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Examination of Forensic Vocational Rehabilitation Models: Prior Graduate-Level Training and Current Use per Forensic Setting

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The purpose of this study was to examine prior training of Forensic Vocational Rehabilitation models within graduate training programs, and (2) evaluate which models are most commonly used dependent on forensic vocational setting. A total of 69 FVCs that were members of the International Association of Rehabilitation Professionals (IARP) organization participated in the current study. Findings showed that RAPEL (64%, n = 44), PEEDS-RAPEL (52%, n = 36), Labor Market Access (49%, n = 34), Vocational and Rehabilitation Assessment Model (45%, n = 31), Deutsch/Sawyer (42%, n = 29), and Field's Practical Approach (41%, n = 28) were the models reported that study participants received the most training during their graduate studies (>40%). The RAPEL model (75%, n = 52) and PEEDS-RAPEL model (57%, n = 39) were reported as being most frequently used during the entirety of the participants' career, regardless of forensic setting.

Keywords: forensic vocational rehabilitation model, vocational rehabilitation consult, preinjury and postinjury earning capacity, loss of earning capacity, labor market access, transferable skills analysis

Examination of Forensic Vocational Rehabilitation Models: Prior Graduate-Level Training and Current Use per Forensic Setting

Forensic Vocational Rehabilitation (FVR) or medical rehabilitation is the process of assessing the vocational, medical, and economic damages in the context of litigation (International Association of Rehabilitation Professionals [IARP], 2022). The Commission on Rehabilitation Counselor Certification (CRCC) developed a *Code of Professional Ethics* (2023) outlining that Forensic Vocational Counselor (FVCs) "produce unbiased, objective opinions and findings that can be substantiated by information and methodologies appropriate to the service being provided, . . ., including evaluation, research, and/or review of records" (p. 20). Standard G.2. clearly states that FVCs form opinions based on their professional knowledge and expertise. Despite this clear ethical obligation, it is difficult to have a similar outcome when experts are examining the data and using their knowledge, skills, and abilities to develop conclusions. Moreover, expert opinions can be widely influenced by the earning capacity model or forensic vocational and rehabilitation model being used to derive their opinions. The purpose of the current study was to evaluate which model was most widely used of IARP members who engage in forensic vocational and rehabilitation practice, so that the forensic board of IARP can develop trainings for its members.

Scope of Forensic Vocational Rehabilitation

Forensic Vocational Counselors formulate expert opinions from data and information provided during the vocational rehabilitation evaluation and services process, and these opinions are based on clinical skills, experience, and formal education relying on standards and evidence that is "more probable than not" to support their conclusions about an individual's vocational potential, losses, work capacity, and the development of a life care plan if needed (Robinson, 2014). With their skills, training, and professional experience, they are asked to serve as expert witnesses in the legal community to assist the "trier of fact" (Testimony of Expert Witnesses, 2021).

Barros-Bailey (2014) completed rigorous research to provide a historical timeline and summary of how the FVC role was forged in the legal community. Before 1900, the use for expert witnesses was reported due to work-related injuries primarily related to railroad work. By 1908, the expert witnesses provided services similar to today's FVCs starting with *Laventhal v. The Fidelity and Casualty Company of New York* (Barros-Bailey, 2014). The demand for FVC services continued to steadily increase due to an emphasis on workers' health and safety as well as significant state and federal legislation. For example, in 1911, Wisconsin passed the first comprehensive workers' compensation legislation followed by nine other states that year (Guyton, 1999). Furthermore, the Federal Employee Liability Act (1908) and Federal Employee Compensation Act (1916) provided compensation benefits to federal workers (Barros-Bailey, 2014).

Weed and Field (2012) also provided an in-depth synopsis of legislation for the rehabilitation arena. In 1914, Congress passed Public Law 65-90, War Risk Act, providing vocational rehabilitation and re-training for soldiers. Then, in 1917, Public Law 64-347, Smith-Hughes Act, provided vocational education, which also created a Federal Board of Education to assist veterans with disabilities, and Smith-Sears Act, Public Law 65-178 in 1918, assisted veterans who had disabilities from World War I to obtain medical and vocational services. In 1920, the Smith-Fess Act, Public Law 66-236, created vocational counseling and training, assistance with job placement, prosthetics, and established a Federal/State program which matched 50/50 funds for individuals with physical disabilities (Weed & Field, 2012). This Act initially focused on injuries from industrially employed individuals, but it later included others to become today's state/federal vocational rehabilitation program.

