

# *Vocational Interests and Vocational Satisfaction of Licensed Psychologists in Puerto Rico*

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## **Abstract**

A sample of 247 psychologists in Puerto Rico completed a demographic questionnaire, the Cirino Vocational Interests Inventory (CVII) and the Vocational Satisfaction Scale (VSS). The vocational interest profile of the group showed high scores in the artistic, sedentary and verbal scales. Women psychologists also scored high on the manual and scientific interest scales. According to the scores, 85% of the sample was satisfied with their profession and would reenter psychology if they were to choose their career again. The vocational interest profile of the satisfied group was similar to the profile of the group in general. Even though, male psychologists scored high on the scientific scale, which the overall group did not. The group of dissatisfied male psychologists reported a very high score on the legal interest scale. A moderate correlation between vocational interests and vocational satisfaction was found. Social interaction and social service interests were significant contributors of vocational satisfaction.

## **Compendio**

Una muestra de 247 psicólogos/as en Puerto Rico contestaron un cuestionario de datos demográficos, el Inventario Cirino de Intereses Vocacionales (ICIV) y la Escala de Satisfacción con la Profesión (ESP). Estos/as profesionales manifestaron altos intereses artísticos, sedentarios y verbales. Las psicólogas también manifestaron altos intereses manuales y científicos. El 85% manifestó estar satisfecho con su profesión y reingresaría a la psicología si tuviera la oportunidad de hacerlo nuevamente. El perfil de intereses obtenido de los psicólogos y psicólogas satisfechos es similar al del grupo en general, aunque los varones de este grupo obtuvieron puntuaciones altas en la escala de intereses científicos contrario al grupo en general. Los psicólogos insatisfechos manifestaron altísimos intereses legales. Encontramos una correlación moderada entre los intereses vocacionales y la satisfacción vocacional. Observamos que los intereses de interés social y servicio social contribuyeron a la satisfacción vocacional.

**Key words:** Vocational interest; Vocational Satisfaction; Psychologists  
**Palabras clave:** Interés vocacional; Satisfacción vocacional; Psicólogos/as

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Strong (1943) and Cirino (1983, 1990) hypothesized that members of the same occupation are characterized by having similar interests that differentiate them from people in other occupations. They also stated that a person whose interest profile is similar to a determined occupational group will tend to choose that occupation, remain in it, and derive satisfaction from its performance. Studies have supported the notion that people with vocational interests similar to the members of a particular occupation will achieve greater stability, efficiency, and occupational satisfaction (Jackson, Paunonen & Rothstein, 1987; Kuder, 1977; Strong, 1943; Super, 1967; Swaney & Prediger, 1985).

A computer search of psychological databases suggested a dearth of studies on vocational interests and vocational satisfaction with Latin American or Caribbean psychologists. Studies on these variables and their relationship may contribute important information to understand aspects of career selection, development, and satisfaction among racial/ethnically diverse professional groups, particularly Latino/a psychologists. The purposes of this study were to: (a) examine the vocational interest profiles of licensed psychologists in Puerto Rico in general, and in clinical and non-clinical sub-samples; (b) examine their vocational satisfaction; and (c) investigate the relationship between vocational interests and vocational satisfaction.

### *Research on Vocational Interests and Career Satisfaction of Psychologists*

The first psychologist scale on the men's form of the Strong Vocational Interest Blank (SVIB), currently known as the Strong Interest Inventory (SII), was developed between 1927 and 1935 (Super, 1967; Vinitsky, 1973). The scale was restandardized by Kriedt (1949) using a sample of male psychologists who were members of the American Psychological Association (APA). Kriedt found differences between his sample and Strong's normative group. The new group was more oriented to human service and less interested in methodical work and solitary activity. Kriedt found that clinical psychologists differed from the others by having greater artistic, literary, verbal, teaching, and social service interests. Experimental psychologists showed

stronger interests in physical science, mathematics, and mechanical work. Counseling psychologists reported a stronger preference than others for interviewing, service to others, and writing, whereas industrial psychologists distinguished themselves by their business interests. Such findings remained consistent for a period of 35 to 40 years (Vinitsky, 1973).

Until 1966 most of the studies conducted were only with male psychologists, even though Strong (1943) had developed a psychologist scale for women's form. Campbell and Soliman (1968) investigated the vocational interests of a group of women psychologists, the majority of whom had a Ph.D. They concluded that psychology as a career continued to attract women who have more intellectual, scientific, and verbal interests than the average woman and fewer interests in traditional feminine roles centered in the home or office.

Lonner (1968) found that European male psychologists seem to share the vocational interests of their United States colleagues (Kriedt, 1949). He concluded that German and Austrian psychologists had more scientific interests, whereas Swiss psychologists have dominant interests in rehabilitative, social welfare, and personal contact activities. Lonner and Adams (1972) examined the vocational interests of a group of male psychologists from five western English-speaking countries and compared their results with data from Lonner and Kriedt's samples. They found marked similarities in the interest profiles of psychologists from all nine countries, suggesting that western psychologists share essentially the same vocational interests.

