2002), a work rating scale, assessed participant cooperativeness, work habits, work quality, social skills and personal presentation. Research staff made ratings based on observation of participants at their job sites and feedback from work supervisors. Baseline work behavior was administered after the first week of IWT in order to obtain sufficient observations of work-related skills. The Employment Attitude Survey (EAS; Priebe et al., 1998), a self-report questionnaire, was used as a measure of motivation for productivity.

Statistical Analyses—SPSS 17.0 was used to perform a series of correlations and t-tests. A two-tailed bivariate correlation matrix was calculated for baseline demographic variables, symptoms, social functioning, self-esteem, employment attitude, work behavior, and defeatist traits and defeatist work beliefs. Another two-tailed bivariate correlation was conducted between changes from baseline to post-intervention scores on defeatist traits and work beliefs, social functioning, self-esteem, work behavior, and employment attitude. Then a scatterplot of composite scores was conducted to examine baseline defeatist beliefs about work and general defeatist traits. This allowed us to observe the range of defeatist beliefs about work performance in the context of high or low defeatist traits. We then conducted an unpaired t-test to compare defeatist beliefs about work performance between those with high and low (median-split) defeatist traits.

3. Results

The mean age and gender distribution of the 54 participants was consistent with many previous work rehabilitation studies in SMI. However, the sample had an average education level somewhat above the usual high school level. Most had some college education and more than half of the participants were married (63%). The mean length of illness duration was 9.02 years ($SD=3.98$) while the average number of previous hospitalizations was 11.21 ($SD=5.72$). The majority of participants had an Axis I diagnosis with schizoaffective disorder being the most prevalent (47%), followed by schizophrenia (41%), and then bipolar type I (12%). Approximately half the participants were Caucasian (48%); the remainder were African American (33%) and Hispanic (19%).

Regarding our hypotheses, baseline global defeatist traits (Dysfunctional Attitude Scale) were not significantly correlated with self-esteem ($p=0.232$), while defeatist beliefs about specific work performance (Perceived Competency Scale) were inversely related to self-esteem ($p=0.004$). Defeatist beliefs about work performance were also related to better work behavior and employment attitudes at baseline (p 's=0.041 to 0.002). The only measures that correlated with social functioning at baseline were the PANSS ($p=0.019$) and SANS ($p=0.001$).

In terms of change scores from baseline to post-treatment, a reduction in global defeatist traits was only correlated with improvement in social functioning ($p=0.040$). On the other hand, a decline in defeatist beliefs about work performance was related to improvements in social functioning ($p=0.037$), self-esteem ($p=0.041$), and work-related behavior ($p=0.006$).

These relationships were noted in the context of significant change in work-specific defeatist beliefs, social functioning, and work behavior as a result of IVIP (see table 4). There were no pre-post changes in symptoms on the PANSS ($p=0.55$) while there was a trend toward improvement on the SANS ($p=0.07$).

Figure 1 shows a scatterplot of the non-significant relationship between baseline global defeatist traits and baseline defeatist beliefs about work performance ($r = .17$, $p = 0.183$). A median-split of low global defeatist traits ($DAS \leq 115$; $n = 17$) versus high global defeatist traits ($DAS > 115$; $n = 37$) suggests that defeatist beliefs about work performance were not contingent on having either high or low global defeatist traits. That is, patients with high and low global defeatist traits were similar, with comparable ranges in defeatist beliefs about work (Low DAS: PCS $M = 23.59$, $SD = 10.84$, Range of score: 4–44; High DAS: PCS $M = 22.78$, $SD = 11.08$, Range of scores: 6–43) ($t = 0.25$, $df = 52$, $p = 0.803$).

In terms of treatment attrition, there was a similar rate of dropout (8%) over the course of the 4-month period as in other work rehabilitation studies in SMI (e.g., Johannesen et al., 2007; Lysaker et al., 2009).

4. Discussion

This study sought to distinguish global defeatist and work-specific beliefs, while also investigating their relationships with intrapsychic functioning. A decline in global defeatist traits following IVIP was only related to improved social functioning, whereas reductions in defeatist beliefs about work performance accompanied better social functioning as well as more successful work behavior. We also found a degree of separation between global and work-specific defeatist beliefs: low work-related defeatist beliefs could still occur in the context of high global defeatist traits.

