An Exploration of Profile Elevation on the Self-Directed Search:
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By

Emily E. Bullock, M.S.
Robert C. Reardon, Ph.D.
Steve Leierer, Ph.D.

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Address correspondence to:

Emily Bullock
FSU Career Center
University Center, Suite 4100
The Florida State University
Tallahassee, FL 32306

850-644-6431 (voice) 850-644-3273 (FAX)
http://www.career.fsu.edu/techcenter/

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Abstract

Career counselors have interpreted profile elevation on interest inventories for years. The interpretation has been based on counselor judgment and not empirical research.   A few studies, along with the current study, have attempted to find some empirical evidence for the validity of interpreting profile elevation.   This study explores some variables that have the possibility of being related to this construct.   The participants were composed of students in an undergraduate career development course (N = 270).   An analysis of variance revealed no relationship between student profile elevation and age, classification, ethnicity, or high point code.   A significant relationship was found between profile elevation and gender.   Further analysis revealed a gender by race interaction in which African-American women had lower mean profile elevation than African-American men.   The findings are discussed in the context of past research, current interpretability of profile elevation, and future research needs.

Introduction

Career counselors seek to maximize the potential personal and lifestyle development of their clients.   To do this well they must have a myriad of resources and skills.   One of the essential resources is the interest inventory.   These inventories must be well researched and contribute to the way in which career counselors work with their clients.   Currently, career counselors do this amidst limited budgets, contradicting theoretical opinions, and scarce resources.

The purpose of this study was to help provide practitioners with research-supported instruments such as the Self-Directed Search (SDS; Holland, 1994).   This should be done to

help alleviate and simplify some of the burden career counselors feel.   It is important to make the most of the resources a career counselor has.   This includes maximizing the interpretability of the instrument.   In order to save a career counselor the money it takes to administer two instruments to one client, researchers should look into opportunities to expand upon the ways one instrument can be used.   In addition, it is important to assure career counselors that the research supporting the interpretable factors of their instruments is sound and based on careful scientific study and understanding.

In this article, the authors sought to maximize the interpretability of the Self-Directed Search (1994), the popular instrument based on John Holland's theory.   Career counselors have long interpreted one construct of the SDS under the umbrella of a counselor's judgment, but researchers have never completely validated its interpretability.   This construct is profile elevation, which is the sum of the six section scores on the instrument (Fuller, Holland, & Johnson, 1999).

As the following review of the literature will demonstrate, there has been no research on profile elevation in college students, a common population career counselors work with.   Also, there has not been research related to the correlation of profile elevation with the variety of variables found in this study.   The authors believe the work completed here and the planned future research will add greatly to the profile elevation literature.

<div align="center">Literature</div>

Holland's (1994) Self-Directed Search has been used since 1972 to measure interests and abilities as they relate to career choice.   While numerous indicators of career planning status have been isolated within the SDS, e.g., differentiation, consistency, congruence, coherence of aspirations, the issue of profile elevation on the instrument has received less research attention.

Researchers have speculated that profile elevation is related to personality factors.   For example, Spokane, Luchetta, and Richwine (2002) noted, "the possibility of a relationship between depression and profile elevation has been discussed for years" (Brown, 2002, p. 402). In addition, Gottfredson and Jones (1993) indicated that the idea of profile elevation has been subsumed under the umbrella concept of professional judgment of a counselor when interpreting the SDS profile of a client.   Counselors have reported interpreting profile elevation to determine whether a client was depressed or overzealous.   Gottfredson and Jones state counselors have been interpreting this based on an intuitive understanding of the instruments and not a research-validated understanding.

Gottfredson and Jones (1993) examined profile elevation of the Vocational Preference Inventory and the Self-Directed Search with a sample of middle school students, high school students, navy recruits, and bank tellers.   They concluded that high profile elevation reflects an expressive, enthusiastic, or impulsive general style and that low profile elevation reflects the opposite.

Fuller, Holland, and Johnston (1999) utilized a sample of over 300 dislocated workers in Missouri from 1991 to 1995 to determine if personality differences existed between those with high and low profile elevations on the Self-Directed Search.   Their results showed a relationship between profile elevation and openness to experience, extraversion, and lower depressive personality traits.   For instance, a client with significantly high profile elevation would be more willing to consider options presented to him or her, be more open and willing to collaborate in discussions of options, and less likely to exhibit signs of depression.   This would likely create a more conducive environment for career counseling.

Darcy and Tracey (2003) examined the areas of interest and ability as they relate to career development.   They spoke of a general factor in vocational assessment on which profile elevation has a clear impact.   The authors talk of this general factor of interest in the same manner as Spearman's concept of "g" in intelligence.   In intelligence theory, "g" represents the general factor of intelligence.   Many scholars agree intelligence may be multifaceted but still adhere to the general theory of intelligence (Sattler, 2001).   Darcy and Tracey propose interest may also poses an overarching factor that indicates general interest as measured by profile elevation of an interest inventory.