The vocational interests of psychology students have also been studied. In a study of college students' vocational interests, Cirino (1979) found that male psychology students scored high in the verbal, legal, and artistic interest scales, whereas females scored high in the artistic, verbal, manual, and social interaction interest scales. The profile of the combined group showed strong verbal, artistic, legal, and social interaction interests. In sum, research about vocational interest suggests that psychologists in the United States, Europe, and some western English-speaking countries are characterized by artistic, verbal, social service, literary, and scientific interests.

Vocational satisfaction has also been an important research

topic for psychologists. Crites (1969, p. 478) defined vocational satisfaction as the "individual's overall liking/disliking for the type of work he or she has been trained for and employed in." In other words, the individual's satisfaction is with the occupation for which he/she is trained or qualified, not just the specific job or position he or she holds at a particular time. Thus, a person might want to change his/her job or position but not his/her vocation.

Studies with clinical psychologists (Garfield & Kurtz, 1976; Kelly & Golberg, 1959; Kelly, Goldberg, Fiske, & Kilkowski, 1978; Norcross, Prochaska, & Gallagher, 1989) have reported that more than half of the participants would choose the same field again. Those who would not, would select medicine as an alternative career. Likewise, Kirchner (1969) found that 90% of the clinical and 82% of the non-clinical group would enter the same area of psychology if they were given the chance to choose a field again. In responding to an item asking about degree of career satisfaction on a six-point Likert scale about 88% were "very" or "quite satisfied" with clinical psychology as a career (Garfield & Kurtz, 1976; Norcross et al., 1989). Norcross et al. considered that responses to the scaled item better reflected the degree of career satisfaction than the item previously used.

In a survey of a group of psychotherapists, Prochaska and Norcross (1983) found that 60% of the sample would choose psychotherapy again and 20% would choose psychiatry. Additional analyses indicated that 92% were "very" or "quite satisfied" with their profession. Comparable results were reported by Norcross and Prochaska (1983) with a sample of psychotherapists in full-time independent practice. Likewise, Nash, Norcross, and Prochaska (1984) reported that 85% of a sample of psychologists in independent practice were satisfied with their career. They also found that full-time practitioners were significantly more satisfied than those in part-time practice. In terms of the fantasy career choice, 63% chose psychotherapy, 19% psychiatry, and 4% other areas of psychology. The authors concluded that most psychologists in independent practice were satisfied with their profession given that 2 out of 3 would reenter psychology.

Walfish, Polifka, and Stenmark (1985) examined the career satisfaction of master's and doctoral level clinical psychologists.

They found that 87% chose psychology as a career. Of the 24 participants who chose another field, 50% selected medicine, whereas the others were spread out over seven other fields (e.g., art, business, carpentry, clergy, engineering, social work, and writing). No significant differences were found by gender or academic degree. These results remained consistent after eight years (Walfish, Moritz, & Stenmark, 1991).

Seventy seven percent of the counseling psychologists surveyed by Watkins, Lopez, Campbell, and Himmell (1986) were "very" or "quite satisfied" with counseling psychology as a career. However, 48% stated that they would choose counseling psychology again. Among the alternative career choices were clinical psychology (15%), psychiatry (13%), law and business (9%), and others (11%, medicine, journalism, engineering and biological sciences). In a similar study with master's level counselors, Watkins, Campbell, and MacGregor (1989) found that 85% were "very" or "quite satisfied" with counseling as a career. No significant differences were found by academic level after comparing their results with those of Watkins et al. (1986). Moreover, although 85% reported some satisfaction with counseling as a career only 46% would choose it again as their career. Alternative career preferences were clinical psychology (20%), psychiatry (12%), and law or business (9%).

Finally, Hershey, Kopplin, and Cornell (1991) surveyed a group of Psy.D. psychologists and compared their results with those of Norcross et al. (1989). They found that Psy.D. respondents were slightly but significantly more satisfied with their career choice than were Ph.D. psychologists. About 91% of the Psy.D. respondents were "very" or "quite satisfied" with their career choice and 65% would reenter psychology in contrast with 72% and 58% of Ph.D. psychologists as reported by Norcross et al. (1989).

From his review of measures of vocational satisfaction, Crites (1969) concluded that no one instrument or technique is sufficient to assess an individual's attitude and feelings about his/her work, but that certain measures are better for some purposes than others. Prochaska and Norcross (1983) and Guy (1987) emphasized that the methodology employed to study this variable varies among researchers producing uncertain results on the real incidence of

professional satisfaction/dissatisfaction. These authors concluded that career satisfaction levels vary according to how the question is asked, and that attempts at examining career or occupational satisfaction could be limited by methodological problems.

## METHOD

### *Participants*

Participants were 999 licensed psychologists residing in Puerto Rico and listed in the directory of the Puerto Rico Health Department. At the time of the survey, the directory consisted of 1,082 psychologists. Psychologists not living in Puerto Rico were not included. Forty-three packets were returned by the postal service as undeliverable, adjusting the population number to 956 psychologists. Of the 956 possible survey respondents, 247 (25.8%) returned their questionnaires becoming the final sample for the study.