Use of expert witnesses in workers' compensation (WC) cases continued to rise, although Barros-Bailey (2014) reported that in 1919, 20% of states still did not have WC laws. However, experts were being used regarding rehabilitation capacity when mitigating cases and also there was an allowance for a lump sum in settlements. Later, during the 1950s, the Vocational Rehabilitation Act or Hill-Burton Act, Public Law 83-565, created funds for additional training at the graduate level and assisted with improvement at rehabilitation settings, whereas the Social Security Act Amendment provided funds to workers and adult children with disabilities (Barros-Bailey, 2014). Furthermore, in the 1960s FVCs began providing testimony on existence of jobs in the labor market for the Social Security Administration, and in the 1970s, in addition to Social Security (SS) cases, the role of the FVC expanded to providing testimony for WC cases and personal injury (Barros-Bailey, 2014). Another significant legislative event occurred in 1990 with the Americans Disabilities Act, and with its amendments since 1990, the opinion of the FVC's expert role is strongly regarded to determine damages and assessment of accommodations (Barrios-Bailey, 2014).

Since the 1980s, Robinson (2014) reported at least 20 forensic vocational and rehabilitation models in the literature, although other existing vocational models were not included in this literature search such as earning capacity model (Boyd & Toppino, 1995). These forensic vocational models have guided rehabilitation experts to make professional opinions and used foundational factors such as review of records, clinical interviews, past work history and skill level, evaluee's education and aptitudes, transferable skills to assist with identifying alternative jobs, and labor market data. These guides became the backbone to what has shaped forensic vocational and rehabilitation assessments today.

For example, the Labor Market Access (LMA) Model, introduced in 1981, assisted with examining lost wages within the labor market (Weed & Field, 1994; Weed & Field, 2001). This model linked to

employment and wage statistics as well as *The Dictionary of Occupational Titles* (DOT) last published in 1991. It was used to determine the percentage of loss of access to jobs in the individual's geographic location, which was also used to calculate lost wages following an injury. Another model was the McCroskey Vocational Quotient System (MVQS) created by McCroskey (1982), which compared 24 worker traits to 12,975 jobs to predict labor market access and earning capacity by matching individuals with identified jobs in their geographic location. This model has continued to provide updates throughout the years. Several studies have reported that the McCroskey Vocational Quotient System is a reliable and valid tool for evaluating earning capacity (McCroskey, 1992; McCroskey & Hahn, 1995; McCroskey & Hahn, 1998; Robinson, 2014).

Another model developed in the 1980s, the Deutsch/Sawyer model, presented five areas to consider when differentiating between an individual's actual earnings and earning capacity along with the potential to earn following an injury (Robinson, 2014). Those areas included identifying the vocational goal and its components, the skills and the ability to obtain the goal, experience, and the difference between the individual's earned wages and the average earnings of those who work in an alternate goal. Field (2008) reported that this model required clinical judgment that was subjective when determining earning capacity, and Robinson (2014) reported the model had face validity only with no empirical evidence. Additional models were introduced in the 1990s beginning with Boyd and Toppino (1995) described a 12-factor model to assess an individual's loss of earning capacity that included the FVC using their education, training, and experience. These factors included medical restrictions, functional capacities, labor market accessibility following a reduction in preinjury functional capacity, and specific vocational preparation comparing preinjury to postinjury vocational capacity to see how the impact affected placeability, employability and earning capacity. Furthermore, this model used regulations set forth by the Social Security Administration including age having an effect starting at age 50 as well as information from DOT. The authors encouraged formulating wage rate from data sources such as local labor market surveys, publicly available data, and the FVC's experience. However, the model does not have empirical evidence to back up the theory, but it does have strong face validity since the factors are well described in literature for vocational rehabilitation (Robinson, 2014).

Cohen and Yankowski (1996) published the Cohen and Yankowski Procedural Steps that also has good face validity from support in the literature but there is no empirical evidence related to the steps (Robinson, 2014). The authors analyzed lost and future earning capacity following an injury with the use of ten steps highlighting the use of a functional capacity evaluation and evaluating future work alternatives. Robinson (2014) pointed out that there are no operational definitions provided by the authors, but the factors involved with the steps are supported in other vocational rehabilitation literature. In addition, independent variables are supported in the literature for Dillman's (1998) model but there is no empirical support (Robinson, 2014). Dillman (1998), an economist, described four factors to determine the number and wage levels of jobs following an injury that an individual would have been capable of performing with and without limitations and the ability to compete in the labor market. The author also provided an Impairment to Earning Capacity Equation that shows the relationship of the impairment to the evaluee's earning capacity (Robinson, 2014).

Concurrent validity between data sources and strong face validity was found with the model of Toppino and Agrusa (2000) who utilized six factors seeking employability and placeability after an injury. The authors used foundational factors such as employment, personnel, and educational records supported in the literature as well as encouraged random sampling of local employers to conduct labor market surveys along with use of public labor market data (Robinson, 2014). Also, Weed and Field (2001) described the RAPEL method, an acronym for five areas, to stand for rehabilitation plan, access to the labor market with limitations for employability, placeability and finding other employment, earning capacity, and labor force participation including work life expectancy and limitations to work full time. Empirical evidence about the RAPEL method has not been shown (Robinson, 2014).

