

Factors associated with consumer engagement and satisfaction with the Vocational Rehabilitation program

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Revised/Accepted April 2015

Abstract.

BACKGROUND: The Vocational Rehabilitation (VR) system spends approximately \$365 million annually to serve consumers who disengage from services and drop out of the program.

OBJECTIVE: Better understanding of the factors leading to premature exit might help VR better organize and deliver services to increase engagement.

METHODS: VR consumers provided four waves of longitudinal data at six month intervals about their VR experiences and satisfaction.

RESULTS: Almost half of the respondents felt that progression through VR services was too slow. Overall satisfaction with services was associated with the pace of service delivery, rates of contact between the counselor and consumer, and satisfaction with the counselor. Of those exiting the VR program over the study horizon ($n = 162$), 35% left because they met their goals, 34% because they were dissatisfied with services, and 30% for personal reasons.

CONCLUSION: This study sets the stage for further evaluation and model testing of VR practices to reduce premature exit. Practice modifications might include changes to the rates, timing and structure of contacts between counselors and consumers. Even a nominal increase in consumer engagement and retention could have significant outcomes for the VR system and consumers.

Keywords: Vocational Rehabilitation, premature exit, delivery pacing, working alliance

1. Introduction

The Vocational Rehabilitation (VR) program is a large and complex system charged with facilitating employment outcomes for people with disabilities. VR offers a range of services including vocational assessment, counseling, referrals, physical and mental restoration, training and education, maintenance, and post-employment services (U.S. Dept. of Education, 2008). Overall, the VR system invests over \$3 billion annually to assist approximately 600,000 consumers

seeking employment (Rehabilitation Services Administration, 2009; 2012). While many individuals benefit from these services, nearly half of all consumers are evaluated, determined eligible, and begin services only to dropout before completing the program (RSA, 2012). The VR system spends approximately \$365 million annually to serve consumers who do not complete VR services.

Premature exits include cases when VR loses contact with the consumer due to inaccurate address, disconnected phone, or consumer relocation (19%); consumer refusal to continue services (17%); or consumer failure to cooperate (14.2%; RSA, 2012). Costs associated with premature exit are high. Rehabilitation Services Administration case closure data (RSA 911) for 2012 indicate that:

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- \$138,830,563 was spent on 110,267 consumers whose cases were closed due to “unable to locate or lost contact”
- \$124,426,967 was spent on 98,606 consumers whose cases were closed as “refused services”
- \$101,601,847 was spent on 82,461 consumers whose cases were closed as “failure to cooperate”

These figures underestimate true costs because they exclude program administration costs, including staff salaries and services provided by rehabilitation programs that are not directly billed on an individual basis (RSA, 2009).

For consumers, premature exit has been correlated with worse economic outcomes compared to those who stay and become employed (Hayward & Schmidt-Davis, 2003). Data from a large-scale longitudinal study show that 82.9% of VR consumers whose cases were closed to competitive employment (status 26) were still employed after one year. In contrast, only 33.4% of individuals choosing to forego VR services reported employment at one-year follow-up (Hayward & Schmidt-Davis, 2003). Additionally, premature exit is higher among rural consumers than urban consumers. For example, Johnstone, Price, et al. (2003) reported that 79% of the rural participants with traumatic brain injury (TBI) dropped out of VR before completing services, compared to 52% of urban participants with TBI ($n = 78$). More generally, data comprised of RSA 911 case data plus geographic indicators from 48 state combined, general, and blind VR agencies show that rural people report significantly higher rates of premature exit due to “refused service” and “failure to cooperate” reasons (Ipsen & Swicegood, in press).

Better understanding of the factors leading to premature exit might help VR better organize and deliver services. This paper reports findings from a longitudinal prospective study of VR consumers to learn about factors leading to both retention in and exit from the program.

2. Background literature

Research highlights a variety of conditions associated with poor employment outcomes among Vocational Rehabilitation (VR) consumers including weak counselor-consumer relationships (Donnell, Lustig, & Strauser, 2004; Lustig, Strauser, Rice, & Rucker, 2002; Lustig, Strauser, & Weems, 2004), the types of VR services received (Chan, Cheing, Chan,

Rosenthal, & Chronister, 2006; Johnstone, Vessell, Bounds, Hoskins, & Sherman, 2003; Marini, Lee, Chan, Chapin, & Romero, 2008; McAweeney, Keferl, Moore, & Wagner, 2008; Pruett, Rosenthal, Swett, Lee, & Chan, 2008), work disincentives such as receipt of Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) (Ipsen, 2006; Marini et al., 2008; Matrone & Leahy, 2005; McCormick, Julnes, Chambless & Reither, 2011; Weathers & Hemmeter, 2011), and consumer characteristics such as disability type (Chan et al., 2006; Johnstone, Vessell et al., 2003; Marini et al., 2008). While some of these factors are not amenable to change, VR service-delivery methods might be modified to reduce early exit from the program.