### *Instruments*

A demographic questionnaire, the *Inventario Cirino de Intereses Vocacionales-Forma DD* and the *Escala de Satisfacción con la Profesión* were administered to participants. The demographic questionnaire gathered information on participants' sex, age, place of residence, academic degrees in psychology, sub-field in psychology, years of experience, work setting, and membership in professional organizations. Respondents were asked to indicate whether or not they would choose psychology as a career if they had to do it over again and if not, what other field/occupation they would select.

The *Inventario Cirino de Intereses Vocacionales-Forma DD (ICIV-DD)* (Cirino, 1983) consists of 162 items distributed in 13 scales where weights of 3, 2, and 1 are assigned to responses of "like," "indifferent," and "dislike" respectively. It also includes a verification scale that assesses understanding of instructions and carefulness in responding to the items. The scales are: artistic, office service, manual, social interaction, social service, legal, outdoors, sedentary, commercial, verbal, musical, scientific, and hospital services. For each scale two types of scores are provided; a standard score based on combined-sex norms and a percentile

score.

The *ICIV-DD* has general norms for men and women in Puerto Rico and special norms for several groups (Cirino, 1983). Internal reliability coefficients obtained using the split-half method range from .75 to .92 with a mean of .84. Evidence of its construct validity has been obtained by comparing the *ICIV-DD* factor structure with data on factor analysis of the *SVIB*. Cirino (1983) reported that the factorial composition of 12 of 13 scales of the *ICIV-DD* are similar to the basic interest scales of the *SVIB*.

*The Escala de Satisfacción con la Profesión (ESP)* (Cirino, n.d.) provides an index of overall occupational satisfaction, is applicable to a wide variety of jobs, and is brief and easily scored. The scale consists of 25 items in which respondents state the extent to which they agree or disagree with a particular item describing how they feel about their present occupation based on a five-point Likert scale, ranging from "strongly agree" to "strongly disagree." Scores on the *ESP* range from 25 to 125, with higher scores reflecting greater vocational satisfaction. Individual items' responses are added to obtain an individual total score.

To gather information on the internal consistency of the *ESP*, a pilot test was carried out prior to the main study. The *ESP* was administered to a sample of 30 secretaries employed in a public agency in Puerto Rico. A reliability coefficient of .96 was obtained using the split-half method. After collecting the data for the present study, an analysis was conducted again which yielded a coefficient of .90 (Spearman Brown). To determine the content validity of the *ESP*, four psychologists from the areas of counseling psychology and I/O psychology with experience in test development, validation, and measurement examined the scale using a format provided by the researchers. According to their evaluation, all four judges determined that the 25 *ESP* items provided a comprehensive and representative sample of the content domain and were adequate to assess vocational satisfaction.

### *Procedure*

On May of 1991, a packet consisting of a cover letter, the demographic questionnaire, the *ICIV-DD*, the *ESP*, and a prepaid

return envelope was mailed to each potential participant (N = 999) residing in Puerto Rico and listed in the directory of the Puerto Rico Health Department. The cover letter indicated the purpose of the study, asked respondents to complete the questionnaires, and stated that the respondents' answers would remain anonymous and confidential. A reminder postcard was sent out to all potential respondents 4 weeks after the initial packet was mailed. Respondents' answers were transferred to scannable forms and carefully double-checked by both researchers.

## RESULTS

Results are presented in four sections: sample characteristics, vocational interests of psychologists, vocational satisfaction of psychologists, and vocational interests and vocational satisfaction.

