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Enhancing job satisfaction perspectives: Combining Holland themes and basic interests

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ABSTRACT

Investigations addressing the match between vocational interests and satisfaction have emphasized higher-order dimensions (e.g., Holland themes) and specific occupational scales. Although support exists at these levels of analysis for the hypothesis that congruence between interests and work environments yields satisfaction, limitations of these perspectives frequently result in small effect sizes or inconclusive results. This study examined the capacity of content scales of the 2005 *Strong Interest Inventory*, including the General Occupational Themes (GOTs) and Basic Interest Scales (BISs), in predicting job satisfaction across 22 samples comprising 9647 working adults. Hypothesized multivariate sets of content scales, and predicted individual GOTs and BISs demonstrated significant group differences. Sequential discriminant function analyses demonstrated that sets of hypothesized BISs significantly distinguished between satisfied and dissatisfied workers beyond the six Holland themes in 17 of the 22 occupational samples. The authors discuss practical implications of interpreting BISs to augment Holland themes related to job satisfaction.

1. Introduction

Job satisfaction is one of the most frequently researched topics in vocational behavior (Borgen, 1991; Lent, 2008) and spans numerous disciplines (Cranny, Smith, & Stone, 1992; Spector, 1997). Vocational psychologists have addressed job satisfaction as a key outcome most notably within the context of Person–Environment (P–E) fit theories (Dawis, 2005; Dawis & Lofquist, 1984; Holland, 1997). From a P–E fit theory perspective, attaining an appropriate match between one's personal characteristics (e.g., abilities, interests) and the tasks and rewards offered by work environments yields beneficial outcomes such as job satisfaction, stability, and achievement (Dawis, 2005). In particular, job satisfaction yields outcomes important to individuals and organizations, including tenure, organizational citizenship (McNeely & Meglino, 1994; Schnake, 1991), retention (Judge, 1993; Tett & Meyer, 1993), psychological health (Bluen, Barling, & Burns, 1990) and overall life satisfaction (Rain, Lane, & Steiner, 1991). However, more research is needed to identify specific contributing factors that can enable individuals to strategically manage their work lives to achieve these outcomes.

Scholars addressing the choice aspects of vocational behavior emphasize congruence at the level of Holland's six general interest types (Spokane, 1999). Although meta-analytic investigations have demonstrated support for Holland's (1997) hypothesis that congruence yields occupational satisfaction (Kristof-Brown, Zimmerman, & Johnson, 2005; Tranberg, Slane, & Ekeberg, 1993), this relationship is slight, perhaps due to limitations of generality and inconsistent classification systems related to Holland types (Armstrong, Rounds, & Hubert, 2008; Dik, Hu, & Hansen, 2007; Lent, 2008). Recent advances in the

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Table 1
Demographics for 22 independent occupational samples.

Occupation	*N*		Gender		Race/Ethnicity								Satisfaction		*M* Age
			Women	Men	AA	NA	API	W	I	L	ME	O	DS	S	
Accountant	644	*n*	467	177	86	7	52	457	6	46	6	12	190	452	35.2
		%	72.5	27.5	13.4	1.1	8.1	71	.9	7.1	.9	1.9	29.5	70.2	(10.2)
Administrative Assistant	2238	*n*	2073	165	393	56	116	1541	15	213	28	47	802	1428	36.1
		%	92.6	7.4	17.6	2.5	5.2	68.9	.7	3.9	1.3	2.1	35.8	63.8	(11.0)
Arts Manager/Supervisor	300	*n*	164	136	22	10	10	255	2	14	4	4	71	227	36.5
		%	54.7	45.3	7.3	3.3	3.3	85	.7	4.7	1.3	1.3	23.7	75.7	(10.3)
Biological Sciences	313	*n*	205	108	28	6	52	211	11	16	5	3	115	198	32.7
		%	65.5	34.5	8.9	1.9	16.6	67.4	3.5	5.1	1.6	1	36.7	63.3	(8.5)
Carpenter	177	*n*	5	172	7	4	1	153	1	13	0	4	52	125	29.0
		%	2.8	97.2	4	2.3	.6	86.4	.6	7.3	0	2.3	29.4	70.6	(9.4)
Child Care Worker	252	*n*	237	15	33	4	3	178	1	39	1	9	56	195	26.7
		%	94	6	13.1	1.6	1.2	70.6	.4	15.5	.4	3.6	22.2	77.4	(9.0)
Computer Programmer/ Software Engineer	492	*n*	171	321	44	5	73	325	41	16	14	6	140	352	36.7
		%	34.8	65.2	9	1	14.9	66.1	8.4	3.3	2.9	1.2	28.3	71.7	(9.7)
Editor	139	*n*	94	45	7	1	6	122	3	2	0	0	55	83	36.0
		%	67.6	32.4	5	.7	4.3	87.8	2.2	1.4	0	0	39.6	59.7	(10.0)
Elementary School Teacher	408	*n*	340	68	63	5	6	306	3	36	2	5	137	271	34.4
		%	83.3	16.7	15.4	1.2	1.5	75	.7	8.8	.5	1.2	33.6	66.4	(9.7)
Engineering Manager	290	*n*	42	248	21	3	23	211	19	12	11	3	32	257	43.9
		%	14.5	85.5	7.2	1	7.9	72.8	6.6	4.1	3.8	1	11	88.6	(8.8)
Graphic Designer	178	*n*	105	73	12	1	8	141	2	16	2	0	39	137	33.8
		%	59	41	6.7	.6	4.5	79.2	1.1	9	1.1	0	21.9	77	(9.3)
Human Service Worker	356	*n*	285	71	98	10	13	207	0	47	0	9	64	283	34.4
		%	80.1	19.9	27.5	2.8	3.7	58.1	0	13.2	0	2.5	18	79.5	(10.1)
Lawyer	614	*n*	280	334	71	6	38	507	5	27	4	7	298	315	38.1
		%	45.6	54.4	11.6	1	6.2	82.6	.8	4.4	.7	1.1	48.6	51.3	(9.3)
Legal Assistant/Paralegal	320	*n*	274	46	49	7	10	234	3	36	1	9	126	190	33.4
		%	85.6	14.4	15.3	2.2	3.1	73.1	.9	11.3	.3	2.8	39.4	59.4	(10.0)
Management Analyst	242	*n*	139	103	40	6	15	164	10	10	3	5	69	173	38.3
		%	57.4	42.6	16.5	2.5	6.2	67.8	4.1	4.1	1.2	2.1	28.5	71.5	(10.1)
Marketing Manager	562	*n*	311	251	51	5	35	451	9	27	10	6	137	423	38.1
		%	55.3	44.7	9.1	.9	6.2	80.2	1.6	4.8	1.8	1.1	24.4	75.3	(9.6)
Mechanical Engineer	187	*n*	38	149	23	2	18	136	3	11	4	2	62	124	33.0
		%	20.3	79.7	12.3	1.1	9.6	72.7	1.6	5.9	2.1	1.1	33.2	66.3	(9.1)
Military	556	*n*	151	405	83	19	29	402	8	56	6	10	103	450	34.6
		%	27.2	72.8	14.9	3.4	5.2	72.3	1.4	10.1	1.1	1.8	18.5	80.9	(9.8)
Production Worker	547	*n*	253	294	105	14	20	387	2	64	5	6	276	267	32.3
		%	46.3	53.7	19.2	2.6	3.7	70.7	.4	11.7	.9	1.1	50.5	48.8	(10.1)
Public Relations Specialist	140	*n*	110	30	19	1	8	97	3	11	2	4	49	91	33.5
		%	78.6	21.4	13.6	.7	5.7	69.3	2.1	7.9	1.4	2.9	35	65	(8.9)
Registered Nurse	241	*n*	213	28	25	5	9	192	1	6	1	6	61	180	41.4
		%	88.4	11.6	10.4	2.1	3.7	79.7	.4	2.5	.4	2.5	25.3	74.7	(10.8)
Sales Manager	451	*n*	152	299	39	4	22	353	8	30	7	5	98	350	38.0
		%	33.7	66.3	8.6	.9	4.9	78.3	1.8	6.7	1.6	1.1	21.7	77.6	(10.9)

