

CAREER DIRECTION INTEREST INVENTORY: RELIABILITY AND VALIDITY TESTING, 2007-2008

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Career Training Concepts, Inc. adheres to the highest standards of measurement in the development and continual adaptation of their measurement tools.

The **Career Direction [Technical Manual](#)** provides a wealth of information about the purposes, development, and implementation of the **Career Direction** Interest Inventory (CDII). The "Background" section (pages 5 – 10) provides an overview of the background and evolution of the CDII. The "Reliability and Validity Testing" section (pages 18 through 21) provides a description of the standards employed.

Description of the RELIABILITY AND VALIDITY TESTING, 2007-2008:

Cronbach's alpha coefficient was used to assess the reliability of the instrumentation. The alpha coefficients were computed using the 107,726 cases in 2007-2008. The alpha coefficients for each Career Direction Interest Inventory category the following table:

**CDII Interest Category Cronbach's Alpha
2007-2008**

2007-2008 CDII (n = 107,726)	
Interest Category	Alpha
A. Outdoor	.7402
B. Arts/Communication	.7182
C. Business/Management	.7444
D. Clerical/Administrative	.7237
E. Protective/Military Service	.7816
F. Technology	.8280
G. Public Service	.6887
H. Science/Mathematics	.6613
I. Social/Helping	.7947

Factor analyses were used as a means of establishing construct validity and identifying the relative strength of each of the items in the construct. The foundation of factor analysis is a matrix of correlation coefficients. Through statistical analysis of this matrix, factor analysis establishes underlying structures indicative of a patterned relationship. Such a structure represents a set of highly correlated variables that is referred to as a factor. Each variable (item) is located on a given factor with an assigned factor score. That score indicates the strength of its association with the other variables in the factor, the higher the score, the closer the relationships to the other variables in the factor. Items highlighted with yellow indicate the items which were **changed or reworded** since the last version of the CDII.

**TABLE A: OUTDOOR
(n=107,726)**

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#1 repairing cars and trucks	.639
#10 growing and harvesting foods	.635
#19 trimming shrubbery or landscaping	.683
#28 providing veterinary care for animals	.389
#37 Building homes	.710
#46 advising farmers on plants	.632
#55 operating a bulldozer for property development	.730
% OF VARIANCE EXPLAINED =	40.924

**TABLE B: ARTS/COMMUNICATION
(n=107,726)**

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#2 being in movies and plays	.593
#11 creating a radio or TV commercial	.668
#20 doing commercial artwork	.712
#29 photographing a wedding	.561
#38 creating and drawing cartoons	.646
#47 guiding tours in an art museum	.580
#56 designing futuristic homes	.514
% OF VARIANCE EXPLAINED =	37.684

**TABLE C: BUSINESS/MANAGEMENT
(n=107,726)**

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#3 running a company	.497
#12 persuading people to buy things or ideas	.628
#21 analyzing economic trends	.510
#30 promoting and marketing new ideas	.701
#39 making business loans	.676
#48 managing investments for other people	.686
#57 being a sales manager	.713
% OF VARIANCE EXPLAINED =	40.402

**TABLE D: CLERICAL/ADMINISTRATIVE
(n=107,726)**

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#4 scheduling work activities	.592
#13 entering data into a computer	.615
#22 setting up and organizing files	.786
#31 following guidelines	.528
#40 assisting office staff	.427
#49 keeping office records organized	.782
#58 preparing statistical reports	.532
% OF VARIANCE EXPLAINED =	38.611

**TABLE E: PROTECTIVE/MILITARY SERVICE
(n=107,726)**

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#5 jumping from airplanes (skydiving)	.708
#14 working in aerospace science	.519
#23 defending my country	.646
#32 piloting an airplane or helicopter	.745
#41 climbing mountains	.717
#50 protecting and rescuing people	.613
#59 participating in spy activities	.644
% OF VARIANCE EXPLAINED =	43.527

**TABLE F: TECHNOLOGY
(n=107,726)**

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#6 tracking satellite information	.546
#15 repairing electrical appliances	.556
#24 developing new computer software	.805
#33 designing an internet search engine	.750
#42 trouble-shooting a computer	.769
#51 operating robotic equipment	.650
#60 installing a computer network	.821
% OF VARIANCE EXPLAINED =	50.098

TABLE G: PUBLIC SERVICE
(n=107,726)

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#7 promoting public safety guidelines	.339
#16 running for an elective office	.703
#25 planning community events	.499
#34 maintaining law and order	.637
#43 being a public defender (a lawyer)	.678
#52 conducting a fund-raising drive	.557
#61 working in a political office	.732
% OF VARIANCE EXPLAINED =	36.560

TABLE H: SCIENCE/MATHEMATICS
(n=107,726)

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#8 investigating crime scenes	.284
#17 collecting scientific information	.741
#26 solving math problems	.420
#35 developing chemical formulas	.736
#44 performing surgery	.515
#53 using a microscope	.755
#62 inventing energy solutions	.536
% OF VARIANCE EXPLAINED =	35.300

TABLE I: SOCIAL/HELPING
(n=107,726)

FACTOR ANALYSIS: PRINCIPAL COMPONENT ANALYSIS	
ITEM	FACTOR 1
#9 leading youth activities	.434
#18 counseling and helping others	.684
#27 assisting the disabled	.715
#36 teaching values to young people	.735
#45 managing household activities	.613
#54 helping senior citizens	.747
#63 caring for young children	.743
% OF VARIANCE EXPLAINED =	45.611