In addition, models arose to determine disability in state workers' compensation cases. For example, in California, Van de Bittner (2003) used the LeBoeuf Evaluation Process Steps to establish a disability rating while reviewing various records with recommended vocational testing, completing TSA

testing, and determining feasibility as well as employability. The author recommended the use of computer-aided programs for TSA with a review of how it compares to the evaluee's uniqueness. Later, Van de Bittner (2006) developed the Workers' Compensation Earning Capacity Formula (WCEC) describing five steps to calculate work life expectancy; preinjury earning capacity; postinjury earning capacity; future earning capacity; and the impact of any additional disability factors (Robinson, 2014). In Washington State, Berg (2003) described 11 steps with the *Leeper* Evaluation Methodology to standardize the vocational evaluation process following an injury for workers in disability claims appeals and to determine if the worker would benefit from vocational rehabilitation services. Also, this methodology sought to determine an occupational goal as well as feasibility and employability. Meanwhile, in Florida, Spitznagel and Cody (2003) pointed out a seven-step methodology for evaluating claims and promoted the use of stated hypotheses in the assessment to enhance validity of the process (Robinson, 2014).

Neulicht and Berens (2005) reported REEDS-RAPEL, an extension of RAPEL with five domains, to include assessment for pediatric cases. PEEDS placed emphasis on the parent's or family's vocational history, education, aptitude, and worker traits patterns (Neulicht & Berens, 2005). Barros-Bailey and Robinson (2012) reported that PEEDS-RAPEL is conceptually linked to the labor market research from RAPEL. In addition, other factors such as developmental milestones and activities of daily living are determined to show impact of the child's disability as well as plan for accommodation and vocational options. The lead author reported in 2015 to be in the process of conducting a meta-analysis of literature to identify predictors of occupational capacity for children but the findings of this meta-analysis was not found in the literature (Neulicht & Berens, 2015).

Williams et al. (2006) reported findings of a factor analysis from responses of rehabilitation professionals who had attended a national forensic rehabilitation conference and asked to rate 26 variables used to determine earning capacity and employability. Four themes were established with 54% of the variance to include intrinsic characteristics, transferrable skills, worker traits, and labor market characteristics. No significant difference was found from various practice forums or referral sources. The authors noted that support for a global methodology to assess earning capacity and employability is possible with additional research. On the other hand, Field (2008) presented a "practical approach" to determine earning capacity based on useful concepts throughout the years and it provided flexibility for FVC to use personal preferences and clinical experience. Robinson (2014) reported that there was no empirical evidence for this approach; however, it was based on a review of earning capacity models in the literature. This approach determined base wage at preinjury and postinjury then estimated the difference along with the remaining work life and range of economic loss. Field (2008) mentioned that, if one had the expertise, to reduce future projected losses to present value or recommend referral to a qualified economist. Robinson (2014) cautioned that too much flexibility in a model can increase the potential for variability.

Other authors continued to present methodologies after the year 2008. Hankins (2009) presented a three-step method for review of records, vocational assessment, TSA, and a formula to analyze LMA. This method utilized public earnings data from the Bureau of Labor Statistics, Occupational Information Network (O*NET) or the United States Census Bureau. Robinson (2014) noted that this method used common aspects of assessing earning capacity and has face validity, but there is no empirical evidence. Austin et al. (2009), a work group from the California chapter of IARP, published a white paper regarding consensus methodology for employability and earning capacity to include interview, assessment of existing employment related skills and abilities, evaluee's physical, and mental limitations, TSA and vocational strengths, and earning capacity assessment. Shahnasarian (2004a, 2004b, 2010a, 2010b) created an earning capacity assessment theory (ECAT) with three-phase assessment for earning capacity, Earning Capacity Assessment Form (ECAF), and presented the model in a pyramid representation for the FVC to also use clinical judgment. The ECAF2 is an instrument to help with the analysis of earning capacity that included 14 factors with a rating scale ranging from 0 to 100 with scores defined as mild, moderate, severe, and extremely severe. Since the introduction of the ECAF instrument in 2004, randomized study of efficacy and reliability was accomplished (Robinson, 2014). Shahnasarian and Leitten (2006) provided findings from a factor analysis on ECAF and

Shahnasarian and Leitten (2008) found test-retest reliability for the ECAF reporting reliability coefficients ranging from .85 to .97 (P<.01) (Robinson, 2014). Shahnasarian (2009) conducted an exploratory study regarding cutoff scores on the rating scale but found it was not practical for earning capacity assessment (Robinson, 2014).

Regarding elements for completing a vocational assessment during divorce, Tracy and Wallace (2010) offered five elements to include a comprehensive interview and vocational testing, volunteer experience, unpaid work experience, education, hobbies, leisure activities, job search efforts, and vocational goals. The focus in the assessment was to determine the evaluee's vocational assets and limitations. In addition, the plan would allow for an evaluee to maintain the same standard of living that was in the marriage and potential jobs needed to match the evaluee's education, abilities, and skills. (Robinson, 2014).