Note. Participants could select more than one racial-ethnic group, therefore the numbers may not equal 100%. *Note*. Standard deviations are in parentheses for age. F = Female; M = Male; AA = African American/Black; NA = Native American; API = Asian or Pacific Islander; W = White/Caucasian; I = Indian; L = Latina/o; ME = Middle Eastern; O = Other; DS = Dissatisfied; S = Satisfied.

measurement of interests have led to a greater focus on basic interests such as teaching, science, or sales, which are more specific than general Holland types but not as narrow as occupational titles are (Armstrong et al., 2008; Day & Rounds, 1997; Dik & Hansen, 2004; Donnay & Borgen, 1996; Ralston, Borgen, Rottinghaus, & Donnay, 2004; Rottinghaus, Gaffey, Borgen, & Ralston, 2006). In this paper, we examined the utility of basic interests of the Strong Interest Inventory (SII; Donnay, Morris, Schaubhut, & Thompson, 2005) to supplement Holland's general themes in describing differences between satisfied and dissatisfied employed adults across 22 occupations (see Table 1). We selected these particular samples to address the potential incremental validity of assessing more precise content of basic interests plus Holland themes across diverse occupational domains.

2. Vocational interests and job satisfaction

Vocational researchers and practitioners traditionally have emphasized respondents' occupational scale scores in predicting satisfying outcomes. In fact, Strong (1927) developed occupational scales by comparing respondents' likes and dislikes, across heterogeneous content, with likes and dislikes of satisfied workers already performing typical job tasks for each occupation. Dissatisfied workers were removed from the occupational samples, so occupational scale scores emphasize one's similarity to satisfied workers. This approach has been the hallmark of the Strong inventories over the years and continues to provide unique insights into occupational choice and job satisfaction (Dik & Hansen, 2004; Hansen, 2005); however, theoretical and measurement advances throughout the 20th century have led to additional sets of scales to enhance conceptualization of how interests relate to career outcomes.

Holland's (1959) six types (i.e., Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) have drawn the most attention and were blended into the SVIB (Campbell & Holland, 1972). His hypothesis that congruence between people's personal characteristics and work environments at the broad level of the six types would lead to work satisfaction has received support (Spokane, 1985; Tranberg et al., 1993). However, problems with coding work environments and limitations of congruence measures have limited research on congruence-related hypotheses (Hoeglund & Hansen, 1999). Given these limitations, Hoeglund and Hansen found only minimal relations between prominent congruence indices and job satisfaction across seven occupational samples from the 1985 Strong Interest Inventory (SII; Hansen & Campbell, 1985). They emphasized that using participants from the 1985 revision, who were required to be employed in their occupation for a minimum of three years, presented problems in identifying enough dissatisfied participants—a perennial concern in studies distinguishing satisfied from dissatisfied groups (Kuder, 1977). People who dislike their jobs usually leave them before the three-year mark if they can. The number of participants who indicated that they were "indifferent about" or "disliked" their occupation ranged from 19 to 55 in Hoeglund and Hansen's occupational samples. Sampling from a wider range of participants, including greater numbers of those less satisfied with their occupations, would resolve this issue and enable better comparisons between satisfied and dissatisfied workers.

Much attention has been given to BISs within the vocational literature to highlight the enhanced prediction and conceptual benefits of examining occupationally relevant content at a middle level between broad Holland themes and specific criterion-keyed occupational scales (Armstrong et al., 2008; Day & Rounds, 1997; Donnay & Borgen, 1996; Ralston et al., 2004; Rottinghaus et al., 2006). Using over 17,000 participants across 24 major fields from the General Reference Sample of the 1994 SII (Harmon, Hansen, Borgen, & Hammer, 1994), Ralston et al. (2004) used a series of multivariate analyses to highlight the incremental validity of basic interests related to college major above and beyond Holland themes. For example, the Public Speaking BIS and Writing BIS each yielded significant incremental variance in predicting Journalism major membership beyond that accounted for by the Artistic GOT. In another study, Borgen and Lindley (2003) used Basic Interest Scales to highlight differences between architects and technical writers, who have the same Holland code (AIR). Technical writers scored higher on the Writing BIS, whereas architects scored higher on the Art BIS. These studies demonstrate the critical nature of examining interests at these intermediate levels of meaning to augment broader Holland themes and occupational scales.

3. Expanded Basic Interest Scales of the 2005 Strong Interest Inventory

Campbell and his colleagues introduced a set of homogeneous content scales, the Basic Interest Scales, to the SVIB over 40 years ago (Campbell, Borgen, Eastes, Johansson, & Peterson, 1968). The introduction of these rational measures provided theoretical perspectives to evaluate the meaning of interest inventory results more directly (Campbell & Borgen, 1999). Building on this tradition of including homogeneous content scales (Campbell & Holland, 1972) and the importance of basic interest dimensions (Campbell, 1971; Campbell et al., 1968), the authors of the Strong have continued to refine the BISs and have expanded the number of dimensions from 25 to 30 scales in the 2005 revision. The content was updated to be more representative of current occupational fields; for example, the 1994 Computer Activities BIS was split into separate scales representing hardware and software to match rapid advances in technology. The authors attempted to maintain continuity with the previous BISs, resulting in 10 new scales (i.e., Computer Hardware & Electronics, Protective Services, Research, Human Resources & Training, Social Sciences, Marketing & Advertising, Entrepreneurship, Taxes & Accounting, Programming & Information Systems, and Finance & Investing), with 4 scales (i.e., Art, Computer Activities, Data Management, and Merchandising) being dropped and the remainder being updated (Donnay et al., 2005). This more relevant and comprehensive coverage of content within the modern economy likely offers a more precise and intuitive means of addressing the role of interests on job satisfaction.