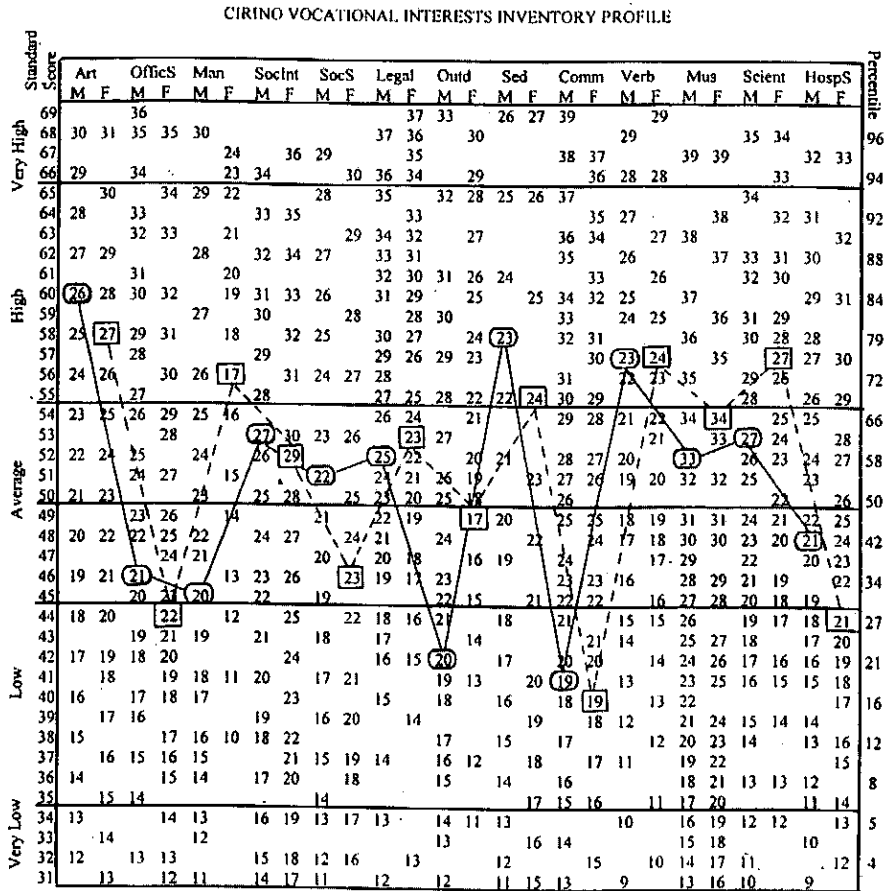
### *Sample Characteristics*

An inspection and comparison of the sample with data from the Puerto Rico Health Department (1991) suggested that it is demographically and geographically representative of the population (N=956). Sixty-one percent ( $n = 151$ ) of the participants were female and 39% ( $n = 96$ ) were male. The mean age was 42 years ( $SD = 8.7$ , range = 27 - 74 years). Years of experience averaged 11.8 ( $Mdn = 10$ ). Sixty-one percent held a master's degree and 36.4% a doctoral degree. In terms of sub-field within psychology, 54.7% were clinical psychologists, 11.3% were I/O psychologists, 9.7% were counseling psychologists, 5.7% were school psychologists, 5.7% were general psychologists, and 12.8% were practicing in another area. In terms of work setting, 42.6% worked in public agencies, 41.3% in independent practice, 35.7% at universities and 19.6% in private agencies. Regarding membership in professional organizations, 76% were members of the Puerto Rico Psychological Association, 32% were members or affiliates of the APA, and 20% of the Interamerican Society of Psychology.



VOCATIONAL INTEREST AND VOCATIONAL SATISFACTION

Figure 1  
Vocational Interests of Psychologists for the Group in General



Vocational Interests of Psychologists

The vocational interest profile for the group in general consists of the standard scores of both male and female psychologists on each of the thirteen scales of the ICIV-DD (See Figure 1). As shown in the profile, both female and male psychologists scored high on the scales of artistic interest (females  $\underline{M} = 58$ ,  $\underline{SD} = 9.3$ ; males  $\underline{M} = 60$ ,  $\underline{SD} = 8.5$ ), sedentary interest (females  $\underline{M} = 55$ ,  $\underline{SD} = 8$ ; males  $\underline{M} = 58$ ,  $\underline{SD} = 8.6$ ), and verbal interest (females  $\underline{M} = 59$ ,  $\underline{SD} = 8.5$ ; males  $\underline{M} = 59$ ,  $\underline{SD} = 8.6$ ). Females also scored high on the scales of manual interest ( $\underline{M} = 56$ ,  $\underline{SD} = 9.7$ ) and scientific

interest ( $M = 56$ ,  $SD = 8.1$ ). Both females and males scored low on the scale of commercial interest (females  $M = 40$ ,  $SD = 8.2$ ; males  $M = 41$ ,  $SD = 7.4$ ). Females also scored low on the scales of office service ( $M = 44$ ,  $SD = 8.8$ ) and hospital service ( $M = 44$ ,  $SD = 7.7$ ), whereas males scored low on the outdoor interest scale ( $M = 42$ ,  $SD = 9.3$ ). The vocational interest profile for the group in general was used as a frame of reference for the results presented below. This allows for a clear visualization of similarities and differences observed in interest profiles based on academic level, psychology sub-fields, and vocational satisfaction.

Vocational interest profiles were developed based on academic level and psychology sub-fields. Interest profiles based on academic level were developed by dividing the sample into two groups, master's level and doctoral level psychologists. The profiles of the master's and doctoral level female psychologists were similar to the females' profile in the group in general. Master's level male psychologists scored higher in the social interaction scale ( $M = 55$ ,  $SD = 9.4$ ) than males in the group in general. Doctoral level male psychologists scored higher in the scientific interest scale ( $M = 55$ ,  $SD = 8.2$ ) than males in the group in general.

Interest profiles based on psychology sub-fields were developed by dividing the sample into two groups, clinical and non-clinical. The clinical group ( $n = 185$ ) included: counseling psychology, school psychology, clinical psychology, neuropsychology, forensic psychology, gerontology, marriage rehabilitation, and family counseling. The non-clinical group ( $n = 62$ ) included: I/O psychology, educational psychology, social psychology, general psychology, experimental psychology, organizational behavior, and developmental psychology. The profiles of the male and female clinical group is similar to the profile of the group in general. Slight differences were observed in the non-clinical group. Males of the non-clinical group scored higher in the social interaction scale ( $M = 55$ ,  $SD = 8.7$ ) and in the scientific scale ( $M = 56$ ,  $SD = 8.9$ ) than males in the group in general. Females in the non-clinical group scored lower in the social service ( $M = 44$ ,  $SD = 9.9$ ) and sedentary scales ( $M = 54$ ,  $SD = 8.8$ ) than females in the group in general.