2.1. Engagement

There is a large literature base that supports the positive relationship between working alliance and rehabilitation counseling outcomes (Donnell et al., 2004; Lustig et al., 2002; Lustig et al., 2004; Schelat, 2001; Wampold, 2002). Working alliance is described in terms of shared goals, tasks, and bonds between the counselor and consumer. Essentially, working alliance increases when counseling goals are mutually shared, tasks are defined and relevant to shared goals, and bonds between the counselor and consumer are well-developed through shared activities (Lustig et al., 2002). One avenue for building this alliance is to increase opportunities for consumer-counselor interactions, whereby consumers and counselors become more engaged in the rehabilitation process (Hein, Lustig, & Uruk, 2005). Wagner, Wessel, and Harder (2011) conducted a qualitative study of individuals entering VR due to work-related injury. They found that consumers were more satisfied with services if the vocational counselor (1) provided more up-front knowledge about the VR process and what to expect, (2) showed empathy to the consumer and his or her current circumstances, and (3) engaged the consumer’s opinions and ideas during the VR process. Likewise, in a study of customer satisfaction within the Veterans Health Administration, Scotti, Harmon, and Behson (2009) found that as intensity of contact increased, judgments of service quality by both provider and consumer increased.

2.2. Reinforcement

Principles of behavior analysis suggest that establishing new actions, such as engaging in VR services, are

improved if reinforcement, such as counselor contact, is relatively frequent early in the process (Cooper, Heron, & Heward, 2007; Griffiths, Sharkey, & Furlong, 2009). Unfortunately, data from the “Longitudinal Study of the Vocational Rehabilitation Services Program (Final Report 2)” describe a very “lean” schedule of reinforcement. This research indicated that, on average, each VR counselor had a caseload of 123 consumers and spent less than 15 minutes per month per consumer on eligibility determination, less than 20 minutes per month counseling each consumer, and about 20 minutes per month per consumer on file management (Hayward & Schmidt-Davis, 2003). This context poses challenges to consumer engagement in VR services, particularly for rural consumers who have low rates of contact with their counselors due to distance and delivery issues (Arnold & Seekins, 1998; Ipsen, Rigles, Arnold, & Seekins, 2013).

Other data suggest that the form and structure of contacts may not be providing reinforcement for engagement. In fact, some communication arrangements may increase response costs and even deliver punishing consequences. This can adversely affect consumer-counselor attachment. Hein et al. (2005) conducted a large qualitative study with 1,346 consumers and found that those in status 28 (i.e. exit without a rehabilitation outcome, $n=438$) described negative relationships with their counselors that included instances when their counselors were disrespectful, did not listen well to consumer concerns, did not follow through on promises, and were not available to help the consumer gain employment. These same concerns were described in a small qualitative study of 27 early-exit VR consumers, which highlighted discrepancies between services provided and services desired, constrained counselor-consumer relationships, and slow service speed (Rigles, Ipsen, Arnold & Seekins, 2011). Further, for rural consumers working with itinerant counselors, the long gaps between meetings were often cited as frustrating because the consumer had to wait for questions to be addressed to move forward on plans (Rigles et al., 2011).

2.3. Expedited services

Many VR consumers are frustrated with the pace of service delivery and might benefit from expedited services that are better tailored to meet their individual needs (Hein et al., 2005; Rigles et al., 2011). Delivery pacing may best be understood through a behavioral economics lens. Behavioral economics blends

economic principles with behavioral psychology to better understand human decision-making processes. It has been applied to a variety of fields including addiction (Bickel, DeGrandpre & Higgins, 1993; Bickel, Giordano, & Badger, 2004), health care utilization (Simpson & Vuchinich, 2000), and social services (Drebing, Hebert, Mueller, Van Orner, & Herz, 2006). Two behavioral economic principles that are particularly relevant to VR service delivery include *opportunity cost* and *discounting*.

Opportunity cost is defined as an alternative that must be foregone to pursue a certain action. Opportunity costs are entrenched in the decision-making process, as individuals weigh the pros and cons of actions to make choices that maximize benefits. Within VR, opportunity costs are defined in terms of a job. As job fit, wages, or benefits increase, the cost of not choosing employment increases (Drebing et al., 2006). Conversely, as requirements for a job such as education, transportation, and time in VR services goes up, the cost of choosing employment increases (Drebing et al., 2006; Hebert, Drebing, Mueller, & Van Orner, 2006). Discounting principles of delayed and uncertain consequences also apply. “Discounting delayed consequences (DDC) states that the value of a reward (such as a job) is discounted as a function of the length of delay of its delivery” (Drebing et al., 2006, p. 186).