4. The present study

Lent and Brown (2006) asserted that "Holland's theory appears to offer a limited explanation of satisfaction" and that P–E fit theories have not "incorporated more recent advances on dispositional and situational influences on job satisfaction" (p. 237). Moreover, previous research examining interest congruence and job satisfaction may have been limited due to coding inconsistencies and small samples of dissatisfied workers. Based on these challenges and recent trends in interest measurement, it follows that focusing on the more specific BIS measures could offer a more refined understanding of occupational

satisfaction while still incorporating a P–E fit perspective. Moreover, involving larger samples with greater proportions of dissatisfied workers, employing multivariate methods, and expanded measurement of basic interests in the SII now enable researchers to examine job satisfaction more comprehensively.

Previous research on the 1994 SII has addressed the incremental validity of using GOTs and BISs to predict college majors and occupational choice, but not job satisfaction. In the present study, we extended these advances to distinguish satisfied from dissatisfied workers using the meaningful language of the GOTs and BISs of the 2005 SII. Like occupational scales, which were designed to allow judgments of similarity between test takers and existing satisfied workers, we hypothesized that various scales of the SII would differentiate satisfied from dissatisfied groups within occupational samples. Holland's six types, measured by the GOTs of the SII, and BISs should not only demonstrate validity for predicting occupational or college major selection, but also for differentiating satisfied versus dissatisfied workers. For example, satisfied teachers are expected to have higher Social GOT and Teaching & Education BIS scores than those who are dissatisfied, who may wish to express other interests due to their lack of fit with the occupational tasks and environment of teachers. If found, this would demonstrate that these scales not only predict occupational choice, but further serve to distinguish satisfied from dissatisfied workers. Numerous other differences could be expected across occupational groups that would serve to enhance the meaning of the BISs.

In essence, this study examined whether measures of Holland's six personality types, as measured by the GOTs of the SII, show statistically significant and meaningful differences between satisfied and dissatisfied workers, and whether basic interests offer further distinctions. First, we conducted a series of 22 MANOVA's testing whether there were significant differences between satisfied and dissatisfied groups for specific hypothesized GOTs and BISs within each respective occupational sample (see a list of hypothesized variables for each occupation in Table 2). We derived our hypotheses by reviewing research on the Strong, O∗NET, and vocational interests generally (e.g., Campbell, 1971; Donnay & Borgen, 1996; Donnay et al., 2005; Hansen, 2005). In addition, we also described the Holland codes, derived from the SII GOT scores, for each satisfaction group and compared these results with the O∗NET Holland codes for general descriptive purposes only due to differences in Holland codes across these methods (Eggerth, Bowles, Tunick, & Andrew, 2005). Finally, we examined the incremental validity of the hypothesized BIS scores for each occupational sample separately, to distinguish satisfaction groups above and beyond the entire set of six Holland GOT scores.

5. Method

5.1. Participants

Participants in the present study completed the SII using the SkillsOne online system for numerous reasons, including training, employment testing, career counseling, education, and personal growth. In addition to the larger sample sizes, this approach enabled us to include a greater proportion of dissatisfied workers to address the challenge of locating dissatisfied participants (Hoeglund & Hansen, 1999; Kuder, 1977). We used the following criteria to select occupational samples with sufficient power from a database of 743 occupations to investigate the potential complementary utility of the GOTs and BISs to distinguish satisfied from dissatisfied workers: (1) number of participants greater than 100, (2) good representation across GOTs and BISs, (3) varying occupational prestige levels, and (4) balance in satisfaction proportions. This resulted in a total of 9647 (63.3% women; 36.7% men) across 22 independent samples of currently employed adults who served as participants in this study. A detailed breakdown of demographics and satisfaction proportions for each independent sample is provided in Table 1.

5.2. Measures

5.2.1. Strong Interest Inventory (SII)

The SII (Donnay et al., 2005) is a 291-item measure that assesses vocational interests reported as six Holland General Occupational Themes (GOTs), 30 Basic Interest Scales (BISs), 244 Occupational Scales (OSs), and five Personal Style Scales (PSSs). We only included the GOTs and BISs in the present study. This latest revision of the Strong incorporates updated item content to reflect recent workplace changes and improve internal consistency reliability. The six GOTs were enhanced through the inclusion of new items but remain essentially the same, with internal consistency reliability estimates above .90. The revisions to the BISs generally improved the internal consistency for most scales, with Cronbach's alphas ranging from .80 (Social Sciences) to .92 (Computer Hardware & Electronics) on the 2005 scales (Donnay et al., 2005). Gasser, Larson, and Borgen (2007) reported the ability of the GOTs, BISs, and PSSs to predict college majors. Bailey, Larson, Borgen, and Gasser (2008) concluded that the identically named GOTs and BISs of the 2005 SII were generally equivalent with the 1994 SII.

5.2.2. Job satisfaction

Drawing on Strong's (1927) longstanding method of using a global level to distinguish satisfied from dissatisfied workers, as utilized in establishing occupational scales and in previous research (e.g., Hoeglund & Hansen, 1999), we focused on this global evaluation of one's current occupation. Job satisfaction was measured by the global job satisfaction item taken by all respondents who complete the SII on SkillsOne: "How satisfied are you with your general line of work?" The response options were (1) "Very Satisfied"; (2) "Satisfied"; (3) "Somewhat Satisfied"; (4) "Somewhat Dissatisfied"; (5) "Dissatisfied"; and (6) "Very Dissatisfied." Based on responses to this item, participants were classified as satisfied (responses 1–3) or dissatisfied (responses 4–6). This method has been used in other Strong studies. For example, Hoeglund and Hansen (1999) used a

Table 2
Holland codes, means, standard deviations, univariate effect sizes for predicted GOTs and BISs across 22 independent occupational samples.