Furthermore, the Vocational and Rehabilitation Assessment Model (VRAM) has empirical evidence supported in the literature as a model for forensic vocational and rehabilitation assessment (Robinson & Romeranz, 2011; Robinson & Paquette, 2013; Robinson, 2014). The FVC can use three domains to include cultural considerations with clinical judgment and psychometric testing. The model is structured to visualize the interaction of the domains for records review, labor market research, and analysis with opinion formulation (Robinson, 2014). Future medical care needs are identified if development of a life care plan is requested. Prior to this model, Robinson et al. (2011) completed a literature review and found the Delphi method could be used for forensic rehabilitation research and Robinson (2011) utilized the Delphi method to identify "core variables" to perform forensic earning capacity (Robinson, 2014). In addition, Robinson et al. (2012) identified more variables in their empirical study than had been described in previous literature. Robinson (2014) emphasized replicating empirical research to enhance reliability of published models. As aforementioned, there are several models that FVCs can choose to assist in developing their opinion when retained to provide expert opinion in vocational-related matters. The purpose of this study was to examine the most used forensic rehabilitation models by FVCs who have membership with IARP.

Methods

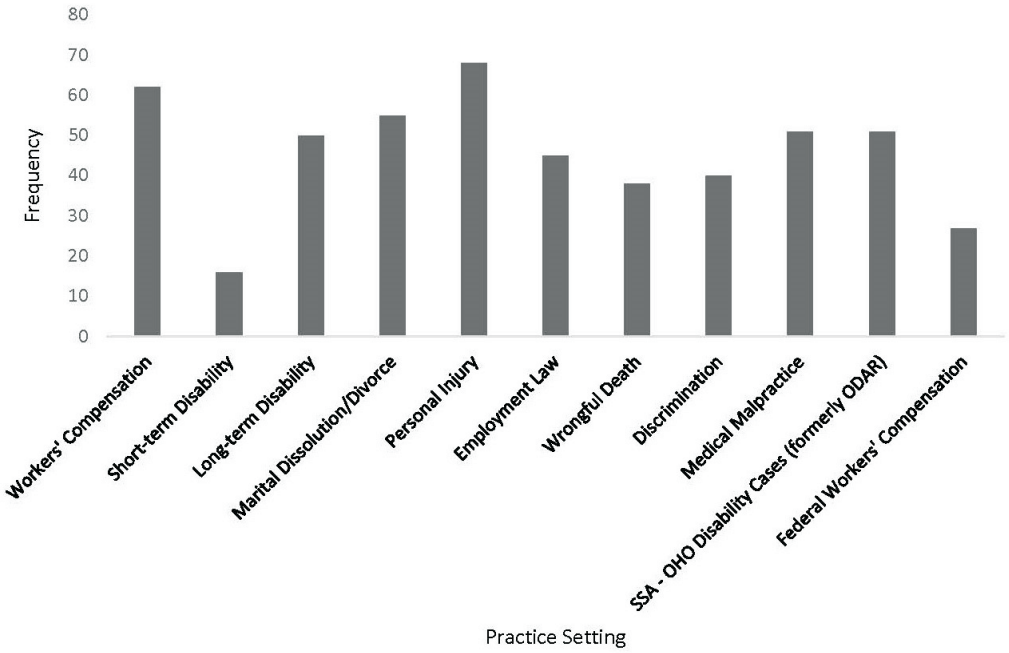
Participants

Members of IARP were recruited for this study and after three (3) reminder postings to the respective list-serve boards (SSVE, Forensic, Life Care Planning, All Member Forum, Transitional Counseling). A total of 92 members participated in the study after 4 participants were removed due to a change needing to be made to the supplemental questions and 19 for incomplete data (< 70% of the items completed). Therefore, the final study sample was 69 Forensic Vocational Rehabilitation Consultants. The majority of the participants had a master's degree (74.32%, n = 55), 17.57% having a PhD (n = 13), and 8.11% (n = 6) listed other as their highest educational degree (e.g., two master's degree, post-master's certificate). The average years of Forensic Rehabilitation practice was 24.15 years (ranging from 2 – 54 years), and the frequency of responses from study participants for practice settings is presented in Figure 1.

Materials

A list of forensic vocational rehabilitation models were obtained from Robinson (2014) and Forensic Rehabilitation literature to include within the current study, including (1) Cohen and Yankowski Procedure, (2) Dillman's Impairment to Earning Capacity Equation, (3) Deutsch & Sawyer Model, (4) DFFEC Work Group Methodology for Employability and Earning Capacity, (5) Earning Capacity Assessment Theory, (6) Field's Practical Approach, (7) Forensic Vocational Expert's (FVE) Approach, (8) Hankins Three-Step Model, (9) Labor Market Access Model, (10) LeBouf Evaluation Process, (11) Leeper Evaluation Method, (12) McCroskey Vocational Quotient System, (13) PEEDS-RAPEL, (14) RAPEL, (15) Spitznagel & Cody Methodology, (16) Toppino & Agrusa, (17) Tracy & Wallace Approach

Figure 1
Forensic Rehabilitation Practice Settings (N = 68)



for Marital Dissolution Assessment, (18) Vocational Economic Assessment (Gamboa-Gibson Model), (19) Williams, Dunn, Bast, & Giesen, and (20) Worker's Compensation Earning Capacity. An additional question was provided asking if there were any other models used during the past 5 years that were not listed, including models that were combined by the study participant.