Manipulating both opportunity costs and discounting appear to influence behavior for VR consumers. For instance, in a randomized controlled trial of 100 Veterans receiving vocational rehabilitation services through the VA, intervention group participants who received cash incentives for task completion on sobriety and job search skills had better outcomes in terms of transition to competitive employment (Drebing et al., 2007). Specifically, by providing upfront incentives, the opportunity cost of not completing employment benchmarks increased. Likewise, evidence from a decision-making study with Veterans Affairs (VA) vocational rehabilitation consumers indicated that discounting factors, such as an increased length of time until a job starts explained lower demand for particular jobs (Hebert et al., 2006). For the VR consumer, limited job prospects in combination with systems barriers such as frustrations related to eligibility determination, limited counselor availability, or slow pacing likely increase opportunity costs and discounting.

Together, the literature base provides a strong foundation for exploring these functional dimensions of

VR practice including characteristics of consumer-counselor contacts, properties of contacts, and service delivery pace.

3. Methods

We worked with 6 state VR agencies including AL-combined, KS-combined, MN-blind, MN-general, NM-general, and OR-general to recruit study participants from rural (nonmetro) and urban (metro) counties, based on USDA Rural Urban Continuum Codes (USDA, 2003)

3.1. Longitudinal survey

VR agency staff mailed survey packets including a cover letter, informed consent form, baseline survey, and return envelope to randomly selected rural and urban VR consumers who (1) were between the ages 18 and 65, (2) had opened their case within the last 6 months, and (3) did not have a primary disability related to cognitive impairment. Follow-up reminder postcards were mailed by the agency after 2 weeks. In total, survey packets were returned from 142 out of 711 rural consumers and 213 out of 750 urban consumers for a combined response rate of 24%. Participants received a \$10 stipend for each returned survey. In addition to collecting survey data, we also conducted telephone interviews with a randomly selected group of respondents who reported exiting the VR system since the last survey they received. Interview results are reported in a separate report.

The study included four surveys mailed at 6-month intervals. Of the 355 consumers providing T1 (time 1) data, 226 (64%) provided T2 data, 212 (60%) provided T3 data, and 188 (53%) provided T4 data. There were not statistical differences between responders and non-responders in terms of rural/urban location, gender, race, employment status, or severity of disability. On average, responders were older and more educated than non-responders.

3.2. Participants

Respondents were split between rural (40%) and urban (60%) locations, were mostly female (58%), and had a mean age of 40. Most respondents were White (61%), African American (19%) and Hispanic (10%). Thirteen percent (13%) had less than a high school education, 30% had completed high school, 38% had some

college, and 18% had completed a secondary education program. At baseline, 13% of the sample were employed full-time and 17% were employed part-time. Respondents reported severe (34%), moderate (49%) and mild (17%) disabilities and classified themselves as having a cognitive (29%), mental health (59%), physical (38%) and sensory (20%) disability. Percentages add to more than 100% because respondents could indicate co-occurring disabilities.

3.3. Survey measures

3.3.1. Demographics

The survey included various demographic questions linked to employment outcomes for individuals with disability. These include (1) individual characteristics such as age, gender, and race (Ipsen, 2006); (2) socioeconomic factors such as employment status, health care coverage, and receipt of SSI or SSDI financial assistance (BLS, 2013; Drew et al., 2001; Kennedy & Olney, 2006) and (3) disability severity and type (Dutta, Gerbey, Chan, Chou, & Ditchman, 2008).

3.3.2. Barriers to employment

The survey included five questions related to employment barriers including (1) presence of health problems in the last 6 months that prevented progress in employment plans (Rigles et al., 2011), (2) transportation issues (BLS, 2013), (3) relocation and homelessness (NCH, 2007), (4) substance use (Glenn, Huber, Kerferl, Wright-Bell, & Lane, n.d.), and (5) criminal history. We also asked if the respondent had been a VR consumer in the past.

3.3.3. Facilitators to employment

To assess motivation for working, we asked questions about reasons for seeking VR services, whether the respondent had an identified job goal and whether or not they were willing to relocate to secure employment.

