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OCA PAD INITIATION - PROJECT HEADER INFORMATION

07/19/89

Active

Project #: G-42-645                      Cost share #:  
Center # : 10/24-6-R6002-OAO          Center shr #:  
Contract#: 5 K04 AG00335-05            Mod #:  
Prime #:  
Rev #: 0  
OCA file #:  
Work type : RES  
Document : GRANT  
Contract entity: GTRC

Subprojects ? : N  
Main project #:

Project unit:                              PSYCH                      Unit code: 02.010.154  
Project director(s):  
HERTZOG C K                              PSYCH                      (404)894-6774

Sponsor/division names: DHHS/PHS/NIH                      / NATL INSTITUTES OF HEALTH  
Sponsor/division codes: 108                                      / 001

Award period: 890801 to 900731 (performance) 901031 (reports)

Sponsor amount	New this change	Total to date
Contract value	61,947.00	61,947.00
Funded	61,947.00	61,947.00
Cost sharing amount		0.00

Does subcontracting plan apply ? : N

Title: INDIVIDUAL DIFFERENCES IN ADULT COGNITIVE DEVELOPMENT (RCDA)



PROJECT ADMINISTRATION DATA

OCA contact: Kathleen R. Ehlinger                      894-4820

Sponsor technical contact	Sponsor issuing office
MATILDA RILEY, ASSOCIATE DIRECTOR (301)496-1472 BEHAVIORAL AND SOCIAL RESEARCH PROG. NATIONAL INSTITUTE ON AGING BETHESDA, MD 20892	JOANNE COLBERT, GRANTS MANAGEMENT SP (301)496-1472 GRANTS MANAGEMNT OFFICE, NIA BETHESDA, MD 20892

Security class (U,C,S,TS) : U                      ONR resident rep. is ACO (Y/N): N  
Defense priority rating : N/A                      NIA supplemental sheet  
Equipment title vests with: Sponsor                      GIT X  
NONE PROPOSED

Administrative comments -  
INITIATION OF 5TH YEAR OF GRANT. CONTINUATION OF G-42-609.

GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF CONTRACT ADMINISTRATION

NOTICE OF PROJECT CLOSEOUT

Closeout Notice Date 03/07/91

Project No. G-42-645 \_\_\_\_\_ Center No. 10/24-6-R6002-4A0\_  
Project Director HERTZOG C K \_\_\_\_\_ School/Lab PSYCHOLOGY\_\_\_\_\_  
Sponsor DHHS/PHS/NIH/NATL INSTITUTES OF HEALTH \_\_\_\_\_  
Contract/Grant No. 5 K04 AG00335-05 \_\_\_\_\_ Contract Entity GTRC  
Prime Contract No. \_\_\_\_\_  
Title INDIVIDUAL DIFFERENCES IN ADULT COGNITIVE DEVELOPMENT (RCDA) \_\_\_\_\_  
Effective Completion Date 900731 (Performance) 901031 (Reports)

Closeout Actions Required:	Y/N	Date Submitted
Final Invoice or Copy of Final Invoice	Y	_____
Final Report of Inventions and/or Subcontracts	Y	_____
Government Property Inventory & Related Certificate	N	_____
Classified Material Certificate	N	_____
Release and Assignment	N	_____
Other _____	N	_____
Comments PATENT-HHS 568 _____		

Subproject Under Main Project No. \_\_\_\_\_  
Continues Project No. \_\_\_\_\_

Distribution Required:	Y/N
Project Director	Y
Administrative Network Representative	Y
GTRI Accounting/Grants and Contracts	Y
Procurement/Supply Services	Y
Research Property Management	Y
Research Security Services	N
Reports Coordinator (OCA)	Y
GTRC	Y
Project File	Y
Other _____	N
_____	N

NOTE: Final Patent Questionnaire sent to PDPI.

Final Report: K04 AG00335  
"Individual Differences in Adult Cognitive Development  
Christopher Hertzog, Principal Investigator

### Introduction

The Research Career Development Award provided by the grant supported me during the period of August, 1985 through July, 1990. The RCDA has certainly contributed to the advancement of my career. I began the award period as an Associate Professor of Psychology. My promotion to Professor of Psychology has been approved by the Dean of the College of Sciences and is currently under administrative review. The release from teaching responsibilities I received enabled me to run two R01 research grants, also funded by the National Institute on Aging, and to generate a tremendous amount of interesting data on fundamental questions regarding individual differences in cognition in adult populations.