Occupational sample	Dissatisfied		Satisfied		F	η^2	Holland code		
	M	*SD*	*M*	*SD*			DS	S	O*NET
Accountant							(SA)I	C(SE)	CE
Conventional GOT	50.0	8.9	59.0	9.2	131.19***	.170			
Taxes & Accounting BIS	51.6	9.7	63.3	8.7	228.47***	.263			
Finance & Investing BIS	51.0	9.8	56.3	9.3	41.70***	.061			
Mathematics BIS	50.9	9.7	55.2	9.0	28.52***	.043			
Administrative Assistant							AS	SCA	CE
Conventional GOT	47.4	9.7	54.5	10.2	254.82***	.103			
Office Management BIS	49.0	9.4	59.4	9.4	638.43***	.223			
Arts Manager/Supervisor							ASE	AES	AE
Artistic GOT	56.9	7.0	56.7	8.0	.07	.000			
Enterprising GOT	51.3	8.8	54.1	9.0	5.38	.018			
Visual Arts & Design BIS	56.0	8.3	56.7	8.2	.50	.002			
Performing Arts BIS	57.0	7.2	56.7	8.2	2.51	.008			
Management BIS	50.9	9.6	52.9	7.9	3.15	.011			
Biological Sciences							IAR	IAS	IR
Investigative GOT	58.3	7.5	64.0	6.0	54.37***	.149			
Science BIS	56.6	6.6	62.9	5.9	74.57***	.193			
Research BIS	55.8	9.3	60.7	7.8	25.46***	.076			
Carpenter							R(IS)	RI	R
Realistic GOT	56.9	8.1	60.2	7.1	7.37**	.040			
Mechanics & Const. BIS	56.6	8.7	61.7	6.7	18.01***	.093			
Child Care Worker							SA	SA	SA
Social GOT	54.2	10.1	59.2	9.0	12.68***	.048			
Counseling & Helping BIS	54.2	10.2	56.8	9.5	3.18	.013			
Computer Programmer/Software Engineer							(AIR)	(ICR)	IRC
Investigative GOT	53.2	9.2	56.6	8.9	14.26***	.028			
Conventional GOT	49.5	9.3	56.6	8.8	61.69***	.112			
Programming/IS BIS	51.3	8.1	61.3	6.4	207.78***	.298			
Comp. Hardware/Elec. BIS	50.3	8.5	58.5	7.9	102.91***	.174			
Mathematics BIS	52.8	9.1	58.1	8.5	36.67***	.070			
Editor							A(IS)	A(SI)	ASE
Artistic GOT	60.7	7.4	60.2	7.8	.11	.001			
Writing/Mass Comm. BIS	59.8	7.1	63.1	5.6	9.23**	.064			
Elem. School Teacher							AS	SA	SAI
Social GOT	52.8	8.3	61.1	7.9	96.35***	.192			
Teaching & Education BIS	51.0	8.8	62.3	7.2	194.24***	.324			
Engineering Manager							IRC	RI(CE)	ERIC
Realistic GOT	55.9	9.7	58.4	8.3	2.51	.009			
Enterprising GOT	47.6	11.0	53.0	8.2	11.47**	.038			
Management BIS	50.3	10.8	55.4	7.8	11.00**	.037			
Graphic Designer							AI	A(RS)	ARE
Artistic GOT	58.2	7.3	56.8	7.9	1.07	.006			
Visual Arts & Design BIS	60.5	6.5	61.2	6.7	.42	.002			
Human Service Worker							(SA)	S	SC
Social GOT	54.6	10.0	60.0	8.6	19.57***	.054			
Counseling & Helping BIS	55.0	10.2	61.5	7.5	33.72***	.089			
Lawyer							AS	A(ES)	EC
Enterprising GOT	51.7	8.4	53.2	8.8	4.36	.007			
Conventional GOT	46.9	8.8	48.5	8.9	5.00	.008			
Law BIS	54.2	7.3	61.2	5.4	185.00***	.232			
Politics & Public Speaking BIS	56.0	9.3	59.3	8.3	21.02***	.033			
Legal Assistant/Paralegal							ASE	S(AE)	EC
Conventional GOT	46.5	8.9	52.7	9.9	32.47***	.094			
Law BIS	51.1	9.0	58.0	8.6	46.93***	.130			
Office Management BIS	47.5	9.1	55.8	9.6	58.73***	.158			
Management Analyst							ASE	(EC)	IEC
Enterprising GOT	53.6	9.3	54.7	9.1	.66	.003			
Conventional GOT	49.1	10.1	54.3	9.1	14.63***	.057			
Management BIS	52.7	8.8	54.6	8.8	2.37	.010			
Programming/IS BIS	48.0	10.0	51.6	9.4	6.93**	.028			
Finance/Investing BIS	51.1	9.9	57.2	8.7	22.68***	.086			
Taxes/Accounting BIS	49.5	9.5	54.6	8.9	15.44***	.060			
Mathematics BIS	49.9	9.7	53.6	9.0	8.01**	.032			

(*continued on next page*)

Table 2 (*continued*)

Occupational sample	Dissatisfied		Satisfied		F	η^2	Holland code		
	M	*SD*	*M*	*SD*			DS	S	O*NET
Marketing Manager							A(ES)	EAS	EC
Enterprising GOT	53.0	8.2	57.9	7.7	41.23***	.069			
Conventional GOT	45.8	9.1	49.1	8.5	14.97***	.026			
Marketing/Advertising BIS	54.2	7.9	59.1	7.4	44.95***	.075			
Sales BIS	52.5	9.9	56.4	9.7	17.02***	.030			
Management BIS	50.7	8.8	54.8	8.0	25.34***	.043			
Mechanical Engineer							(RI)S	RIC	IRC
Realistic GOT	55.8	9.0	59.7	7.7	9.44**	.049			
Investigative GOT	55.3	8.4	57.8	6.4	5.06*	.027			
Mechanics/Construction BIS	55.5	8.3	62.6	6.8	38.69***	.174			
Mathematics BIS	56.5	7.4	59.5	6.9	7.54**	.039			
Military							R(IA)	R(SC)	N/A
Realistic GOT	54.7	9.5	58.4	8.9	14.27***	.025			
Military BIS	54.2	10.7	63.1	9.3	72.76***	.117			
Production Worker							CRS	CRS	R
Realistic GOT	52.6	9.3	53.1	10.1	.36	.001			
Mechanics/Construction BIS	52.2	9.5	53.4	10.4	1.90	.003			
Public Relations Specialist							ASE	AES	EAS
Enterprising GOT	50.3	9.2	55.5	8.3	11.71**	.078			
Artistic GOT	57.9	8.1	59.6	6.8	1.62	.012			
Writing/Mass Comm. BIS	58.4	6.8	61.5	6.4	7.30**	.050			
Politics/Public Speaking BIS	51.5	9.8	56.9	9.4	10.43**	.070			
Marketing/Advertising BIS	52.6	9.1	58.4	7.6	16.31***	.106			
Registered Nurse							AIS	SIA	SI
Social GOT	50.3	9.0	56.9	9.0	24.43***	.093			
Investigative GOT	52.4	9.3	55.3	8.6	5.19	.021			
Medical Science BIS	53.4	8.9	59.3	8.8	20.38***	.079			
Healthcare Services BIS	53.3	8.8	62.3	8.0	53.94***	.184			
Sales Manager							E(AS)	ER	EC
Enterprising GOT	54.2	9.3	62.9	6.9	104.14***	.189			
Conventional GOT	47.0	8.8	53.6	8.5	45.68***	.093			
Sales BIS	55.3	10.4	66.4	8.6	115.88***	.206			
Entrepreneurship BIS	50.5	9.0	56.3	7.3	43.68***	.089			
Finance/Investing BIS	51.7	8.8	60.2	8.1	80.25***	.152			
Marketing/Advertising BIS	54.0	9.1	59.7	6.7	46.18***	.094			
Management BIS	52.2	9.6	57.0	8.1	23.63***	.050			