We used the *Trait Hope Scale* (Snyder et al., 1991) to assess hope. Snyder (1994) suggested that hope contributes to goal attainment through two domains – agency and pathway. Agency is described as confidence to set and reach goals. Pathway is problem-solving capacity to reach goals and overcome roadblocks. The scale is predictive after controlling for psychological variables, such as positive and negative affect (Snyder, Sympton, Michael, & Cheavens, 2001). The 12-item scale is rated on an 8-point Likert-type scale where 1 = definitely false, and 8 = definitely true. Agency and pathway subscales are each composed of 4 items and the

additional 4 items are described as fillers. Hope scores can range from 8 to 64.

3.3.4. VR services received

We asked respondents to describe the VR services they received in the last six months. Services were based on RSA-911 data classifications and included assessment, Individualized Plan of Employment (IPE) development, disability diagnosis, training and education, job related, transportation, information and referral, assistive technology, personal assistance, and self-employment. If a respondent received a service, a follow-up question asked about satisfaction based on a 4-point rating scale from dissatisfied to satisfied. In addition, we asked a global question about current satisfaction with VR using this same scale.

3.3.5. Rate of delivery

Respondents rated VR pacing on a 3-item response set including “too slow,” “at a good pace” and “too fast.”

3.3.6. Satisfaction with counselor

We included several questions to assess consumer engagement and reinforcement with counselor services. To determine contact frequency, we asked about number of face-to-face meetings and number of phone or email contacts in the last 6 months. To assess the quality of interactions, we asked 12 questions rated on a 4-point scale from dissatisfied to satisfied. These 12 items focused on counseling dimensions identified from the literature including consumer engagement, counselor respect, and meeting productivity. We also asked several yes/no questions about the counseling process such as past difficulties with your counselor, fair treatment, and whether the consumer felt like the counselor cared for him or her.

3.3.7. Exit from VR

At each data collection point, respondents indicated whether they were still a VR consumer, and if not, why they were no longer engaged in the program. If respondents said they were no longer receiving VR services, they received a different follow-up survey that included questions about post-VR outcomes. For this reason, some longitudinal study measures at later time periods have lower numbers of respondents than are reported for the overall response rates.

4. Results

4.1. Reason for exit

Over the 18-month study horizon, 162 study respondents exited the VR system. Table 1 reports reasons for exit. Totals add to more than 100% because respondents could endorse more than one reason.

We further explored reasons for VR exit by classifying exit reasons into three groups. The “personal reasons” group included consumers who said they did not want to risk losing benefits; health, family or substance use issues stopped them from continuing services; they were discouraged with local job opportunities, or experienced transportation barriers. The “dissatisfied with services” group included individuals who said they were not receiving desired services, the VR process was taking too long, they were having trouble with their counselor, or VR just stopped contacting them. The “met goals” group included those who said they left the program with a job or after receiving desired services. Because individuals could endorse more than one exit reason, we created a hierarchy where “met employment goals” trumped “dissatisfied with services” which trumped “personal reasons”. Table 2 reports on exit reasons at each data collection period.

There were not significant differences in terms of exit reasons based on rural/urban location, minority status, education, age, or entering the VR agency with a job

Table 1
Reasons for exit

Reason for Exit (<i>n</i> = 162)	Percent
I got a job	30%
I was not receiving the services I desired	28%
VR stopped contacting me	20%
The VR process was taking too long	18%
My health stopped me from continuing services	12%
I received the services I desired	12%
I became discouraged with job opportunities in my community	12%
I was having problems with my counselor	11%
I could not find transportation to get to appointments or to a job	9%
I moved out of the area	9%
Family issues stopped me from continuing services	7%
I did not want to risk losing my benefits	5%
Other*	17%

*Written responses included instances when respondents were unsure about their status in the program (*n* = 13), services ended or the individual did not qualify for services (*n* = 8); respondents were pursuing interests without VR’s assistance (*n* = 3); or were incarcerated (*n* = 2).

Table 2
Global reason for exit

	Personal reasons	Dissatisfied with service	Met goals
T1 (<i>n</i> = 44)	<i>n</i> = 16; 36%	<i>n</i> = 14; 32%	<i>n</i> = 14; 32%
T2 (<i>n</i> = 36)	<i>n</i> = 8; 22%	<i>n</i> = 15; 42%	<i>n</i> = 13; 36%
T3 (<i>n</i> = 44)	<i>n</i> = 14; 32%	<i>n</i> = 15; 34%	<i>n</i> = 15; 34%
T4 (<i>n</i> = 38)	<i>n</i> = 11; 29%	<i>n</i> = 11; 29%	<i>n</i> = 16; 42%
Total (<i>n</i> = 162)	<i>n</i> = 49; 30%	<i>n</i> = 55; 34%	<i>n</i> = 58; 35%