*Vocational Satisfaction of Psychologists*

Respondents' were asked whether or not they would choose psychology as a career if they had to do it over again, and if not, what other field they would pursue and to complete the *ESP*. Eighty-five percent ( $n = 203$ ) would reenter psychology if they had to choose their profession again. Of the 15% ( $n = 36$ ) who would not choose psychology again, 21% would select law, 21% medicine (including psychiatry and neurology), and 9% education among other occupations. Of the 203 participants who would choose psychology again, 24% ( $n = 48$ ) also selected medicine (31%, including psychiatry and neurology) and 8% law as alternative career choices.

Analyses by academic level showed that 87% of Ph.D. psychologists would reenter psychology, followed by Psy.D. psychologists (85%), and master's level psychologists (84%). Ninety-one percent ( $n = 73$ ) of the psychologists working in a university setting would choose psychology again as their career in contrast to 81% ( $n = 79$ ) of those working in public agencies. Eighty-five percent of clinical and non-clinical psychologists, would reenter psychology.

The mean score in the *Escala de Satisfacción con la Profesión* was 102 ( $SD = 16$ ,  $Mdn = 106$ ,  $Min.$  43;  $Max.$  125). More than half of this sample scored high in the scale suggesting an optimal level of satisfaction. To examine the levels of satisfaction, the data were recoded dividing the score of each participant between the number of items and interpreting the data as follows: values 5 and 4 = satisfied, 3 = undecided, and 2 and 1 = dissatisfied. Based on this readjustment 85% ( $n = 206$ ) of the participants were satisfied, 11% ( $n = 27$ ) undecided, and 4% ( $n = 10$ ) dissatisfied. Subsequent analyses were conducted in both ways in order to improve our understanding of the vocational satisfaction of this sample.

There was no significant difference between males ( $M = 104$ ,  $SD = 15$ ) and females ( $M = 101$ ,  $SD = 17$ ) in their level of vocational satisfaction ( $t(241) = 1.19$ , ns). Descriptive analyses showed that psychologists in the ages between 47 and 56 years were the most satisfied ( $M = 107$ ,  $SD = 14$ ), whereas the group between 27 and 36 years was the least satisfied ( $M = 97$ ,

$SD = 17.7$ ). The same results were obtained when the levels of satisfaction were examined. No significant differences were found between master's ( $M = 101$ ,  $SD = 17$ ) and doctoral level psychologists ( $M = 103$ ,  $SD = 15$ ) in their level of vocational satisfaction ( $t(234) = 1.18$ , ns).

### *Vocational Interests and Vocational Satisfaction*

Separate vocational interest profiles were developed for satisfied and dissatisfied psychologists (males and females). The interest profiles of the satisfied group are similar to the profile of the group in general previously described. Males of the satisfied group scored higher in the scientific interest scale ( $M = 55$ ,  $SD = 9$ ) than males in the group in general. Although the size of the dissatisfied group is somewhat low ( $n = 10$ ), their profile showed marked differences in comparison with the profile of the group in general. Males in the dissatisfied group scored high in the social interaction ( $M = 55$ ,  $SD = 17$ ) and scientific ( $M = 57$ ,  $SD = 9$ ) scales and very high in the legal scale ( $M = 68$ ,  $SD = 0$ ). Females in the dissatisfied group scored lower than females in the group in general in the manual ( $M = 50$ ,  $SD = 12$ ), social service ( $M = 42$ ,  $SD = 6$ ), and legal ( $M = 41$ ,  $SD = 5$ ) scales. Dissatisfied females scored notably high in the scientific scale ( $M = 64$ ,  $SD = 4$ ) in contrast to females in the group in general.

Hierarchical multiple regression analysis (HMR) (Cohen & Cohen, 1983) was performed to investigate the relationship between measured interests and vocational satisfaction. The scores of the *ESP* were used as criterion and the 13 scales of the *ICIV-DD* were entered into the regression analysis as predictors. Predictors were entered into the equation in the same order they appear in the inventory. Separate multiple regression equations were generated regressing vocational interests on vocational satisfaction for the group in general and for males and females.

In the three separate analyses, examination of the residual scatterplots and histograms indicated no severe departure from the assumptions of normality, linearity, and homoscedasticity between predicted scores of vocational satisfaction and the errors of prediction. Since there were very few outliers (less than 1% of  $n$ ) no particular corrective action was taken. Results of the Durbin-Watson test indicated no autocorrelation patterns in the

data. The cases to predictors ratio were 18:1 for the group in general, 11:1 for the female group, and 7:1 for the male group. All ordered summary tables provide enough information to reproduce the F ratios to test the multiple  $R^2$  at each step. Standardized regression equations of each analysis are presented immediately after the corresponding ordered regression summary table.