Note. Holland codes in parentheses reflect mean scores with less than a 1-point difference. DS = Dissatisfied; S = Satisfied; $^{**}p < .01$; $^{***}p < .001$. Results of the 22 separate MANOVA's indicated the following effects: Accountant: Pillai's trace = .322, $F(4, 637) = 75.71$, $p < .001$; Administrative Assistant: Pillai's trace = .235, $F(2, 2227) = 342.71$, $p < .001$; Arts Manager/Supervisor: Pillai's trace = .042, $F(5, 292) = 2.57$, $p = .027$; Biological sciences: Pillai's trace = .193, $F(3, 309) = 24.70$, $p < .001$; Carpenter: Pillai's trace = .098, $F(2, 174) = 9.46$, $p < .001$; Child Care Worker: Pillai's trace = .067, $F(2, 248) = 8.85$, $p < .001$; Computer Application Software Engineer: Pillai's trace = .304, $F(5, 486) = 42.40$, $p < .001$; Editor: Pillai's trace = .093, $F(2, 135) = 6.92$, $p < .01$; Elementary School Teacher: Pillai's trace = .333, $F(2, 405) = 100.98$, $p < .001$; Graphic Designer: Pillai's trace = .039, $F(2, 173) = 3.50$, $p = .032$; Human Service Worker: Pillai's trace = .089, $F(2, 344) = 16.88$, $p < .001$; Lawyer: Pillai's trace = .243, $F(4, 608) = 48.75$, $p < .001$; Legal Assistant: Pillai's trace = .218, $F(3, 312) = 28.96$, $p < .001$; Management Analyst: Pillai's trace = .112, $F(7, 234) = 4.23$, $p < .001$; Managers of Engineers: Pillai's trace = .044, $F(3, 285) = 4.35$, $p < .01$; Marketing Manager: Pillai's trace = .088, $F(5, 554) = 10.74$, $p < .001$; Mechanical Engineer: Pillai's trace = .233, $F(4, 181) = 13.72$ $p < .001$; Military: Pillai's trace = .121, $F(2, 550) = 37.96$, $p < .001$; PR Specialist: Pillai's trace = .182, $F(5, 134) = 5.96$, $p < .001$; Production Worker: Pillai's trace = .007, $F(2, 540) = 1.98$, $p = .139$; Registered Nurse: Pillai's trace = .190, $F(4, 236) = 13.82$, $p < .001$; Sales Manager: Pillai's trace = .259, $F(7, 440) = 21.99$, $p < .001$.

less detailed four-response option satisfaction item from the 1985 Strong revision for their study of congruence and satisfaction. They coded participants who indicated that they were "'very satisfied with' or 'like' their occupation" as satisfied and those who were "'indifferent about' or 'dissatisfied' with their occupation" (p. 474) as nonsatisfied. Moreover, Wanous, Reichers, and Hudy (1997) concluded that single-item measures are acceptable given the unambiguous nature of this construct, and that they are comparable to scale measures. Herein, the six-response option item offers a clear demarcation between satisfied (1–3) and dissatisfied (4–6) workers, especially given the psychological difference between "Somewhat Satisfied" (3) and "Somewhat Dissatisfied" (4).

5.3. Data analyses

Using univariate and multivariate methods, we examined the capacity of the GOTs and BISs to distinguish satisfied from dissatisfied groups for each occupation separately. First, we conducted 22 separate MANOVA's to examine potential differences between satisfied and dissatisfied workers within each occupation for the hypothesized variables only, conducted follow-up ANOVA's, and reported the descriptive statistics. Based on standard methods for reporting Holland codes with the

Strong, we rank-ordered GOTs to derive three-letter codes. Harmon and her colleagues (1994) provided additional decision rules for cases in which theme codes include other than three letters. Next, we reported the Holland codes of each group and compared results with the O*NET codes for descriptive purposes only since the Strong and O*NET systems do not correspond very well beyond the first letter (Eggerth et al., 2005).

We conducted a series of sequential (or hierarchical) discriminant function analysis (DFA) to examine the incremental validity of the six GOTs and predicted BISs across each sample. Analogous to hierarchical regression, this approach allows researchers to examine the incremental variance explained by adding the predicted BISs above and beyond the set including the GOTs alone. Following accepted recommendations for conducting DFA (Duarte Silva & Stam, 1995; Sherry, 2006), we calculated Wilks's lambda (λ), canonical correlations (R_c), eigenvalues, chi-square (χ^2), and hit rates for each set of predictors. Examination of differences in either Wilks's lambda or squared canonical correlation (R_c^2) indicates the incremental variance of discriminating variables (i.e., BISs) over and above GOTs. Comparing hit rates across each set of predictors provides another means of examining incremental validity. We reported original hit rates for the separate predictor sets and used the jackknifed cross-validation procedure (Lachenbruch, 1967) to account for the sample specific inflation of multivariate approaches. Direct hits refer to the percentage in which an exact prediction of the actual satisfaction group membership was made with the discriminant results. The prior probability of correct classification of satisfaction groups on the basis of chance was 50%.

6. Results

A total of 19/22 of the MANOVA's yielded significant group differences (see Table 2). Descriptive statistics, ANOVA results examining group differences for predicted measures, and Holland codes for each group across all occupational samples are also summarized in Table 2[1].

6.1. General Occupational Themes

There were significant group differences for 20/32 of the hypothesized GOT scales, with significant ANOVA's for 16 hypothesized GOT scales at $p < .001$ level, and 4 at $p < .01$. There were large effect sizes for the following occupations and GOTs: Accountant (C), Biological Sciences (I), Elementary School Teacher (S), and Sales Manger (E); and medium effect sizes were found for Administrative Assistant (C), Legal Assistant/Paralegal (C), Marketing Manager (E), PR Specialist (E), Registered Nurse (S), and Sales Manager (C). There were no significant GOT differences for the following occupations: Arts Manager/Supervisor, Editor, Graphic Designer, Lawyer, and Production Worker. The largest mean GOT score differences were found for the Social GOT for Elementary School Teacher, followed by the Enterprising GOT for Sales Manager, Conventional GOT for Accountant, and the Investigative GOT for Biological Sciences.

Although we did not conduct formal congruence index scores due to systematic differences for assigning Holland codes, the descriptive results for the Holland codes between the satisfaction groups and the O*NET codes revealed several interesting results. Even though all participants were employed in the same occupation, striking differences between satisfied and dissatisfied groups were evident across many samples. For example, the Holland code of satisfied Accountants (CSE) more closely matched the O*NET Holland code (CE) than for the dissatisfied group (SAI). Other samples yielded more subtle differences that were consistent with our hypotheses. For example, the Holland code for satisfied Computer Programmer/Software Engineer (ICR) more closely matched the O*NET Holland code (IRC) than for the dissatisfied group (AIR). As shown in Fig. 1, both hypothesized GOTs (I and C) for this occupation yielded significant differences in the predicted direction ($p < .001$). Additionally, the results for Registered Nurses were interesting in that the Holland codes mirrored each other, with the satisfied and dissatisfied groups yielding SIA and AIS, respectively. The O*NET Holland code of SI, combined with the satisfied group scoring significantly higher than the dissatisfied group on each of these GOT scales, support the importance of this ordering.