Table 3
T1 Satisfaction with VR counselor

Thinking about the last six months, how satisfied are you that your VR counselor	Dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Satisfied	Mean
Treats you with respect (<i>n</i> = 326)	5 %	5 %	17 %	74 %	3.60
Meets with you in a location that is comfortable to you (<i>n</i> = 320)	4 %	4 %	20%	72 %	3.59
Runs a productive meeting (<i>n</i> = 303)	9 %	7 %	23 %	61 %	3.38
Understands your employment interests (<i>n</i> = 315)	10 %	10 %	21 %	59 %	3.28
Listens to your concerns (<i>n</i> = 333)	11 %	8 %	24 %	56 %	3.26
Provides information in a clear manner (<i>n</i> = 321)	11 %	9 %	24 %	56 %	3.24
Makes time to meet with you (<i>n</i> = 321)	11 %	12 %	20 %	58 %	3.24
Includes your ideas into your IPE (<i>n</i> = 279)	12 %	12 %	20 %	57 %	3.22
Follows through on promised services (<i>n</i> = 305)	12 %	10 %	25 %	54 %	3.22
Returns your phone calls in a timely manner (<i>n</i> = 310)	12 %	10 %	24 %	54 %	3.21
Returns your email messages in a timely manner (<i>n</i> = 178)	14 %	8 %	22 %	56 %	3.19
Helps you understand the local job market (<i>n</i> = 282)	15 %	14 %	29 %	41 %	2.96

goal in mind. However, there were significant differences based on gender [$\chi^2(2, 162) = 6.17, p < 0.05$]. Specifically, more females left for personal reasons as compared to males (36% and 21% respectively) and more males left after meeting vocational goals as compared to females (46% and 30% respectively).

4.2. Satisfaction with counselor

Table 3 reports on satisfaction at T1 with different dimensions of the counseling process. Missing data and “not applicable” responses were removed from column percentages. Mean scores were calculated on a scale where 1 = dissatisfied and 4 = satisfied.

4.2.1. Counseling satisfaction scale (CSS-12)

We computed a global score across the 12 counseling dimensions by taking an average across responses. To reduce missing data, scores were calculated with up to two missing or NA data elements. Cronbach’s Alpha was 0.966 for the 12-item counseling measure and Cronbach’s Alpha was 0.955 for a similar 10-item measure which excluded two items with high numbers of NA responses (i.e. “Includes your ideas in the IPE”

and “Returns your email messages in a timely manner”). Counselor satisfaction was not significantly different based on rural/urban location, gender, minority status, education, or entering the VR agency with a job goal in mind. There was a weak positive correlation between age and counselor satisfaction ($r = 0.145, p = 0.016$).

We conducted a one-way between-subjects ANOVA to compare the effect of CSS-12 at T1 on exit reasons across all time periods (i.e. personal reasons, dissatisfied with services, and met goals). There was a significant between-subjects effect for the three groups [$F(2, 123) = 10.52, p \leq 0.00$]. *Post hoc* comparisons using the Games-Howell test for unequal variances indicated that the mean CSS-12 for the dissatisfied with services group ($M = 2.8, SD = 0.99$) was significantly lower than the personal reasons ($M = 3.3, SD = 0.90$) and met goals ($M = 3.6, SD = 0.55$) groups at $p \leq 0.05$.

4.2.2. Pacing of service delivery

Table 4 reports on consumer opinions about the pacing of VR services. For consumers receiving services at each data collection period, almost half of respondents felt that progression through VR services was too slow.

Table 4
VR delivery pacing

My progress through VR services has been . . .	T1 (n = 337)	T2 (n = 197)	T3 (n = 157)	T4 (n = 116)
Too slow	46 %	47 %	43 %	49 %
At a good pace	53 %	52 %	55 %	48 %
Too fast	1 %	1 %	2 %	3 %

Table 5
Reason for exit by delivery pacing

Reason for exit	Services too slow	About the right pace
Personal Reasons	50 % ^a	50 % ^a
Dissatisfied with Services	71 % ^a	29 % ^b
Met Goals	28 % ^a	72 % ^b

Each subscript letter denotes a subset of pacing categories whose column proportions do not differ significantly from each other at the 0.05 level.

We examined CSS-12 scores and exit reasons by delivery pacing at T1. Because very few respondents indicated that delivery pacing was too fast ($n = 3$), these respondents were excluded from analyses. We used an independent samples t -test to compare CSS-12 across groups. CSS-12 scores were significantly lower for those endorsing VR progress as “too slow” ($M = 2.7$, $SD = 0.88$) as compared to “at a good pace” ($M = 3.7$, $SD = 0.35$; $t(263) = -13.1$, $p \leq 0.00$). Similarly, there were significantly different exit reasons based on pacing groups [$\chi^2(2, 149) = 19.15$, $p \leq 0.00$]. Table 5 shows delivery speed proportion based on exit reason.