Procedures & Data Analysis

Prior to collecting data and recruiting participants, an application to the primary author's institutional review board (IRB) was submitted and was determined that the current study proposal presented no more than minimal risk of harm to subjects and involved no procedures for which written consent or debriefing is normally required outside the research context. Once an exempt approval was granted, study materials were submitted and approved by the IARP research review board. Thereafter, a recruitment message was distributed to members located within the Forensic, Social Security, and Life-Care Planning sections of IARP. The recruitment message included information about the right to participate and discontinue participation at any time, and a link to a Qualtrics survey, where respondents were provided the following definition and asked if they currently, or have been involved in any Forensic Rehabilitation cases in the past as a vocational expert: "Forensic Vocational Rehabilitation consultants evaluate the vocational and rehabilitation needs of individuals in an array of legal settings, such as civil litigation, workers' compensation, social security disability, and others." If respondents answered yes, they continued with the survey. The next set of questions were used to gather demographic (e.g., education level, age) and supplemental questions (e.g., how many years have you been practicing in Forensic Vocational Rehabilitation; in what settings have you provided Forensic-related expertise; and frequency of cases involved in for petitioner/plaintiff and respondent/defense), and additional questions related to which forensic vocational rehabilitation model the respondent received training in within their educational program. After submitting responses to the demographic/supplemental questions, respondents were asked to review each forensic vocational rehabilitation model and indicate whether they had heard of the model between their educational and/or professional experiences (i.e., yes, no, unable to recall). Participants were then asked to mark a response of yes, no, or unable to recall for any model that the respondent has used during

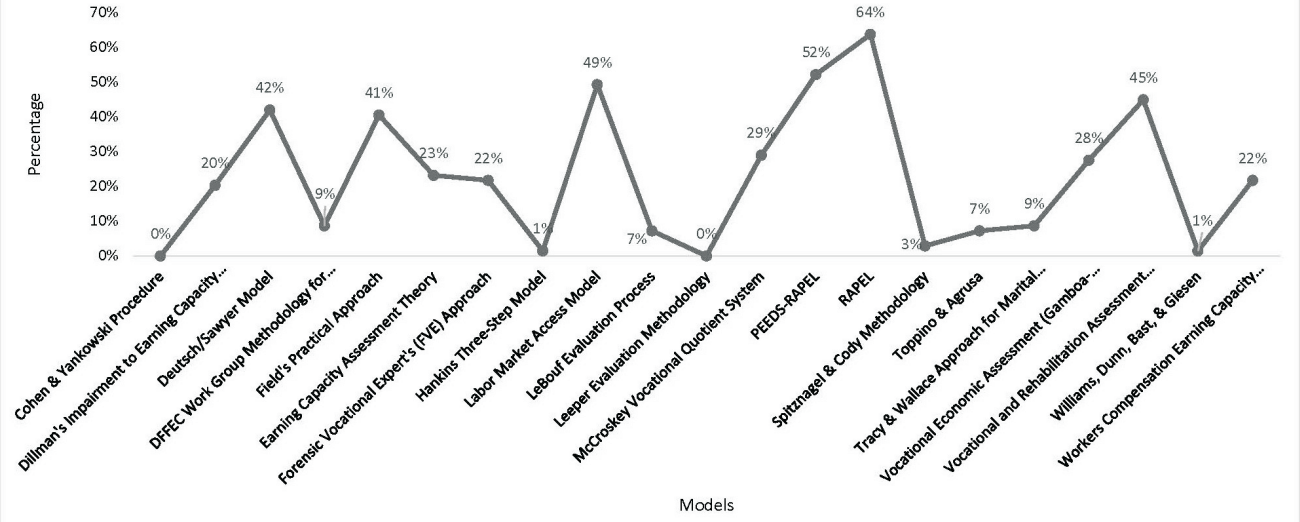
the entirety of their career. Finally, study participants were asked to indicate which forensic vocational rehabilitation they have used during the past 5 years for each practice setting (i.e., yes/no response).

Several forensic vocational rehabilitation models were listed for participants to choose from, and an additional question was provided to where they could include other models that they have used in the past 5 years. Descriptive statistics were used to quantitatively describe and generate summaries about the aforementioned category of questions collected (Howell, 2013). Study participants were able to include their name/contact information into a drawing for a chance to win 1 of 20, $50.00 gift cards. This information was separated from the study, so that participant information and their responses could not be tied together. For data analysis purposes in the current study, separate frequency distributions were performed for each practice setting, including personal injury, worker's compensation, marital dissolution, wrongful death, discrimination, medical malpractice, employment law, federal workers' compensation, long-term/short-term disability.