Otherwise, many of the group differences on GOT scores were minor or nonexistent. The Holland codes for each group were identical for 3/22 occupational samples (i.e., Carpenter, Child Care Worker, Production Worker), and showed only minor differences in order among the same three letters for 9/22 measures (Arts Manager/Supervisor, Editor, Elementary School Teacher, Human Service Worker, Lawyer, Legal Assistant/Paralegal, Marketing Manager, PR Specialist, and Registered Nurse). However, significant mean group differences for hypothesized GOT scores were still evident even when the Holland codes were identical (e.g., Carpenter). Moreover, the results frequently match expectations based on Holland's theory and O*NET codes. For example, the Holland codes for satisfied and dissatisfied PR Specialists were AES and ASE, respectively, compared to the O*NET code of EAS. Given that there were significant differences between the groups on Enterprising GOT scores ($p < .01$), the higher ranking of Enterprising in the satisfied group appears important.

6.2. Basic Interest Scales

There were significant group differences for 38/45 of the hypothesized BIS scales, with significant ANOVA's for 31 hypothesized BIS scales at $p < .001$ level, and 7 at $p < .01$. There were large effect sizes for the following occupations and BISs:

[1] A full reporting of means, standard deviations, and correlation and structure matrices for each occupation is available upon request.

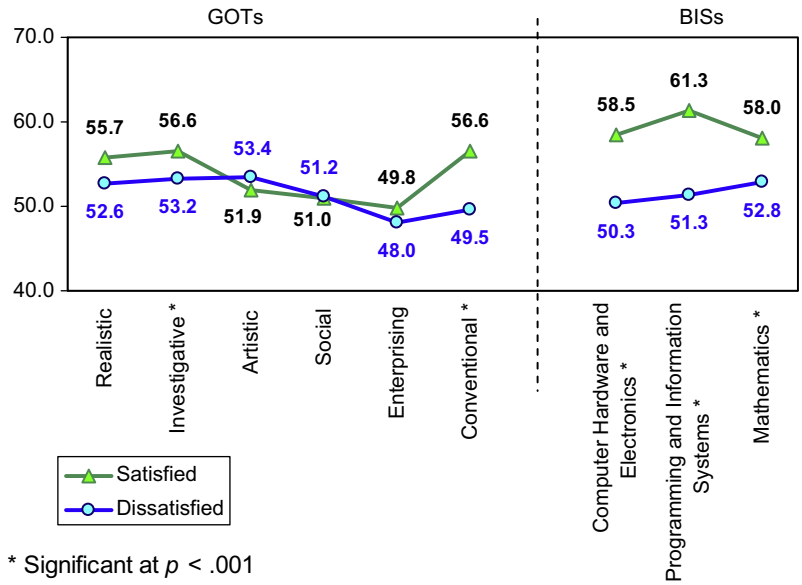

Fig. 1. Mean GOT and proposed BIS scale scores for satisfied and dissatisfied Computer Programmers/Software Engineers.

Accountant (Taxes & Accounting), Administrative Assistant (Office Management), Biological Sciences (Science), Computer Programmer/Software Engineer (Programming & Information Systems, Computer Hardware & Electronics), Elementary School Teacher (Teaching & Education), Lawyer (Law), Legal Assistant/Paralegal (Law, Office Management), Mechanical Engineer (Mechanics & Construction), Registered Nurse (Healthcare Services), and Sales Manager (Sales, Finance/Investing); and medium effect sizes were found in 15 BISs across 12 occupations. There were no significant BIS differences for the following occupations: Arts Manager/Supervisor, Child Care Worker, Graphic Designer, and Production Worker. The largest mean BIS score differences were found for the Teaching & Education BIS for Elementary School Teacher, followed by the Programming & Information Systems BIS for Computer Programmer/Software Engineer, and Taxes & Accounting BIS for Accountant.

6.3. Incremental validity of Basic Interest Scales

Table 3 summarizes results for the series of 22 separate sequential discriminant function analyses. We entered the set of all 6 GOTs in the first block of variables, then added only the hypothesized BISs to the model for the second block. The squared canonical correlation (R_c^2) values and chi-square differences determine whether the hypothesized BISs accounted for significant variance in job satisfaction above and beyond the GOTs alone. The squared canonical correlation (R_c^2) values indicate that the addition of the hypothesized BISs increased the shared variance in job satisfaction. However, the change in R_c^2 varied greatly and additional tests were necessary to determine whether these differences were significant. Therefore, we conducted a series of chi-square difference tests to determine whether the addition of the BISs accounted for significant variance in job satisfaction above and beyond the GOTs alone. The BISs yielded significant incremental variance in a total of 13/22 samples at the $p < .001$ level, and 4/22 at the $p < .01$ level, whereas only 5 samples showed no significant differences (i.e., Arts Manager/Supervisor, Child Care Worker, Engineering Manager, Management Analyst, Production Worker). The six GOTs accounted for significant variance separating satisfied from dissatisfied groups in most samples, ranging from 2.3% (Editor) to 24.9% (Elementary School Teacher). The samples in which the hypothesized BISs resulted in the largest incremental shared variance included Lawyer (23.2%; see Fig. 2), Computer Programmer/Software Engineer (16.6%; see Fig. 1), and Mechanical Engineer (15.6%).

6.4. Hit rates

The respective original and cross-validation hit rates for the GOTs ranged from 52.2% and 45.7% (Editor) to 76.6% and 75.9% (Sales Manager). The addition of the hypothesized BISs increased the respective original and cross-validation hit rates in 20/22 samples, and ranged from 60.4% and 56.4% (Arts Manager/Supervisor) to 78.9% and 77.9% (Elementary School Teacher).

7. Discussion

Numerous factors contribute to job satisfaction, and addressing the overall degree of fit between interests and work environments has been emphasized in vocational theory, research, and practice. In an effort to provide additional perspectives on

Table 3
Discriminant function results for GOTs and predicted BISs across all occupational samples.