Darcy and Tracey seem to identify a need for expansion on the profile elevation literature as it relates to the RIASEC types. These authors indicate a more in depth study of profile elevation may reveal whether it is related to the general interest factor.   They stated profile elevation may "bias the relations with other variables or be related to other variables in a substantive manner (p. 227)."

Prediger (1998) conducted an expansive study (N = 53,429) to investigate profile elevation.   In his article, he refers to profile elevation as profile level on interest inventories as it relates to the "degree of match between interest-based Holland-type and membership in Holland-type criterion groups (p. 204)."   Despite the assumption many career counselors make, his findings indicated that there is no relationship between profile level and interest.   In other words, a person with a high profile elevation and a high point code of E on the Self-Directed Search would not have a greater likelihood of entering an E occupation than a person with low profile elevation and a high point code of E on the SDS.   Although this finding is surprising and contrary to most counselor assumptions, it does not mean that other important interpretable variables are not related to profile elevation.   There is still a need to learn more about what

profile elevation in relation to other variables in order to better serve our clients and maximize the resources of counselors.

Some literature has shown the importance of teasing out the difference in using and interpreting the concept of profile elevation and differentiation. These two concepts are highly related, but not analogous.   Profile elevation is the sum of the six section scores on the instrument (Fuller, Holland, & Johnson, 1999), whereas, differentiation is defined as the level of definition or distinctness of a profile (Holland, 1997).   Differentiation can simply be thought of as the difference between a client's highest and lowest summary scale score on the SDS.   In practice, a counselor may see only good signs in a client's SDS score and yet the client is still unable to move forward in career decision making.   The scores on differentiation, consistency, congruence, and coherence may all be high and positive.   Yet, with a closer look it is discovered that profile elevation is low.   With the growing research on profile elevation, a counselor will be able to look to the interpretability of client's low profile elevation for some possible answers as to why this client is unable to move forward in decision making.   As current research suggests, the client's depressive traits or tendency to prematurely eliminate options, indicated by low profile elevation, may be one of the factors intervening in their career decision making.

In a study of the "custom of treating all undifferentiated subjects as if they were equal" (p. 163), Swanson and Hansen (1986) emphasized the importance of not grouping those with low and undifferentiated Strong-Campbell Interest Inventory (SCII) profiles and high and undifferentiated SCII profiles into the same category.   They held that it was important to consider the profile elevation, whether high or low, when interpreting the results of the client's SCII.

The important interpretive differences between differentiation and profile elevation are illustrated in Figure 1.   The graph shows that profile elevation level can be the same for both a differentiated and undifferentiated profile.   In addition, low profile elevation is not synonymous with low differentiation.

Insert Figure 1 Here,

Comparison of Profile Elevation and Differentiation

Swanson and Hansen (1986) considered the interpretation of profile elevation important based on the following conclusions of their research: (1) high undifferentiated profiles resembled consistent profiles more so than low undifferentiated profiles, (2) profile elevation is positively correlated with effective educational functioning and achievement (e.g., higher grades, likelihood to persist in college), and (3) the SCII is more predictive of college majors for high profile individuals as compared to low profile individuals.

Previous research shows that there does seem to be a relationship between profile elevation and a variety of factors that are important in the career counseling process.   This study will attempt to add to the research in this area by comparing profile elevation to a variety of other factors.   Three research questions were investigated in this study.

1. What is the relationship between ethnicity and/or gender and total SDS profile elevation?

2. What is the relationship between student classification and/or age and total SDS profile elevation?

3. What is the relationship between an individual's high point RIASEC code score and Total SDS profile elevation?

Method

Participants

Data were collected from 270 students enrolled in an undergraduate career planning class.   These students represent all levels of classification, e.g., freshman, senior, and mirror the ethnic diversity of the student body at this large southeastern research university.   Many of the students enrolled in the course are experiencing some difficulty in educational and vocational decision making.

The participants were comprised of freshman, 13%; sophomores, 34%; juniors, 23%; and seniors, 30%.   The ethnic makeup of the participants was African-American, 15%; Caucasian, 65%; Hispanic, 12%; and other ethnicities, 8%.   Ninety percent of the participants were between the ages of 17 and 22, and 43% were male and 57% female.   The participants' SDS profile elevation scores ranged from 58-229.   The participants' SDS high point scores were broken down as Realistic, 3%; Investigative, 2%; Artistic, 10%; Social, 32%; Enterprising, 43%; and Conventional, 10%.