Results

A descriptive analysis was performed to determine the frequencies/percentages of prior graduate level training of each Forensic Rehabilitation Vocational Rehabilitation model listed within Robinson (2014). As shown in Figure 2, RAPEL (64%, n = 44), PEEDS-RAPEL (52%, n = 36), Labor Market Access (49%, n = 34), Vocational and Rehabilitation Assessment Model (45%, n = 31), Deutsch/Sawyer (42%, n = 29), and Field's Practical Approach (41%, n = 28) were the models reported that study participants received the most training on during their graduate studies (>40%). The RAPEL model (75%, n = 52), and PEEDS-RAPEL model (57%, n = 39) were reported as being most frequently used during the entirety of the participants' career (see Figure 3).

Figure 2
Forensic Rehabilitation VR Models: Percentage of Participants that Received Training



Participants were also asked to report which models they used during the past five (5) years within a Forensic Rehabilitation setting. As shown in Figure 4, the percentages were provided for Forensic Rehabilitation models used within the past five years. The RAPEL model (67%, n = 43), and PEEDS-RAPEL model (52%, n = 33) were reported as being most frequently used in the past 5 years.

Figure 3
Forensic Rehabilitation Models Used During the Entirety of Participant's Career

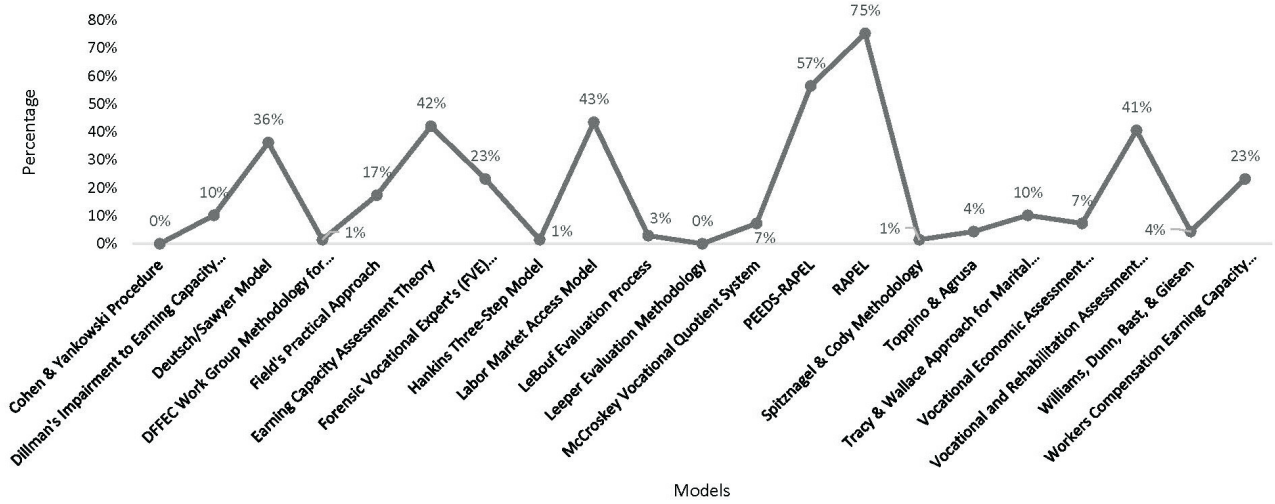
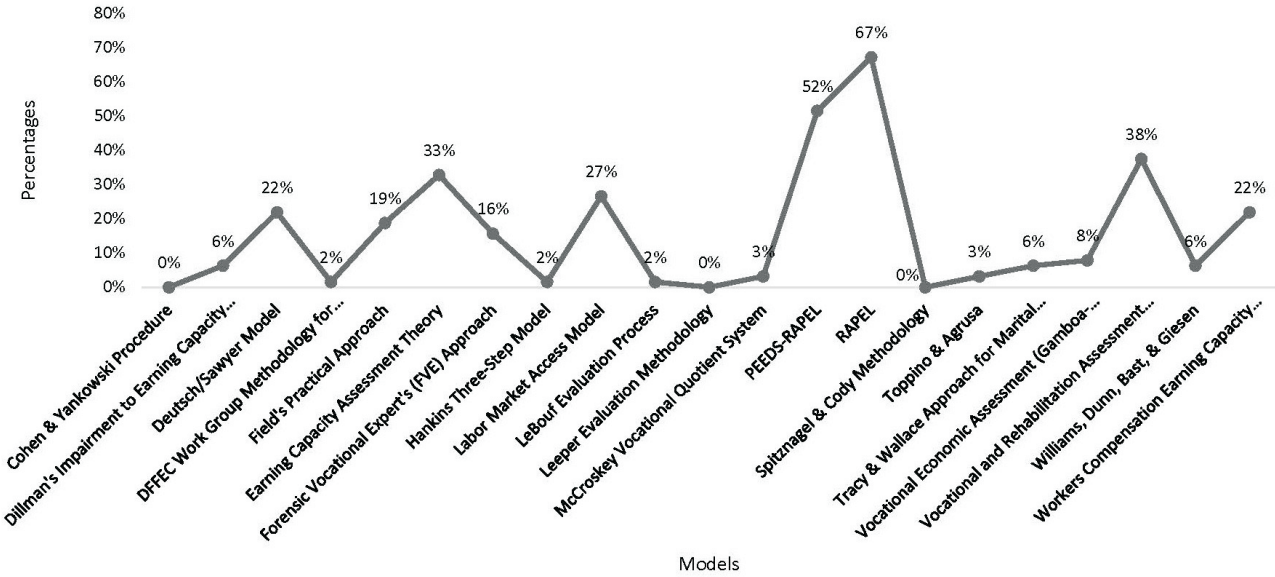