### Publications

The following papers were either published or written during the funding period of the grant:

#### Refereed Journal Articles

- Hertzog, C., & Rovine, M. (1985). Repeated-measures analysis of variance in developmental research: Selected issues. Child Development, 56, 787-810.
- Hultsch, D. F., Dixon, R. A. & Hertzog, C. (1985). Memory perceptions and memory performance in adulthood and aging. Canadian Journal on Aging, 4, 179-187.
- Dixon, R. A., Hertzog, C., & Hultsch, D. F. (1986). The multiple relationships between metamemory and cognitive abilities in adulthood. Human Learning, 5, 165-177.
- Hertzog, C., Raskind, C.L., & Cannon, C. J. (1986). Age-related slowing semantic information processing speed: An individual differences analysis. Journal of Gerontology, 41, 500-502.
- Hertzog, C., & Schale, K. W. (1986). Stability and change in adult intelligence: 1. Analysis of longitudinal covariance structures. Psychology and Aging, 1, 159-171.
- Hertzog, C., Dixon, R. A., Schulenberg, J., & Hultsch, D. F. (1987). On the differentiation of memory beliefs from memory knowledge: The factor structure of the Metamemory in Adulthood scale. Experimental Aging Research, 13, 101-107.
- Hertzog, C. & Nesselroade, J. R. (1987). Beyond autoregressive models: Some implications of the trait-state distinction for

- the structural modeling of developmental change. Child Development, 58, 93-109.
- Hultsch, D. F., Hertzog, C., & Dixon, R. (1987). Age differences in metamemory: Resolving the inconsistencies. Canadian Journal of Psychology, 41, 193-208.
- Schaie, K. W., Willis, S. L., Hertzog, C., & Schulenberg, J. E. (1987). Effects of cognitive training on primary mental ability structure. Psychology and Aging, 2, 233-242.
- Hertzog, C., & Schaie, K. W. (1988). Stability and change in adult intelligence: 2. Simultaneous analysis of longitudinal means and covariance structures. Psychology and Aging, 3, 122-130.
- Lerner, J. V., Hertzog, C., Hooker, K., Hassibi, M., & Thomas, A. (1988). A long-term longitudinal study of negative emotional/behavioral states and adjustment. Child Development, 59, 356-366.
- Hertzog, C. (1989). The influence of cognitive slowing on age differences in intelligence. Developmental Psychology, 25, 636-651.
- Hertzog, C., Hultsch, D. F. & Dixon, R. A. (1989). Evidence for the convergent validity of two self-report metamemory questionnaires. Developmental Psychology, 25, 687-700.
- Usala, P. D., & Hertzog, C. (1989). Measurement of affective states in adults: Evaluation of an adjective rating scale instrument. Research on Aging, 11, 403-426.
- Hertzog, C., Dixon, R. A., & Hultsch, D. F. (1990). Relationships between metamemory, memory predictions, and memory task performance in adults. Psychology and Aging, 5, 215-227.
- Hertzog, C., Van Alstine, J., Usala, P. D., Hultsch, D. F., & Dixon, R. A. (1990). Measurement properties of the Center for Epidemiological Studies Depression Scale (CES-D) in older populations. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2, 64-72.
- Hultsch, D. F., Hertzog, C., Dixon, R. A. (1990). Ability correlates of memory performance in adulthood and aging. Psychology and Aging, 5, 356-368.
- Grover, D. R., & Hertzog, C. (in press). Relationships between intellectual control beliefs and psychometric intelligence in adulthood. Journal of Gerontology: Psychological Sciences.

Usala, P. D., & Hertzog, C. (in press). Evidence for differential stability of state and trait anxiety in adults. Journal of Personality and Social Psychology.

### Book Chapters

Belsky, J., Hertzog, C., & Rovine, M. (1986). Causal analyses of multiple determinants of parenting: Empirical and methodological advances. In M. Lamb, A. Brown, & B. Rogoff (Eds.), Advances in developmental psychology (Vol. 4, pp. 153-201). Hillsdale, NJ: Lawrence Erlbaum Associates.