Occupation	Wilks's λ	χ^2	*df*	R_c	R_c^2	Hit rate (%)		Eigenvalue
						Original	CV	
Accountant								
GOTs	.793	147.95	6	.455	.207	70.7	69.8	.261
Plus Predicted BISs	.675	250.04***	9	.570	.325	75.2	74.8	.482
Administrative Assistant								
GOTs	.871	306.56	6	.359	.129	65.8	65.7	.148
Plus Predicted BISs	.758	614.92***	7	.491	.242	73.0	72.9	.318
Arts Manager/Supervisor								
GOTs	.960	11.91	6	.200	.040	61.4	58.4	.041
Plus Predicted BISs	.943	17.10	9	.239	.057	60.4	56.4	.060
Biological Sciences								
GOTs	.811	64.46	6	.435	.189	70.6	70.0	.233
Plus Predicted BISs	.772	79.64***	8	.478	.228	73.5	70.9	.296
Carpenter								
GOTs	.914	15.40	6	.293	.086	63.8	62.7	.094
Plus Predicted BISs	.872	23.53**	7	.358	.128	66.7	62.7	.147
Child Care Worker								
GOTs	.914	22.00	6	.292	.086	67.3	64.1	.094
Plus Predicted BISs	.897	26.62	7	.321	.103	68.1	64.5	.115
Computer Prog./Software Eng.								
GOTs	.856	75.96	6	.380	.144	68.1	66.9	.169
Plus Predicted BISs	.690	180.42***	9	.557	.310	77.8	76.4	.450
Editor								
GOTs	.977	3.07	6	.151	.023	52.2	45.7	.023
Plus Predicted BISs	.887	15.88***	7	.336	.113	63.8	58.7	.127
Elem. School Teacher								
GOTs	.751	115.57	6	.499	.249	74.8	73.8	.332
Plus Predicted BISs	.641	179.30***	7	.600	.359	78.9	77.9	.561
Engineering Manager								
GOTs	.933	19.65	6	.259	.067	65.7	64.0	.072
Plus Predicted BISs	.929	20.92	7	.267	.071	66.1	64.7	.077
Graphic Designer								
GOTs	.929	12.65	6	.267	.071	64.2	59.7	.077
Plus Predicted BISs	.888	20.25**	7	.335	.112	65.3	60.8	.126
Human Service Worker								
GOTs	.831	63.14	6	.411	.169	73.2	72.3	.203
Plus Predicted BISs	.780	85.03***	7	.470	.220	74.9	74.1	.283
Lawyer								
GOTs	.980	12.37	6	.142	.020	56.0	53.2	.021
Plus Predicted BISs	.748	176.64***	8	.502	.252	71.5	70.5	.338
Legal Assistant/Paralegal								
GOTs	.841	54.03	6	.399	.159	68.0	65.8	.190
Plus Predicted BISs	.717	103.11***	8	.532	.283	76.6	74.7	.395
Management Analyst								
GOTs	.901	24.80	6	.315	.099	65.7	63.6	.110
Plus Predicted BISs	.867	33.46	11	.365	.133	67.8	63.6	.153
Marketing Manager								
GOTs	.924	43.74	6	.275	.076	63.6	62.0	.082
Plus Predicted BISs	.900	58.03**	9	.315	.099	66.4	64.1	.111
Mechanical Engineer								
GOTs	.903	18.39	6	.311	.097	64.0	61.3	.107
Plus Predicted BISs	.747	52.45***	8	.503	.253	74.7	73.1	.338
Military								
GOTs	.933	38.17	6	.259	.067	64.4	63.1	.072
Plus Predicted BISs	.856	85.22***	7	.380	.144	70.3	69.6	.168
Production Worker								
GOTs	.955	24.76	6	.212	.045	58.9	57.6	.047
Plus Predicted BISs	.947	29.03	7	.229	.052	62.1	58.7	.055
Public Relations Specialist								
GOTs	.868	19.05	6	.363	.132	67.9	60.7	.152
Plus Predicted BISs	.778	33.58**	9	.472	.223	78.6	73.6	.286

(*continued on next page*)

Table 3 (*continued*)

Occupation	Wilks's λ	χ^2	*df*	R_c	R_c^2	Hit rate (%)		Eigenvalue
						Original	CV	
Registered Nurse								
GOTs	.871	32.61	6	.359	.129	69.7	68.5	.148
Plus Predicted BISs	.791	55.01***	8	.457	.209	69.7	67.2	.264
Sales Manager								
GOTs	.774	113.33	6	.475	.226	76.6	75.9	.292
Plus Predicted BISs	.737	134.21***	11	.512	.263	78.3	77.2	.356

Note. The prior probability of correct classification of satisfaction groups on the basis of chance is 50%. CV = Cross-validation group. Results of chi-square difference tests between the sets of variables for each occupational sample are noted as follows: $^{**}p < .01$; $^{***}p < .001$.

how interests relate to satisfaction, beyond the traditional focus on occupational scales and Holland themes, we examined the incremental validity of using basic interest measures to augment Holland-level information. The MANOVA results for the hypothesized content scales showed significant differences in satisfaction groups for 19/22 samples. Central to the present study, the BISs provided numerous additional insights individually—84% showed significant group differences—and explained significant incremental variance above and beyond the Holland themes across 17/22 samples. Holland-level results confirmed the utility of this higher-level perspective on job satisfaction. Overall, these findings highlight the enhanced perspectives afforded by using general and basic interests *jointly* to explicate satisfaction differences in workers across diverse occupations.

At the univariate level, the GOTs offered a broad level analysis from the perspective of Holland's P–E fit theory. There were significant differences between satisfaction groups for 62.5% of the specific hypothesized GOTs. While some dissatisfied groups had high means on hypothesized scales, the satisfied groups scored in a much higher range (e.g., Biological Sciences, Carpenter, Child Care Worker). Additional support for the importance of relative magnitude of interests was indicated by the fact that although both satisfied and dissatisfied Child Care Worker groups had SA Holland codes, the satisfied group had significantly higher mean Social GOT scores. These findings add to the five decades of research supporting the utility of Holland's themes by demonstrating their relevance to job satisfaction. Moreover, these results provide additional validity evidence for the GOTs of the SII while providing Holland codes for both satisfied and dissatisfied groups across 22 diverse occupational samples. Although Holland themes were far from comprehensive, they yielded medium to large effects and provided important insights into job satisfaction across many of our samples.

Upon examining the differences in the GOTs between dissatisfied and satisfied employees (see Table 2), an interesting trend for the Artistic Holland code emerged. In ten of the occupational samples, the relatively higher position of the Artistic code among dissatisfied, compared to satisfied, groups is noteworthy. For example, dissatisfied Registered Nurses yielded an AIS code, compared to SIA for the satisfied group. For nurses in our sample, it seems important that their Social interests outweigh their Artistic interests in order for them to be satisfied with their occupation. For Accountants, the incongruence

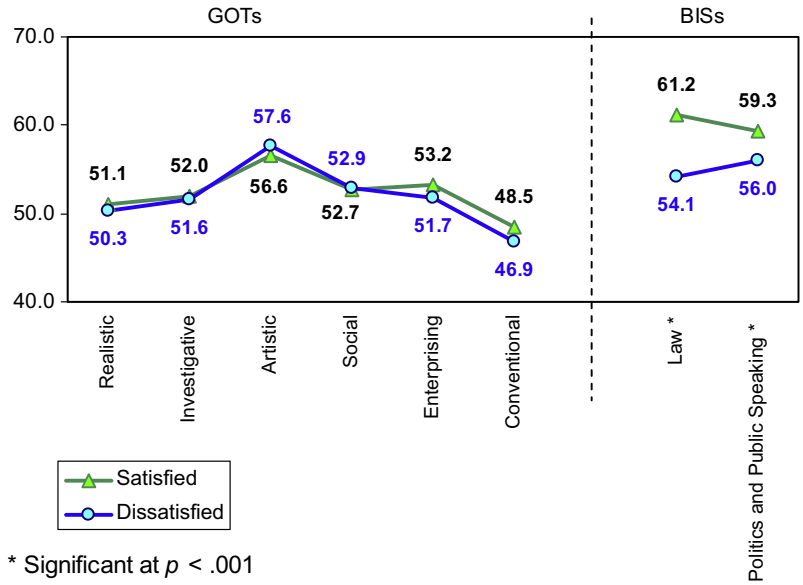

Fig. 2. Mean GOT and proposed BIS scale scores for satisfied and dissatisfied Lawyers.

between the higher Artistic scores and Conventional work environment for dissatisfied workers was palpable. This finding mirrors similar patterns evident in Computer Programmer/Software Engineer and Administrative Assistant samples in which the dissatisfied group had higher mean Artistic scores that did not fit the converse nature of Conventional environments. This result is important given that relatively fewer artistic occupations exist. Thus, Artistic individuals may be more likely to compromise congruence in their work lives.