Figure 4
Forensic Vocational Rehabilitation Models Used: Past 5 Years (N = 64)



Participants were also asked to report what models they used, based on practice settings (i.e., personal injury, worker's compensation, marital dissolution, wrongful death, discrimination, medical malpractice, employment law, federal workers' compensation, long-term/short-term disability). Table 1 shows the frequencies and percentages of participants that have responded to each practice setting and Forensic Rehabilitation Model. In all of the practice settings listed, the RAPEL model was the most frequently used.

Table 1

Frequencies and percentages of each model used for Forensic Rehabilitation practice setting

	PI (N=50) n(%)	WC (N=50) n(%)	MD (N=50) n(%)	WD (N=44) n(%)	D (N=44) n(%)	MM (N=44) n(%)	EL (N=42) n(%)	FWC (N=42) n(%)	L/S D (N=42) n(%)
Cohen & Yankowski	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Dillman's Impairment	2(4.0%)	0(0%)	1(2.0%)	3(6.82%)	1(2.3%)	1(2.3%)	2(4.8%)	0(0%)	1(2.4%)
Deutsch/Sawyer	7(14.0%)	4(8.0%)	3(6.0%)	7(15.9%)	5(11.36%)	5(11.4%)	5(11.9%)	5(11.9%)	5(11.9%)
DFFEC Work Group Methodology for E & EC	1(2.0%)	1(2.0%)	1(2.0%)	1(2.27%)	1(2.3%)	1(2.3%)	1(2.4%)	0(0%)	1(2.4%)
Earning Capacity Assessment Theory	10(20.0%)	8(16.0%)	5(14.3%)	7(15.9%)	7(23.3%)	7(23.3%)	5(11.9%)	5(11.9%)	10(23.8%)
Field's Practical Approach	9(18.0%)	7(14.0%)	6(12.0%)	6(13.64%)	5(11.4%)	5(11.4%)	6(14.3%)	4(9.5%)	5(11.9%)
Forensic Vocational Expert Approach	6(12.0%)	5(10.0%)	4(8.0%)	4(9.09%)	5(11.4%)	5(11.4%)	5(11.9%)	5(11.9%)	5(11.9%)
Hankins 3-step Model	1(2.0%)	1(2.0%)	1(2.0%)	0(0.0%)	1(2.3%)	1(2.3%)	1(2.4%)	1(2.38%)	1(2.4%)
Labor Market Access Model	11(22.0%)	11(22.0%)	11(22.0%)	6(13.6%)	9(20.5%)	9(20.5%)	6(14.3%)	5(11.9%)	7(16.7%)
LeBouf Evaluation Process	0(0%)	1(2.0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(2.4%)	0(0%)	1(2.4%)
Leeper Evaluation Method	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
McCroskey Vocational Quotient	3(6.0%)	3(6.0%)	3(6.0%)	3(6.8%)	3(6.8%)	3(6.8%)	2(4.8%)	2(4.8%)	2(4.8%)
PEEDS-RAPEL	26(52.0%)	5(10.0%)	4(8.0%)	12(27.3%)	5(11.4%)	5(11.4%)	5(11.9%)	3(7.1%)	3(7.1%)
RAPEL	**33(66.0%)**	**23(46.0%)**	**20(40.0%)**	**20(45.5%)**	**20(45.5%)**	**20(45.5%)**	**19(45.2%)**	**12(28.6%)**	**14(33.3%)**
Spitznagel & Cody	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Toppino & Agrusa	2(4.0%)	1(2.0%)	1(2.0%)	0(0%)	1(2.3%)	1(2.3%)	1(2.4%)	2(4.8%)	1(2.4%)
Tracy & Wallace Approach	1(2.0%)	0(0%)	4(8.0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Vocational Economic Assessment (Gamboa-Gibson)	2(4.0%)	1(2.0%)	1(2.0%)	4(9.1%)	1(2.3%)	1(2.3%)	2(4.8%)	2(4.8%)	1(2.4%)
VRAM	21(42.0%)	15(30.0%)	13(26.0%)	9(20.5%)	11(25.0%)	11(25.0%)	9(21.4%)	8(19.0%)	11(26.2%)
Williams, Dunn, Bast, & Giesen	1(2.0%)	1(2.0%)	1(2.0%)	1(2.3%)	1(2.3%)	1(2.3%)	1(2.4%)	0(0%)	0(0%)
Workers Comp Earning Capacity	1(2.0%)	6(12.0%)	0(0%)	1(2.3%)	0(0%)	0(0%)	0(0%)	1(2.4%)	0(0%)