Schaie, K. W., & Hertzog, C. (1986). Toward a comprehensive model of adult intellectual development: Contributions of the Seattle longitudinal study. In R. J. Sternberg (Ed.), Advances in the psychology of human intelligence (Vol. 3, pp. 79-118). Hillsdale, NJ: Lawrence Erlbaum Associates.

Hertzog, C. (1987). Applications of structural equation models in gerontological research. In K. W. Schaie (Ed.), Annual review of gerontology and geriatrics (Vol. 7, pp. 265-293). New York: Springer.

Dixon, R. A., & Hertzog, C. (1988). A functional approach to memory and metamemory development in adulthood. In F. Weinert & M. Perlmutter (Eds.), Memory development: Universal changes and individual differences (pp. 293-330). Lawrence Erlbaum Associates.

Hultsch, D. F., Hertzog, C., Dixon, R. A., & Davidson, H. (1988). Memory self-knowledge and self-efficacy in the aged. In M. L. Howe & C. J. Brainerd (Eds.), Cognitive development in adulthood: Progress in cognitive development research (pp. 65-92). New York: Springer.

Hertzog, C. (1989). Using confirmatory factor analysis for scale development and validation. In M. P. Lawton & A. R. Herzog (Eds.), Special research methods for Gerontology (pp. 281-306). New York: Baywood Press.

Hertzog, C., & Schear, J. M. (1989). Psychometric considerations in testing the older person. In T. Hunt & C. J. Lindley (Eds.) Testing the older person: A reference guide for geropsychological assessments (pp.24-50). Austin, TX: PRO-ED.

Hertzog, C. (1990). On the utility of structural regression models for developmental research. In P. B. Baltes, D. L. Featherman, & R. M. Lerner (Eds.), Life-span development and behavior (Vol. 10, pp. 257-290). Hillsdale, NJ: Lawrence Erlbaum Associates.

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- Hertzog, C., Dixon, R. A., & Hultsch, D. F. (1990). Metamemory in adulthood: Differentiating knowledge, belief, and behavior. In T. M. Hess (Ed.), Aging and Cognition: Knowledge Organization and Utilization (pp. 161-212). Amsterdam: North Holland.
- Cavanaugh, J. C., & Hertzog, C. (in press). Uses of diary data in cognitive and developmental research. In R. L. West & J. D. Sinnott (Eds.), Everyday memory and aging: Current research and methodology. New York: Springer.
- Hertzog, C. (in press). Repeated measures analysis in developmental research: What our ANOVA text didn't tell us. In S. H. Cohen & H. W. Reese (Eds.), Life-span developmental psychology: Advances in research methods. New York: Erlbaum.
- Hertzog, C. (in press). Commentary on Widaman. In L. M. Collins and J. L. Horn (Eds.), Best methods for the analysis of change? Washington, D.C.: American Psychological Association.
- Hertzog, C. (in press). Improving memory: The possible roles of metamemory. In D. Herrmann, H. Weingartner, A. Searleman, & C. McEvoy (Eds.), Memory improvement: Implications for memory theory. New York: Springer.

Journals (Not Refereed)

- Hertzog, C. (1986). On pooling covariance matrices for multivariate analysis. Educational and Psychological Measurement, 46, 349-352.
- Dixon, R. A., Hultsch, D. F., & Hertzog, C. (1988). The Metamemory in Adulthood (MIA) questionnaire. Psychopharmacology Bulletin, 24, 671-688.
- Hertzog, C., & Rypma, B. (in press). Age differences in components of mental rotation task performance. Bulletin of the Psychonomic Society.

Technical Reports/Unpublished Manuscripts

- Hertzog, C., & Yuasa, M. (1988). Adult age differences in speed and accuracy of mental rotation. Unpublished manuscript.
- Dixon, R. A., Hultsch, D. F., & Hertzog, C. (1989). A manual of 25 three-tiered structurally equivalent texts for use in aging research. Technical Report No. 2, Collaborative Research Group on Cognitive Aging.
- Hertzog, C., Dixon, R. A., & Hultsch, D. F. (1990). Intraindividual change in text recall of the elderly. Unpublished Manuscript.

Hertzog, C., & Vernon, M. C. (1990). Age differences in mental rotation task performance: The influence of speed/accuracy tradeoffs. Unpublished Manuscript.