4.3. Employment and hope

We anticipated that agency and pathway subscales from the Trait Hope Scale would be associated with employment outcome. We used one-way ANOVAs to compare pathway scores and reason for exit (i.e., met goals, dissatisfied with services, and personal reasons). There were no significant between-group effects for agency [$F(2, 149) = 0.761$, $MSE = 358.5$, $p = 0.469$] or pathway [$F(2, 151) = 1.69$, $MSE = 66.2$, $p = 0.189$] subscales.

Likewise, we expected that counseling relationships might be better if consumers entered the program with higher levels of goal-setting and problem-solving skills. This hypothesis was supported in the data. The Pearson correlation between the Trait Hope agency subscale and CSS-12 was $r = 0.201$, $p = 0.001$ and between the Trait Hope pathway subscale and CCS-12 was $r = 0.222$, $p \leq 0.000$.

4.4. Satisfaction with VR services

Respondents still receiving VR services provided an overall satisfaction rating of VR services at each data

collection point. Table 6 shows these overall ratings and their correlations with the CSS-12. The data show a significant and linear relationship between satisfaction with VR and how the counselor was rated.

Many respondents provided written comments about their overall satisfaction with VR. We organized these comments into 16 categories. Table 7 reports T1 comments along with the average satisfaction score for each category (on a scale of 1 to 4). Findings are organized into positive, negative, and neutral comments.

Finally, we examined the relationship between VR satisfaction and frequency of counselor/consumer interactions. Respondents told us how many times they had communicated with their counselors in the last 6 months. We trimmed the data to exclude respondents indicating over 24 interactions during any 6-month time period. Table 8 provides the mean and median number of face-to-face meetings and conversations by telephone or email at each data collection point.

We utilized one-way ANOVAs to test the relationship between VR satisfaction and meeting frequency at each time period. Table 9 shows satisfaction ratings by face-to-face and phone/email interactions.

Finally, we compared VR exit reason (dissatisfied with services vs met goals) across all data collection periods based on frequency of contact at T1. There was a significant effect for exit reason, $t(107) = 2.74$, $p = 0.007$, with face-to-face contact frequency for respondents meeting goals ($M = 3.3$, $SD = 2.9$) as compared to those dissatisfied with services ($M = 2.2$, $SD = 1.5$). Likewise, there was a significant effect for exit reason, $t(104) = 2.74$, $p = .016$, with phone/email conversation contact frequency for respondents meeting goals ($M = 3.7$, $SD = 2.3$) as compared to those dissatisfied with services ($M = 2.3$, $SD = 2.3$).

5. Discussion

These data provide a foundation for further exploration of VR service dimensions. Specifically, findings suggest that more engagement and reinforcement during the VR process in combination with faster service delivery may be a strategy to reduce early exit from

Table 6
Overall satisfaction with VR services

	Dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Satisfied	Pearson Correlation with CSS-12
T1 (<i>n</i> = 347)	16 %	15 %	27 %	42 %	$r = 0.778, p \leq 0.000$
T2 (<i>n</i> = 206)	20 %	13 %	27 %	40 %	$r = 0.755, p \leq 0.000$
T3 (<i>n</i> = 158)	21 %	14 %	22 %	44 %	$r = 0.872, p \leq 0.000$
T4 (<i>n</i> = 119)	27 %	14 %	15 %	44 %	$r = 0.802, p \leq 0.000$

Table 7
VR satisfaction comments at T1

Comment type	Sample comment	n	Average satisfaction rating
<i>Positive comments</i>		135	
Helpful, informative	Helpful information was given, easy access, easy to approach and talk to.	69	3.80
Showed caring, understanding	I am satisfied now because I have a counselor who listens to me and understands.	48	3.75
Kept in good contact with me	I am satisfied because if I need anything or have questions I can call him. If he don't answer, I can leave a message and he will call me back.	12	3.75
Got me the equipment I needed	I would never have been able to afford hearing aids without it. There is no being put down because of not having finances to purchase them.	6	3.83
<i>Negative comments</i>		133	
Pace was too slow	Because I am sick of the slow process, need a job right away	33	2.67
VR didn't keep in contact with me	Have no idea if I qualified or not. Several phone calls and messages. No one ever contacted me to let me know either way by phone or mail.	31	1.71
Didn't help me	I haven't got any help with anything at all. I've seen her twice and she has done absolutely nothing, no call back, no help, no anything	28	1.57
Did not listen/not individualized	I applied for help about 1 year ago and VR wanted to pick the job for me and did not know what I wanted.	11	2.18
Did not offer financial assistance	They have not helped with getting a wheelchair and transportation. I need this very badly, please help.	10	1.67
Personality conflict/not respectful	The person I worked with was mean and disrespectful.	9	1.67
Did not follow through on promises	Because I asked them to help me get my GED and they said they would, but it never happened.	7	2.43
Confused about the VR process	I just don't get all the options.	4	2.5
<i>Neutral comments</i>		24	
Waiting for services	Aside from the fact that I have been chronically ill, all VR programs have stopped due to state cutbacks.	8	1.75
Too soon to tell	It's still kind of new, just getting the process started.	7	3.29
Transportation issues	I never got any kind of help because I never had transportation to attend and the VR worker said that my case will be closed because of that and it was closed.	5	2.6
Program on hold	Helped when could until doctor wrote he will not let me work yet-had to put on hold for now.	4	3.75