One reason for the incomplete overlap between global and work-specific defeatist beliefs may be that the former is cognitively derived, by way of automatic thought processes, while the latter is more context-driven. We argue that there seems to be a basis for distinguishing between more stable defeatist traits that may be a function of personality (more engrained in life-long beliefs systems) versus self-perceptions about performance, which are less trait-like and possibly more amendable to CBT. The measure of defeatist traits we used (DAS) is comprised of items that touch on an unhealthy need to be accepted by others—a dynamic deeply entrenched in interpersonal upbringing and temperament. For people with SMI, this also intersects with feelings of isolation and desiring social and peer acceptance in the face of societal stigma. These are constructs particular to a more established attitude compared to defeatist beliefs about task-specific performance, which are automatic thoughts more narrow in focus and perhaps more closely tied to real-world experience, and subsequently, a precise target for CBT. In a similar vein, the motivation field is starting to study such a theoretical separation between established deficits in trait motivation versus performance-specific motivation in schizophrenia. Choi et al. (2014) found that people with SMI can possess a low level of general trait-like motivation but still be highly motivated for a specific learning task. Similarly, we found that an individual who reports a significant degree of global defeatist traits can still possess a healthy outlook about working, or such an outlook can be

promoted through CBT. Such thinking is not all that surprising; even in the face of adversity and at low points in our lives, we can still work and find solace in jobs if we feel we are good at them. In fact, perceptions about how well we do in our jobs and the importance of our responsibilities may be the only thing offering a haven of self-efficacy in the midst of life turmoil. This is underscored by our finding that patients who believed they might fail at work also had lower self-esteem, while no such relationship emerged between self-esteem and global defeatist traits. Relatedly, self-esteem was positively related to the appraisal of work performance beliefs but not global defeatist traits.

IVIP was associated with improvements in performance-specific defeatist beliefs about work and these improvements corresponded to benefits in areas of general self-esteem, social and work functioning. The ability to reduce performance-specific defeatist beliefs is mechanistically feasible, as shown by IVIP's enhancement of metacognition and subsequent support of vocational therapies and improvements in work outcomes. As predicted by past research and observed here, when change occurred in one domain of functioning—such as a reduction in expectations of work-related failure—improvements were noted across multiple areas of functioning (Davidson & Strauss, 1992). These cross-domain improvements may be another source of inquiry in better understanding behavior to attitude change suggested above, perhaps via a metacognitive pathway.

Another issue is the inextricable context of disability payments; a person's work status and any related financial benefits are inherently tied to motivation for employment. The original IWT program was within the Veterans Administration (VA), though in that setting and in the present study IWT was neither presented nor reported as job "wages." In IWT any payments are a therapeutic incentive and not a salary, however this may still be an issue since patients tend to worry if any "income" will impact their disability payments. Outcomes might be very different if IVIP were instituted within supported employment or a similar program, where any income is considered as wages and could have a more significant impact on finances and motivation than IWT at a VA or in a research environment like the present study. Financial support for disability, like Supplemental Security Income, is often systematically reduced in the context of work success and might create profound motivational issues that could be an important barrier to incremental, effortful recovery from chronic conditions like SMI. Policy researchers and legislators might benefit from an in-depth consideration of how to cross this threshold in recovery without reducing the incentive for effortful work. This system-level consideration is also an important limitation of the present study. It is possible that reductions in defeatist beliefs are downstream of actual work experiences in IWT, and not of IVIP itself. If true, this would suggest that talking about defeatists beliefs in group therapy might not be as useful as showing yourself that you can actually do the job in a work environment. However, past work in IVIP suggests that its' known metacognitive enhancement may be permitting or potentiating motivational transfer from the therapy room to the workplace.

Another limitation of this study is its' relatively small sample size, while another is the absence of a comparison group such as a treatment as usual condition. Without a group that did not receive IVIP, we cannot decisively attribute all the improvements in functioning to IVIP. Additionally, as the present study is largely correlational, it cannot definitively infer

causality. As with many ecological treatment studies conducted within a clinical milieu, there were probably synergistic effects between the experimental therapy (IVIP) and the clinical program (work therapy) operating together to improve functioning. However, the current results in tandem with previous studies on IVIP (Davis et al., 2008, Lysaker et al., 2009) continue to suggest that IVIP can augment the efficacy of work therapy programs for those with severe and persistent mental illness. The large proportion of males in the study, as well as the relatively high level of education in the sample, may limit the generality of these results.