### Book Reviews

Hertzog, C. (1987). Aging successfully: The Duke longitudinal studies. Contemporary Psychology, 32, 132-133.

Hertzog, C. (1988). Adult cognition and aging: Developmental changes in processing, thinking, and knowing (J. M. Rybash, W. J. Hoyer, & P. A. Rodin). Gerontologist, 28, 133.

Hertzog, C. (1989). Structural equation modeling with LISREL: Essentials and advances (L. A. Hayduk). Journal of Marketing Research, 26, 369.

Hertzog, C. (1990). Issues about developmental research methods. Contemporary Psychology, 35, 953-955.

Selected reprints are provided in Appendix A.

### Funded Research During the Award Period

I was a principal investigator or coinvestigator on a number of funded research projects during the RCDA award period:

"Longitudinal Studies of Adult Cognitive Development." National Institute on Aging, K. Warner Schaie, Principal Investigator. Annual direct costs: 9/1/84 - 8/31/87. Role: Co-investigator, supervised data preparation and multivariate statistical analysis from Schaie's Seattle Longitudinal Study.

"Short Term Change in Memory and Metamemory in the Elderly." National Institute on Aging, Christopher Hertzog, Principal Investigator. 12/1/84 - 06/30/89. Project with D. F. Hulstsch and R. A. Dixon (unpaid collaborators) to assess metamemory and memory performance in older adults.

"Aging and Cognitive Correlates of Intelligence." National Institute on Aging, Christopher Hertzog, Principal Investigator. 9/1/84 - 1/31/91, Studies information processing task correlates of psychometric intelligence, analyzed by means of structural equation models. (Total Direct Costs: \$567,955).

### Professional Activities

In addition to conducting empirical research, I also participated actively in several professional societies, presenting papers at a number of scientific meetings and serving on the Executive Committee for Division 20 of the American Psychological Association. I also served as a reviewer for journals and for several funding agencies. Much of this activity

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was made possible by the RCDA. My career development is reflected in the following list of professional experience:

Professional and Honorary Societies

Phi Beta Kappa  
 Sigma Xi  
 American Psychological Association (Fellow, Division 20)  
 American Psychological Society  
 Gerontological Society  
 International Society for the Study of Behavioral Development  
 Psychonomic Society  
 Society for Research on Child Development

Professional Activities

Member, National Institute of Mental Health Grant Review Committee (Study Section), Aging, Life Course and Prevention October, 1986-1990.

Ad Hoc Reviewer of grant proposals, National Science Foundation, National Institutes of Health, William T. Grant Foundation.

Editorial Board, Research on Aging, 1982-present.  
 Editorial Board, Journal of Gerontology, 1984-1985.  
 Editorial Board, Journal of Gerontology: Psychological Sciences, 1988-present.  
 Editorial Board, Psychology and Aging, 1987-present.  
 Editorial Board, Experimental Aging Research, 1987-present.  
 Editorial Board, Developmental Psychology, 1987-1988.  
 Editorial Board, Intelligence, 1988-present.  
 Editorial Board, Journal of Experimental Psychology: General, 1989-present.

Ad Hoc Reviewer, (all of the above), Cognitive Psychology, Journal of the American Statistical Association, Journal of Educational Psychology, Journal of Experimental Child Psychology, Multivariate Behavioral Research, Applied Cognitive Psychology, Psychological Assessment, Human Factors, Journal of Aging and Health, Journal of Gerontology: Social Sciences, Psychological Bulletin.

Chair, Program Committee, APA Division 20 (Adult Development and Aging), 1988.

Chair, Networks Committee, APA Division 20 (Adult Development and Aging), 1982/83 and 1984/85.

Member, Educational Committee, APA Division 20 (Adult Development and Aging), 1982-1984.

Member, Networks Committee, APA Division 20 (Adult Development and Aging), 1985/86.



Member-at-large, Executive Committee, APA Division 20 (Adult Development and Aging), 1985-1988.

Member, APA Science Weekend Program Committee, 1988.

Chair, APA Division 20 Program Committee, 1988.

Concluding Statement

I am still working on manuscripts and data analyses of information generated during the RCDA award period, and anticipate that I will be able to thrive professionally on the data sets for the foreseeable future. I am grateful to the National Institute on Aging for supporting my research and my research career development.