the program. Engagement can be achieved through increased opportunities for consumer and counselor interactions. The data showed that increased numbers of consumer and counselor interactions, both in face-to-face meetings and phone and email exchanges, were associated with increased satisfaction with the VR process and improved downstream outcomes in terms of meeting goals. These findings parallel findings from a study of satisfaction with Veterans' healthcare, which

found that intensity of contact was associated with improved opinions about overall service quality (Scotti et al., 2009). It is likely that increased contact creates a conducive environment for developing working alliance, and in particular, bonds between the counselor and consumer.

Unfortunately, VR agencies are under increased pressure to provide services more efficiently as budget constraints, growing caseloads, and rising operating

Table 8
VR Counselor-Consumer Contact Rates

In the last six months, how many times did you have a ...	T1	T2	T3	T4
Face to face meeting with your VR counselor	$M = 2.8, SD = 2.4$	$M = 2.3, SD = 3.3$	$M = 1.7, SD = 2.9$	$M = 1.5, SD = 2.2$
	Median = 2.0	Median = 1.0	Median = 1.0	Median = 1.0
Conversation with your counselor by phone or email	$M = 3.1, SD = 3.2$	$M = 2.6, SD = 3.1$	$M = 1.8, SD = 2.0$	$M = 1.8, SD = 2.4$
	Median = 2.0	Median = 2.0	Median = 1.0	Median = 1.0

Table 9
VR satisfaction by frequency of visits

	Face to face visits	95% Confidence intervals	Conversations by phone/email	95% Confidence intervals
T1				
Dissatisfied	1.89	1.42, 2.35	1.73	1.17, 2.29
Somewhat dissatisfied	2.14	1.76, 2.52	2.41	1.82, 3.00
Somewhat satisfied	2.62	2.20, 3.01	3.52	2.69, 4.36
Satisfied	3.49	3.01, 3.96	3.71	3.18, 4.24
Between-group significance	$F = 8.89 p \leq 0.000$		$F = 6.76 p \leq 0.000$	
T2				
Dissatisfied	1.15	0.62, 1.68	1.25	0.74, 1.76
Somewhat dissatisfied	1.74	0.81, 2.67	3.19	1.08, 5.3
Somewhat satisfied	2.67	1.81, 3.52	2.54	1.87, 3.2
Satisfied	2.85	1.92, 3.78	3.17	2.46, 3.87
Between-group significance	$F = 2.83 p = 0.039$		$F = 3.77 p = 0.012$	
T3				
Dissatisfied	0.58	0.11, 1.04	0.79	0.28, 1.30
Somewhat dissatisfied	1.95	0.00, 3.91	1.90	0.80, 3.00
Somewhat satisfied	1.41	0.90, 1.92	2.24	1.57, 2.90
Satisfied	2.53	1.73, 3.33	2.12	1.62, 2.63
Between-group significance	$F = 3.75 p = .012$		$F = 4.15 p = .007$	
T4				
Dissatisfied	0.84	0.15, 1.53	0.77	0.20, 1.35
Somewhat dissatisfied	1.47	0.39, 2.55	1.71	0.90, 2.51
Somewhat satisfied	2.06	1.16, 2.96	2.53	1.47, 3.59
Satisfied	1.79	1.11, 2.46	2.31	1.50, 3.12
Between-group significance	$F = 1.66 p = 0.180$		$F = 3.44 p = 0.019$	

costs shape service intensity. Rural areas are particularly susceptible to these economic constraints, where distances from the VR office are substantial and transportation barriers limit counselor and consumer travel (Metzel & Giordana, 2007; Riemer-Reiss, 2000). One strategy to increase opportunities for engagement between counselors and consumers is to use less labor and cost intensive communication channels including telecommunication (Ipsen, Rigles, Arnold & Seekins, 2012). The data from this paper showed that phone and email interactions had the same effects on satisfaction with the VR process as face-to-face meetings.