Table 1 displays the results of the HMR for the group in general. The results of this analysis indicated that the 13 predictors combined account for about 9% of the variance of vocational satisfaction ( $R^2 = .09337$ ,  $R = .30556$ ) of which social interaction ( $F(1,200) = 5.136$ ,  $p < .05$ ) and social service ( $F(1,200) = 10.846$ ,  $p < .05$ ) together make a significant contribution accounting for about 6% of the variance. Results of the HMR for the female group, presented in Table 2, indicated that vocational interests predicted about 14% of the variance in vocational satisfaction ( $R^2 = .14772$ ,  $R = .38434$ ). Again, social service was a significant predictor, ( $F(1,120) = 7.3472$ ,  $p < .05$ ), contributing about 4% of the variance. On the other hand, office service, social interaction, legal, and outdoors interest scales contributed about 7% of the variance, and none of them were significant predictors. It is worth noting that although social interaction was not significant at .05, ( $F(1,120) = 3.4131$ , ns), it could be significant with a larger sample size.

In the male group, about 16% of the variance in vocational satisfaction was explained by vocational interests ( $R^1 = .16414$ ,  $R = .405142$ ). As shown in Table 3, in this analysis none of the vocational interest scales was found to be significantly related to vocational satisfaction. However, social interaction, social service, legal, commercial, musical, and hospital service interest scales contributed about 12% of the variance. Considering the F ratio observed for social service ( $F(1,80) = 3.7264$ , ns), it is highly probable that with a larger amount of male respondents it would meet the significance level ( $p < .05$ ).

In sum, the hierarchical multiple regression analyses yielded results indicating that a moderate amount of the variance in vocational satisfaction is explained by vocational interests. Moreover, the scales of social service and social interaction were significant predictors of vocational satisfaction, yet a considerable

Table 1

*Summary of Hierarchical Regression Analysis<sup>1</sup> for Predicting Vocational Satisfaction for the Group in General (N=239).*

Source	MS	F(1,200)	R <sup>2</sup> Δ	R
Artistic	340.42184	1.386	.00559	.0747663
Office Service	386.04987	1.572	.00633	.0795613
Manual	25.63355	.104	.00042	.0204939
Social Interaction	1261.26556	5.136*	.0207	.1438749
Social Service	2663.39809	10.846*	.0437	.2090454
Legal	100.02712	.407	.00115	.0339116
Outdoors	43.61027	.177	.00072	.0268328
Sedentary	7.20363	.029	.00012	.0109545
Commercial	.52314	2.130	.00001	.0031623
Verbal	153.08278	.623	.00251	.0500999
Musical	547.89461	2.231	.00899	.0948156
Scientific	31.84669	.129	.00052	.0228035
Hospital Services	158.99905	.647	.00261	.0510882
Residual	245.55389			

Note. Residual degrees of freedom = 225.  $R^2 = .09337$ ;  $R = .3055651$ .

$p^* < .05$ , two-tailed.

proportion of the variance in vocational satisfaction was explained in terms of other factors not considered in this study.

## DISCUSSION

The results of the present study support the idea that there is a particular interest profile that characterizes professional psychologists. According to the vocational interest profile of the sample, male and female psychologists scored high on scales of artistic, sedentary and verbal interests. That profile indicates that they prefer activities involving creative elements, reading and writing, which also require endurance and performing customary chores with little physical effort.

<sup>1</sup> The standardized multiple regression equation utilizing all predictor scores is the best equation possible for this grouping. The predicted vocational satisfaction is obtained by substituting the standard vocational interest scores of a professional into the following formula: Vocational Satisfaction  $\hat{Y} = .160135$  (Artistic) - .159313 (Office Service) + .0664363 (Manual) + .018644 (Social Interaction) + .268656 (Social Service) + .055721 (Legal) - .049471 (Outdoors) - .026610 (Sedentary) - .0009656 (Commercial) + .026770 (Verbal) + .121706 (Musical) - .004819 (Scientific) - .070490 (Hospital Services).

Table 2

Summary of Hierarchical Regression Analysis for Predicting Vocational Satisfaction for Female Psychologists<sup>1</sup> (N=145).

Source	MS	F(1,120)	R <sup>2</sup> Δ	R
Artistic	313.55901	1.1956	.00778	.0882043
Office Service	756.42879	2.8842	.01876	.1369671
Mañual	203.7175	.7768	.00506	.0711337
Social Interaction	895.1538	3.4131	.0222	.1489966
Social Service	1926.945	7.3472*	.0478	.2186321
Legal	661.2378	2.5212	.0164	.1280625
Outdoors	600.1536	2.2883	.01489	.1220246
Sedentary	.1947	.0007	.00001	.0031623
Commercial	32.5877	.1243	.00081	.0284605
Verbal	115.886	.4419	.00287	.0535724
Musical	370.8962	1.4142	.0092	.0959166
Scientific	58.3258	.2224	.00145	.0380789
Hospital Services	20.0345	.0764	.00049	.0221359
Residual	262.26805			

Note. Residual degrees of freedom = 131. R<sup>2</sup> = .14772; R = .38434.

\*p<.05, two-tailed.