Instruments

The Self-Directed Search (SDS) (Holland, 1994) is an interest inventory that utilizes Holland's RIASEC theory as a way of classifying individual's personality type.   On the SDS, individuals rate their activities, competencies, preferences, occupations, and self-estimates in terms of the RIASEC areas.   Individuals are also given the opportunity to list their occupational aspirations, which are referred to as occupational daydreams.   The summary scales for the SDS have reliability estimates of $r = 0.90$ to 0.94, indicating substantial reliability (Holland, Fritzsche, & Powell, 1994).   Test-retest reliability ranges from 0.76 to 0.89.   Because eliciting vocational aspirations is merely making a list of occupational daydreams, specific psychometric data for this

construct is not included in the SDS Technical Manual (Holland, Fritzsche, & Powell, 1994).

Aspirations were based on the three-letter code of the first five aspirations.

The Student Data Sheet is a form created for the career development course.   The

answers to the sheet items provide demographic information about the participants, e.g., age,

ethnicity, classification, and gender.

Procedure

The Student Data Sheet and the Self-Directed Search were completed by each participant

as a part of class requirements and were used for intervention purposes outside the purpose of

this study.   Each participant completed the Student Data Sheet during the first class meeting.

Two weeks later each participant completed the paper-and-pencil version of the Self-Directed

Search.   Data from the paper-and-pencil version of the SDS were entered into the SDS Software

Portfolio computer system (Reardon & PAR, 2001) and a Professional Summary along with a

client interpretive report were produced.   The Professional Summary provided information

related to the clients' code, consistency, differentiation, coherence, and congruence.   Research

assistants unaware of the purposes of the study used the information on the Professional

Summaries to calculate the profile elevation of each participant.

<div align="center">Results</div>

Findings of this study are presented in terms of three research questions.

Relationship Between Profile Elevation and Gender and/or Ethnicity

For gender an ANOVA ($F = 4.19$, $Df = 2,268$, $P = .042$) revealed that males ($M = 138.13$,

$SD = 3.53$) had significantly higher profile elevations than females ($M = 127.69$, $SD = 3.37$).

For ethnicity, a 4 x 2 factorial AVOVA ($F = 2.49$, $Df = 2, 268$, $P =$ ns) with four levels of

ethnicity and two levels of gender revealed a non-significant main effect for ethnicity.

However, a gender by ethnicity interaction showed the more exaggerated difference between the African-American males' profile elevation ($M = 138.26$, $SD = 36.61$) as compared to the African-American females' profile elevation ($M = 112.73$, $SD = 27.14$).   Figure 2 best illustrates this.

Insert Figure 2 here,

Gender differences by Race

Relationship Between Profile Elevation and Age and/or Students' Classification

The Demographic Data Sheet provided the information of age and classification of each participant.   An ANOVA revealed no significance for profile elevation as it relates to age ($F = 2.49$ *Df* $= 2$, 268 $P = $ ns) or year in school ($F = 2.59$ *Df* $= 2$, 268 P=ns).

Total SDS Profile Elevation as it Relates to an Individual's High Point RIASEC Code Score

Our final question dealt with the relationship between a student's SDS profile elevation and his or high point code score.   An ANOVA ($F = 1.63$ *Df* $= 2$, 268 P =ns) revealed no significance differences in scale elevations with respect to the six domains (R, I, A, S, E, C) in which individuals were classified according to their high point code.

Discussion

These findings have implications for the counselor working with clients that complete the Self-Directed Search.   Close attention should be paid to the significant relationship reported between profile elevation and gender, especially to the large discrepancy in profile elevation between African-American male and female college students.

Counselors should not automatically assume that many of the characteristics associated with lower profile elevation necessarily apply to African-American females.   Gottfredson and Jones (1993) reported that clinical experience has led many career counselors to assume low profile elevation to be indicator of things such as passivity and confusion.   Further research could examine why African-American female college students tend to have lower profile elevation.   Until that time it is unknown if the profile elevation of African-American college women can be interpreted in the same way as the profile elevation of other college students in a career course.

It is also important to note the lack of statistically significant findings between a students' profile elevation and high point RIASEC code scores.   A student's high point code was not found to be related significantly to his or her profile elevation score.   Gottfredson and Jones (1993) and Fuller, Holland, and Johnston (1999) found some relationships between personality variables such as openness and impulsivity and profile elevation.   This should not be confused with the personality characteristics associated with the RIASEC types.   For example, counselors may work with a student that is a Social type.   It is often assumed that Social types are more expressive, outgoing, enthusiastic, and open.   The findings of the current study and prior research (Gottfredson & Jones, 1993; Fuller et al., 1999) do not suggest that the Social type is synonymous with or likely to be associated with high profile elevation.