Reinforcement is strengthened by positive consumer and counselor exchanges. Data showed that consumer satisfaction with the counselor (CSS-12) was associated with overall VR satisfaction and outcomes in the program. Qualitative data provided further evidence of

this process. Consumers most satisfied with the VR process described their counselors as helpful, caring, and responsive. Conversely, lower VR satisfaction ratings were associated with negative counseling comments such as the counselor not keeping in regular contact, not listening, or not acting respectfully. These findings support past research describing satisfaction with services as related to counselor empathy to the consumer and solicitation of consumer opinion and ideas throughout the VR process (Wagner et al., 2011) and dissatisfaction with services as related to counselors who are disrespectful, do not listen to consumer concerns, or who do not follow through on promises (Hein et al., 2005).

Finally, service speed or pacing appears to be an important component of both satisfaction with services and outcomes. Across all data collection periods, almost half of VR consumers felt that the VR process was too

slow. Satisfaction levels for both the VR program and the counselor were significantly lower for individuals rating the pacing as too slow and 71% of consumers leaving the program for a “dissatisfied with services” reason, provided a “too slow” rating. As one respondent described “Things take too long. I am nearly broke (out of funds). I need a job...”

One strategy to address this issue is to compress front end services to help consumers engage in the VR process more quickly. Preliminary analyses of rural data from 48 VR agencies indicated that less time taken to develop the Individualized Plan of Employment (IPE) was associated with higher rates of competitive employment closures, after controlling for a variety of demographic and individual characteristics (Ipsen & Swicegood, in press). This is an important finding because it describes a particular access point for engaging consumers in the VR process.

Overall, the study builds on research that identified factors affecting exit from the VR system before attaining employment. Results reinforce past findings regarding drop out or detachment from the VR system (Rigles et al., 2011). First, data indicate mismatched expectations between the rates, timing, and structure of contacts between counselors and some consumers. Second, many consumers exit because they were dissatisfied with communication with their counselor and the discrepancies between services promised and provided within the VR process (Rigles et al., 2011). Third, many consumers reported leaving VR services because the pace of service delivery was too slow, and they didn't make adequate progress towards securing employment.

5.1. Limitations

The study had limitations to consider. First, self-selection into the study, self-report data collection, and study attrition all posed threats to the representativeness of the data and findings. The initial response rate was 24%. These respondents differed from the general VR caseload in terms of important demographic characteristics such as gender (58% vs 43% female); minority representation (19% vs 26% African American); education level (13% vs 35% with less than a high school education); and age ($M=40$ vs $M=35$) (RSA 2012; Ipsen & Swicegood, in press).

Additionally, of the 355 enrolled in the study, only 188 provided data at T4. This number was further constrained because respondents exited the VR program during the study horizon, resulting in increasingly small samples providing feedback on the VR experience.

Although completers and non-completers were similar on most demographic characteristics at T1, responders reported higher age and level of education. This may have impacted outcomes, particularly in terms of goal attainment, since education is a predictor of employment outcome. The data were also difficult to interpret and analyze because respondents were exiting the program at different times, which precluded predictive models that rely on a complete dataset over time. Future efforts might include data triangulation, such as VR case records, to address these concerns.

6. Conclusions

This study sets the stage for further evaluation and model testing within the VR system to reduce premature exit. Future research should explore the impacts of more frequent consumer-counselor contact rates on working alliance, program satisfaction, and attachment or retention in the program. Studies might examine the pacing of service delivery, particularly at the initial stages of the VR program to improve engagement. One possible model is to provide services more concurrently (i.e. assessment, counseling, and job development) rather than sequentially. Another study might focus on alternate counseling practices, such as motivational interviewing, to improve the consumer-counselor relationship.

Even a nominal increase in consumer engagement and retention could have significant financial outcomes for the VR system and employment outcomes for people with disabilities. For instance, a 5% increase in retention rates could save the VR program approximately \$16.3 million and result in an additional 6,654 more employment outcomes among people with disabilities. For a program that is coming under increased scrutiny, these changes may be important demonstrations of value.

Acknowledgments

The authors wish to thank Bethany Rigles and Dr. Casey Ruggiero for their contributions to the initial survey design and data collection activities, and the VR agencies assisting with participant recruitment. This research was supported by a grant H133B080023 from the National Institute on Disability and Rehabilitation Research, Department of Education. The opinions reflect those of the authors and are not necessarily those of the funding agency.

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