Female psychologists also showed high scores on the scales of manual and scientific interests. That finding suggests a preference for activities requiring handling or manipulation of objects and tools, as well as for activities related to searching and developing scientific knowledge. The lowest score for the whole group was on the commercial interest scale, which suggests a general dislike for activities with lucrative ends, particularly selling of products or services. This finding may be understood as a reflection of certain occupational values implicitly endorsed by psychologists in Puerto Rico. Psychologists in Puerto Rico may have chosen this field because of the opportunities it affords to contribute to the welfare of others, to

<sup>1</sup> The predicted vocational satisfaction for female psychologists is obtained by substituting the standard vocational interest scores of a professional into the following formula: Vocational Satisfaction  $\beta +$  .138424 (Artistic) - .189180 (Office Service) + .013279 (Manual) + .008512 (Social Interaction) + .259565 (Social Service) + .173522 (Legal) - .155735 (Outdoors) - .006933 (Sedentary) - .031876 (Commercial) + .054144 (Verbal) + .119771 (Musical) - .034961 (Scientific) - .031440 (Hospital Services).

Table 3

*Summary of Hierarchical Regression Analysis for Predicting Vocational Satisfaction for Male Psychologists<sup>1</sup> (N=145).*

Source	MS	F(1,120)	R <sup>2</sup> Δ	R
Artistic	18.09102	.0846	.0090	.0948683
Office Service	26.9067	.1258	.00677	.08228
Manual	143.69225	.6720	.00714	.0844985
Social Interaction	323.76572	1.5142	.01608	.1268069
Social Service	796.75641	3.7264	.03956	.198897
Legal	531.3971	2.4853	.02639	.16245
Outdoors	86.6198	.4051	.0043	.0655744
Sedentary	92.8903	.4344	.00461	.067897
Commercial	321.7784	1.5050	.01598	.126412
Verbal	8.9959	.0421	.00045	.0212132
Musical	387.1585	1.8107	.01922	.1386362
Scientific	42.6018	.1992	.00212	.0460435
Hospital Services	252.2108	1.1796	.01252	.1118928
Residual	213.81326			

Note. Residual degrees of freedom = 80. R<sup>2</sup> = .16414; R = .405142

\*  $p < .05$ , two-tailed.

develop new ideas and independent thinking, to attain prestige or recognition, perform a variety of responsibilities, and a personal sense of moral fulfillment and accomplishment, but not necessarily because of material or monetary gains. Female psychologists also scored low in both office service and hospital service interest scales, suggesting a disinclination for clerical activities and for those carried out in a hospital or health care setting. In this regard it appears that female psychologists are moving away from jobs typically performed by females such as nursing and secretarial jobs. In contrast, male psychologists scored low on the outdoor scale, disliking activities taking place outside and requiring physical effort. The profile of this

<sup>1</sup> The standardized multiple regression equation utilizing all predictor scores is the best equation possible for this grouping. The predicted vocational satisfaction is obtained by substituting the standard vocational interest scores of a professional into the following formula: Vocational Satisfaction  $B = -.155782$  (Artistic) - .091715 (Office Service) + .057325 (Manual) + .035942 (Social Interaction) + .2773658 (Social Service) + .239645 (Legal) - .052757 (Outdoors) - .121306 (Sedentary) - .216626 (Commercial) + .119333 (Verbal) + .197039 (Musical) - .114498 (Scientific) - .162587 (Hospital Services).



sample is similar to that observed in undergraduate psychology students (Cirino, 1979), since both groups showed high artistic and verbal interests. Likewise, females reported high manual interests in both studies.

In general, vocational interest profiles of male and female psychologists in Puerto Rico appear similar to interest profiles of United States male psychologists (Kriedt, 1949; Vinitsky, 1973), European psychologists (Lonner, 1968), and those from western English-speaking countries (Lonner & Adams, 1972). All groups showed high artistic and verbal interests. Puerto Rican female psychologists also reported high scientific interests similar to United States male (Kriedt, 1949; Vinitsky, 1973) and female psychologists (Campbell & Soliman, 1968) and German and Austrian psychologists (Lonner, 1968). In general, the vocational interest profile that seems to characterize psychologists across studies includes artistic, verbal, social service, scientific, and literary interests. The sample in this study reported high sedentary interests, which were not reported in any previous investigations. This is possibly explained by the fact that a sedentary interest scale is not within the content of previously used inventories.

Aware of the recommendation of Fouad, Hansen, and Galicia (1989) to be cautious in the comparison of cross-cultural study results, it is possible to suggest an explanation that accounts for the similarity of vocational interests among psychologists despite geographical and temporal factors. The development of psychology as a discipline, science, and profession in several countries has been promoted and supported by the efforts and achievements of an ever-expanding communication network between national and international professional associations. These relationships ensure the exchange of professional and scientific information, instruments, and human resources. It should also be recognized that the continuous exchange of knowledge tends to generate certain uniformity in professional training, as well as in professional and scientific standards and practices. Therefore, one could say that sharing certain interests, qualities, or traits facilitates the definition of the professional group, which in turn attracts and promotes the admission of people with similar characteristics while discouraging others.

Consequently, the more universal an occupation becomes the greater the likelihood of its similarities among countries (Fouad, et al., 1989).