The findings of this study support Darcy and Tracey's (2003) attempt to highlight the role of profile elevation in the interpretation of interest inventories.   Past research and the current study show that profile elevation may capture some variance in the interpretation of interest inventories not previously captured.   For instance, counselors may work with a client that has no other interpretable factors on their SDS Professional Summary (Reardon and PAR, 2001), yet

this client is still having trouble identifying a career path.   Perhaps counselors can soon turn to profile elevation to answer the question of why this person cannot seem to make a decision.   It may be related to race, gender, personality, or depression.   Thus far, we have indications that some important variables are related to profile elevation.   While other variables, previously considered to be related, may need to be looked at further to determine if the relationship should stand.

These findings are a contribution to the profile elevation literature, and there are many relevant profile elevation issues that appear to merit further research.   Further research could incorporate SDS profile elevation as it relates to the dysfunctional career thoughts, personality, communication apprehension, and other secondary constructs measured by the Self-Directed Search and included in Holland's theory.   It is hoped that further research on this subject will lead to a more effective and efficient use of interest inventories, save scarce resources for career counselors, and help to better serve clients.

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Figure 1

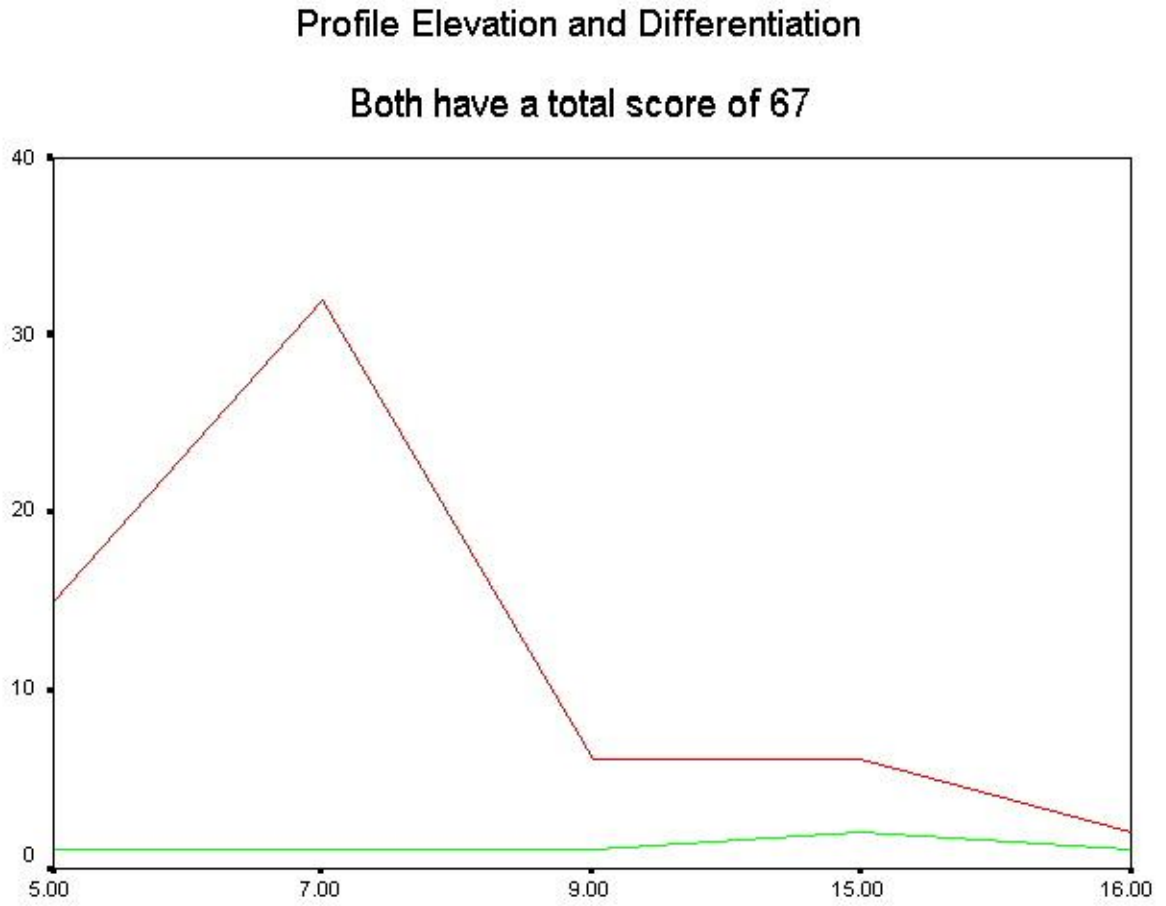*Comparison of Profile Elevation and Differentiation*

Profile Elevation and Differentiation

Both have a total score of 67

Figure 2

Gender Differences by Race

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