Taken together, these results largely confirm the importance of Holland-level content measures related to job satisfaction. However, the higher level analysis of Holland themes far from captures the complete relevance of interest congruence to job satisfaction. An even larger percentage of our univariate BIS results showed significant differences between groups. The more focused content of BISs also yielded larger effect sizes and offered greater interpretability within many occupations not borne out at the more general Holland theme level. For example, there were no differences in GOTs between satisfied and dissatisfied lawyers as shown in twin patterns depicted in Fig. 2, whereas the more precise and relevant content of the Law BIS and Politics & Public Speaking BIS highlighted critical information. Therefore, one must go beyond the Holland level to comprehend job satisfaction more fully among this sample of lawyers.

Analysis of the profile patterns of GOTs and BISs reveals critical content related to satisfaction not provided by criterion-keyed occupational scales, which are not directly interpretable given their heterogeneous content. Information provided by content measures provides a more transparent language to discuss meaningful aspects of jobs that may lead to better matches (Borgen, 2008). Most of the 22 samples examined herein portray interesting patterns that highlight the importance of content measures. In Figs. 1 and 2, we selected occupational samples that accentuate ways in which BISs were especially important in separating satisfied from dissatisfied workers. The Computer Programmer/Software Engineer sample offers rich profiles for these satisfaction groups that showcase the importance of the Holland themes (I and C) as well as three more focused BISs (Programming & Information Systems, Computer Hardware/Electronics, and Mathematics). These hypothesized BISs more than doubled the amount of variance shared with satisfaction from 14.4% to 31.0%. In contrast, the Lawyer sample offers a striking example in which the GOTs offer little useful information to separate satisfaction groups; yet the focused content of the Law and Politics & Public Speaking BISs yielded highly significant differences, boosting the amount of variance shared with satisfaction from 2.0% to 25.2%.

Moving beyond merely comparing GOTs versus BISs, our sequential DFA results showed that these sets of content scales jointly distinguished satisfaction groups across samples. As noted above, blocks of the six GOTs and predicted BISs each accounted for significant independent variance in satisfaction. The six GOTs yielded medium or large effect sizes in separating 7 and 10 out of 22 satisfaction groups within occupations, respectively. The addition of the predicted BISs yielded significantly more variance above and beyond GOTs in 17/22 samples. The hit rates corroborated the general conclusion that the BISs provide useful information above and beyond the GOTs.

Three of the five samples that failed to yield significant incremental variance involved management and had interesting results involving the Enterprising GOT. The Enterprising GOT was significant at the univariate level for Arts Manager/Supervisor and Engineering Manager, but not for the respective relevant Artistic and Realistic GOTs. This indicates that the general Enterprising aspects of managerial occupations may be more critical in distinguishing satisfied managers regardless of what they manage. The often cited issue of engineers being promoted to a level of incompetence comes to mind; the issue may be more about P–E fit than general competence. Moreover, the Management BIS did not account for significant incremental variance above and beyond the Enterprising GOT, perhaps because they are highly correlated ($r = .72$; Donnay et al., 2005). Likewise, the Conventional GOT accounted for much of the variance in satisfaction for Management Analyst, perhaps due to its redundancy with the Conventional BISs (e.g., Finance/Investing, Taxes & Accounting). Interestingly, there were no group differences on the Enterprising GOT for this sample.

Overall, we found support for using both general and basic levels of content scales when considering workers' satisfaction within occupations. Although the Holland themes provided statistically and clinically significant information, the BISs clearly added an important dimension to understanding why some individuals are more satisfied than others within the same occupation. The BISs failed to explain additional variance in satisfaction in a few samples, perhaps because these occupations entail much variability in tasks and therefore may explain why the BISs failed to detect differences in a unified way. Our study adds to a growing body of literature demonstrating the unique information offered by BISs in predicting important outcomes, including college major (Ralston et al., 2004), occupation (Donnay & Borgen, 1996), and satisfaction.

This investigation had several goals with implications for vocational theory and practice, including P–E fit, validation of the SII scales, and occupational satisfaction generally. This study provided further support for the power of matching individuals' interests and occupational characteristics in determining satisfaction. In addition to previous research emphasizing congruence at the GOT level, our results begin to map out possibilities for examining P–E fit hypotheses at the basic interest level. Incorporating various levels of congruence can help practitioners consider how to translate interest science to work with individuals.

Our results support the validity of the content scales of the SII, especially the expanded BISs, which were refined to reflect changes in the world of work. Continually updating career assessments to incorporate insights from multivariate research and address occupational trends will assure a more accurate representation of relevant constructs. In addition to a traditional focus on Holland themes and occupational scales, practitioners likely can enhance interest inventory interpretations by attending to basic interests related to job satisfaction. Given the changing nature of occupations and the mounting evidence supporting attention to basic interests (Armstrong et al., 2008), we recommend greater consideration to this level of analysis to help clients achieve enhanced understanding of elements leading to a satisfying career.

Our findings need to be interpreted within the context of a few noteworthy limitations. Since many variables affect job satisfaction ratings (Spector, 1997), our focus on interests alone fails to incorporate the full complexity of this phenomenon. Moreover, by attending to the global measure we were unable to incorporate aspects of the environment. Given our focus on the role of rationally derived dimensional measures, especially basic interests, we were unable to address occupational scales or Holland's (1997) secondary constructs (e.g., differentiation, consistency). Future research should continue to examine these interest characteristics related to satisfaction.

We agree with Armstrong et al.'s (2008) call for "continued investigation of alternatives to Holland's interest categories using modern measures of basic interests" (p. 284). Our study contributes to this goal, but much more work is necessary. Unlike most research in this area, which focuses on matching top-ranking Holland codes (Eggerth et al., 2005), researchers can more systematically examine multiple general and Basic Interest Scale scores to explore the benefits of considering more detailed results related to job satisfaction as well.

The current study offers numerous theoretical and practical insights into job satisfaction by distinguishing satisfied from dissatisfied workers *within* occupations. Our study also provides validity evidence for the revised GOTs and BISs of the *SII*. In particular, these results highlight the importance of examining basic interests besides Holland themes and occupational scales. In addition to important insights regarding individual and top-ranked Holland themes, multivariate analyses involving complex patterns of content scales can enhance job satisfaction perceptiveness. We encourage researchers and practitioners to attend to the incremental benefits of various levels of analysis in interest inventories, not only for initial occupational selection, but to enhance reflection on job satisfaction among currently employed adults.

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