### *Vocational Satisfaction*

The findings regarding vocational satisfaction, as measured by the ESP, appear similar to those reported by Nash et al. (1984) with psychotherapists in independent practice and to those of Watkins et al. (1989) with master's level counselors. In all three studies, 85% of the participants were satisfied with their profession. This is an interesting finding considering that the sample of this study consisted mostly of master's level clinicians working either independently or in public agencies. The high level of satisfaction in the present study may reflect that psychologists participating in the study were, in general, more satisfied than those who did not participate.

Although in previous studies psychologists said they were "very" or "quite satisfied" with their profession (Garfield & Kurtz, 1976; Hershey, et al., 1991; Nash, et. al, 1984; Norcross, et al.1989; Prochaska & Norcross, 1983; Watkins, et al., 1989) the proportion interested in reentering psychology has been moderate or low (72% or less). However, psychologists in Puerto Rico seem to be more optimistic, since 85% would reenter psychology. In that regard, this result is only comparable with the findings reported by Walfish et al. (1985) with master's and doctoral level clinical psychologists and Walfish et al. (1991) where 87% and 89% of their samples would reenter psychology.

As in previous studies, the most frequently mentioned alternative career choices were law and medicine (including psychiatry and neurology). The selection of an alternative career does not necessarily indicate genuine dissatisfaction with a career in psychology if it is not chosen. Nevertheless, it may imply the recognition of a salient characteristic related to those occupations that may be considered important to develop or incorporate into their professional practice as psychologists. From a sociological perspective, however, it also could represent a recognition of the "authority" or "power" attributed to those occupations in our society, which is not yet associated with psychology.

An equal proportion of clinical and non-clinical psychologists

in this study expressed interest in reentering psychology in contrast to Kirchner's (1969) findings. In her study the proportion of clinical psychologists who would reenter psychology was higher. Although most of the sample consisted of females and master's level psychologists, no differences in the level of satisfaction were found by gender or academic level. Similar results were also reported by Walfish et al. (1985) and Watkins et al. (1989). This could be due to the fact that both male and female psychologists in Puerto Rico have equal access to opportunities for professional training and development. Moreover, professionals with training at either the master's or doctoral level can fully practice the profession because both can be fully licensed as psychologists.

### *Vocational Interests and Vocational Satisfaction*

The findings of this study were generally consistent with the theoretical postulates of Strong (1943) and Cirino (1983, 1990). The fact that the vocational interest profile of psychologists in Puerto Rico displayed a strong resemblance to the interest profiles of psychologists in the United States and Europe, and that more than three fourths of the sample reported both an optimal level of vocational satisfaction and their inclination to reenter psychology, tend to support the role of vocational interests as contributors to vocational satisfaction.

According to the hierarchical regression analyses, the variance explained in vocational satisfaction by interest scores was different for the groups examined. It is possible that the accuracy of the relationship was affected by the number of cases in each group. In general, it was observed that vocational interests explained approximately nine to 16 percent of the variance in vocational satisfaction. Furthermore, social interaction and social service were the only two significant contributors to vocational satisfaction. These results indicate that there are several other factors, in addition to vocational interests, that could explain a considerable proportion of the sense of vocational satisfaction. Moreover, the contribution of social interaction and social service over and above the other interest scales suggests that vocational satisfaction is significantly related to the tendency for autonomy and professional independence as well as to interest in improving

the well-being of other people by providing direct help or support services.

### *Limitations*

Among the limitations of the study are: the use of self-report measures, participants' familiarity with the instruments, and sample size. These aspects may have contributed to little variability on satisfaction level scores reducing the detection of additional significant relationships between vocational satisfaction and the interest scales. This exploratory study compared interest profiles of Puerto Rican psychologists with profiles of psychologists from the United States and Europe. A more contemporary and ethnically relevant literature would have been preferable for comparisons. These results may not be generalizable to non-Puerto Rican psychologists or Puerto Rican psychologists practicing abroad.

### *Implications for Practice and Research*

The results of this study may be useful for practitioners and researchers in career counseling. Psychologists' vocational interest profiles developed herein may be useful for Puerto Rican high school and college students exploring their interests in behavioral science professions as well as for counseling adults interested in changing their occupation. This information could be used in a seminar on careers on social/health related professions. Such a seminar would allow students to explore their personal characteristics and compatibility with several fields in psychology. This study also attempts to inform and encourage other studies on career development issues in Puerto Rico.

Future research may benefit from increasing the sample size, using the revised *ICIV-E* (Cirino, 1992), and further exploration of *ESP* reliability and validity. Additional studies should explore vocational interests and vocational satisfaction of professionals in other health related fields to compare their similarities and differences with psychologists. There is a need for continuing exploration of the multifaceted nature of vocational satisfaction and its relationship to other variables such as career commitment, satisfaction with graduate training, cognitive style, and vocational person-environment fit. Such research may contribute to

refinements of person-environment congruency models and promote innovative counseling interventions.

In conclusion, we find that there is a particular set of vocational interests that characterize psychologists, and that although the relationship between interests and satisfaction is moderate, social interaction and social service interests are significant contributors to vocational satisfaction among Puerto Rican psychologists. It is important to emphasize that no conclusions about causal relations between interests and satisfaction can be drawn from the correlational data provided herein.

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