Note: PI = Personal Injury, WC = Workers Compensation, MD = Marital Dissolution, WD = Wrongful Death, D = Discrimination, MM = Medical Malpractice, EL = Employment Law, Federals Workers Comp, L/S D = Long-term/Short-term Disability

Discussion

The purpose of this study was to (1) examine prior training of Forensic Vocational Rehabilitation models within graduate training programs, and (2) evaluate which models are most commonly used dependent on forensic vocational setting. Despite the efforts of prior researchers (e.g., Barros-Bailey, 2014; Weed & Field, 2012) in showing the historical evolution of forensic vocational rehabilitation consulting, there are no studies that have examined models used within the previous five years of forensic vocational rehabilitation experts in different practice settings. Several of the models listed in Robinson (2014) or other rehabilitation literature have shown effort in validating the forensic vocational rehabilitation models (e.g., Van de Bittner, 2003; Weed & Field, 2001; Neulicht & Berens, 2005; Williams et al., 2006; Shahnasarian, 2004a, 2004b, 2010a, 2010b).

We anticipated that there would be limited training in participants graduate program, as majority of the programs focus on public section vocational rehabilitation despite approximately 1/3rd of rehabilitation counseling graduates entering the private sector (Upton, 2011). When examining models used within the past five years, study findings showed that regardless of forensic practice setting, the RAPEL model was the most widely used by study participants. The RAPEL method involves evaluating transferable skills, labor market access, and earning capacity analysis, while also examining

methods to make the evaluee more functional in the labor market (Weed & Field, 2001). The word RAPEL is a mnemonic designed to assist the rehabilitation expert, in which R stands for rehabilitation plan, A stands for access to the labor market, P stands for placeability, E stands for earning capacity, and L stands for labor force participation. The PEEDS-RAPEL was widely used in personal injury cases, and the VRAM model was used frequently in personal injury and worker's compensation. Other models, such as the PEEDS-RAPEL (focus on children) were found to be commonly used in personal injury and wrongful death settings. The VRAM model was shown to be used in several forensic settings (e.g., personal injury, worker's compensation), whereas the "Cohen & Yankowski" and "Spitznagel & Cody" models were shown not to be used in any forensic setting.

Limitations and Future Research

The current study had limitations that should be considered, such as (1) generalizability of study results for all Forensic Vocational Counselors, and (2) modifications to future research examining model usage and training. Although the findings provide quantification of models most frequently used within different Forensic Vocational Rehabilitation practice settings, descriptive statistical analysis only allow for summations about these models and caution should be provided for generalizing these results as to what all Forensic Vocational Counselors use (note: a complete consensus cannot be present when a portion of a population is observed, rather than majority of the population surveyed). Thus, a low response rate and incomplete data, and the nature of the statistical analysis limit generalizability. A primary goal of this study was to highlight the most widely used models, and the IARP organization does not account for all FVCs providing expert testimony (as not all experts are members of IARP). This study is the first of a series of studies that will be developed and designed in hopes of establishing a standard of practice for Forensic Vocational Rehabilitation.

Future Research

There are several directions that the current study can be expanded upon for further development of this line of research, including (1) replication in order to increase the study sample size so that inferential statistical techniques and predictive models can be employed, (2) consistency of RAPEL or PEEDDS-RAPEL model while using percentage retained by plaintiff or defense attorneys as a covariate, (3) how common is there a recommended vocational intervention in the use of RAPEL that not only acts towards that responsibility, but also provides the evaluee with viable vocational intervention options and the cost of those options in the future, therefore, adhering to the principles and tenets underlying the field of rehabilitation counseling (e.g., what is the most frequently used loss of earning capacity model), (4) creating empirically derived Forensic Vocational Rehabilitation models by using appropriate validation processes and establishing reliability coefficients, (5) limitations to models widely used (note: Forensic Vocational Rehabilitation Counselors may combine models to meet their needs – are there themes of why models are combined and what needs have to be met, depending on the side that retains them), and (6) replication challenges associated with combining/merging different Forensic Vocational Models, its ethical implications, and the impact on decision-making within the litigation system (e.g., experts were removed due to the inability to fully replicate the models/processes used by the Forensic Vocational Rehabilitation Counselor).

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