With respect to future directions, recent work has suggested that in individuals with psychosis, there is a relationship between functioning and self-efficacy only for those with intact insight into illness (Kurtz et al., 2013). In that case, self-efficacy was defined as the ability to control the symptoms of schizophrenia in order to accomplish a specific task; this conceptualization of self-efficacy provides theoretical counterpoint to performance-specific defeatist beliefs. In that recent study, when these defeatist beliefs were low, as inferred by self-efficacy being high, insight still governed functioning. Thus, within the subgroup that showed elevated defeatist beliefs, insight into illness was another factor influencing function. To the extent that insight into illness is supported by, or an extension of, metacognitive ability, this idea corresponds well with IVIP's known mechanisms. Therefore it is a logical extension to explore more explicitly in this population. It may be that this is an important barrier to modifying defeatist beliefs. More specifically, the ability to self-reflect has shown a prior link to work performance among patients receiving IVIP or supportive therapy (Lysaker et al., 2010). It is possible that some patients who struggle to recognize the fallibility of their own thinking might require additional metacognitive supports in identifying what they think and then forming alternative explanations in regard to illness insight.

5. Conclusion

Our study suggested that global expectations of failure were less impactful on the individual and less amenable to change than performance-specific defeatist beliefs about work. That is, who patients think they are in general is less integral to vocational functioning than who they think they are in the specific context of work. Targeting these more specific beliefs might be an additional or downstream part of makes IVIP an effective treatment enhancement for vocational rehabilitation of people with SMI. As current studies are addressing how insight and mood may also play a role in IVIP's success, our incipient understanding of the program's mechanisms might further develop to a more nuanced level in the near future.

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Figure 1.
Baseline scatterplot of defeatist beliefs about work performance in relation to high or low global defeatist traits.

Table 1

Baseline characteristics of the sample (n=54)

	Mean (SD)
Age	38.54 (4.73)
Education (years)	14.32 (2.64)
Gender, female (percentage)	34
On atypicals	94
On anticholinergics	24
Diagnosed with schizoaffective d/o	47%
Premorbid IQ Estimate	
WRAT3 Reading (standard score)	109.05 (6.83)
WAIS-R Vocabulary (scaled score)	10.38 (2.39)
PANSS Total	55.02 (13.45)
SANS Total	21.25 (4.64)
Global defeating belief–Dysfunctional Attitude Scale (DAS)	84.32 (13.40)
Work-specific defeatist beliefs–Perceived Competency Scale (PCS)	23.18 (10.71)

Table 2

Pearson correlation matrix for baseline variables

Pearson's	Dysfunctional Attitude Scale (DAS)	Social functioning (SOFA)	Self-esteem (Rosenberg)	Work behavior (WBI)	Employment attitude (EAS)
Age	0.11	-0.07	-0.03	0.08	-0.39 *
Education	0.04	0.17	0.13	0.10	0.11
Premorbid IQ	0.04	0.08	0.05	-0.04	-0.05
PANSS Total	0.19	-0.32 *	0.12	0.19	0.13
SANS Total	-0.04	-0.51 **	0.10	-0.19	0.08
Dysfunctional Attitude Scale (DAS)	-	-0.18	-0.12	-0.10	0.10
Perceived Competency Scale (PCS)	-0.17	0.20	0.40 **	0.44 **	0.25 *

* $P < 0.05$ ** $P < 0.01$

Table 3

Correlation between baseline to post-IVIP change scores.

Change scores (baseline to post)	Social functioning (SOFA)	Self-esteem (Rosenberg)	Work behavior (WBI)	Employment attitude (EAS)
Dysfunctional Attitude Scale (DAS)	−0.28 *	0.10	0.13	0.04
Perceived Competency Scale (PCS)	0.31 *	0.25 *	0.39 **	0.12

*
 $P < 0.05$ **
 $P < 0.01$

Table 4

Results of the Indianapolis Vocational Intervention Program (IVIP).

Measures	Scores	t-test	p value
Dysfunctional Attitude Scale (DAS)			
Baseline	84.32 (13.40)	1.74	0.09
Post	79.17 (7.54)		
Perceived Competency Scale (PCS)			
Baseline	23.18 (10.71)	2.52	0.01
Post	28.97 (5.32)		
Social functioning (SOFA)			
Baseline	38.52 (16.87)	2.01	0.04
Post	46.19 (10.38)		
Self-esteem (Rosenberg)			
Baseline	21.42 (5.04)	1.86	0.07
Post	23.75 (4.13)		
Work behavior (WBI)			
Baseline	121.33 (12.86)	4.02	0.00
Post	132.81 (7.44)		
Employment attitude (EAS)			
Baseline	19.83 (7.51)	0.18	0.86
Post	20.17 (6.09)		
PANSS Total			
Baseline	55.02 (13.45)	0.60	0.55
Post	53.31 (6.24)		
SANS Total			
Baseline	21.25 (4.64)	1.82	0.07
Post	18.69 (5.60)		