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Editor  
**Xinyin Chen**

ISSBD Newsletter  
Department of Psychology  
University of Western Ontario  
London, Ontario, Canada N6A 5C2  
email: xchen@uwo.ca

Editor  
**Joan G. Miller**

ISSBD Newsletter  
Department of Psychology  
New School for Social Research  
New York, NY 1003, USA  
email: millerj@newschool.edu



# Introduction to Longitudinal Research on Human Development: Approaches, Issues and New Directions

## Introduction

*Xinyin Chen*

Department of Psychology, University of Western Ontario  
London, Ontario, Canada  
E-mail: [xchen@uwo.ca](mailto:xchen@uwo.ca)

and

*Joan G. Miller*

Department of Psychology, New School for Social Research  
New York, NY, USA  
E-mail: [millerj@newschool.edu](mailto:millerj@newschool.edu)

Longitudinal research plays a critical and unique role in the study of human development. Many fundamental developmental questions, such as whether phenomena show developmental continuity vs. change and how personal and contextual influences early in life contribute to social and cognitive functioning in later years, can only be addressed through longitudinal research

Other issues, such as the causal processes that exist among different characteristics and experiences, as well as the role of mediational and moderational factors in development, can be examined in a more rigorous manner with longitudinal data than with cross-sectional data. Hence, developmental researchers are increasingly undertaking longitudinal investigations which are having a significant impact on the field despite the substantial complexities entailed, including the requirements of an extended time commitment and substantial ongoing funding.

One of the major challenges that researchers who conduct longitudinal research often face is how to examine developmental issues appropriately based on their longitudinal data sets. This is largely because traditional analytic strategies, such as analysis of variance and OLS regression, do not allow researchers to adequately explore the longitudinal aspects of their data according to their theoretical interests. Recent advances in methodologies, such as multilevel modeling of hierarchically nested data, group based modeling and person-oriented approaches, represent new directions in investigating developmental issues and provide useful and powerful tools to assess growth patterns at the individual or group levels. Moreover, the modern statistical methods applied in these approaches can address such problems as the unit of analysis, and the precision of estimation and aggregation bias more effectively than can conventional methods.

This Special Section focuses on recent methodological approaches to longitudinal research and the conceptual and technical challenges that they raise. Including contributions from an international group of experts in the field, focus centers on the theoretical background and the major characteristics of the approaches to longitudinal research. Consideration is also given to strengths as well as limitations entailed in utilizing these approaches and to valuable directions for future theory and research. We believe that the discussion will be helpful in enabling researchers to understand developmental issues from varied perspectives and in applying sophisticated methods in their longitudinal projects.

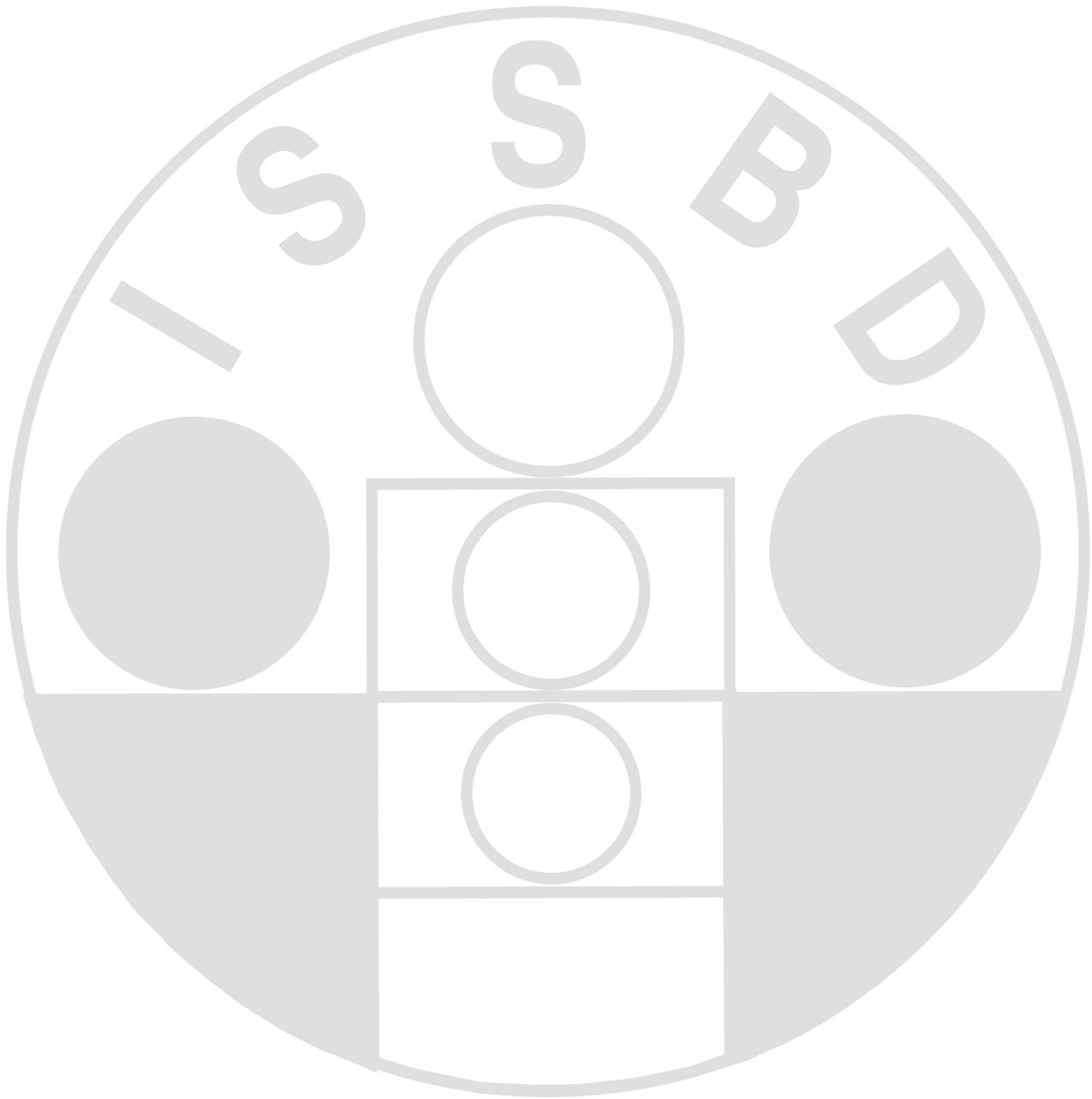
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## Theoretical and Methodological Issues in Longitudinal Research

*Antonius Cillessen*

Department of Psychology, University of Connecticut  
Storrs, Connecticut, USA  
E-mail: [antonius.cillessen@uconn.edu](mailto:antonius.cillessen@uconn.edu)

Although longitudinal research is important across a variety of disciplines, it is of particular importance in developmental science. Arguably, the two most important methods for understanding development, observational and longitudinal methods, are also the most difficult. Observational research





affords the examination of behavioral processes as they unfold in real time. Longitudinal research allows us to examine the role of the outcomes of these behavioral processes over a longer developmental time span. While the frequency of solid observational research has declined over the past decades, the frequency of longitudinal research has increased.

It has long been recognized that longitudinal research is the “royal road” to understanding development. One of the early advocates was Joachim Wohlwill (1973). Wohlwill specified the conceptual background behind causal and multilevel modeling approaches to longitudinal data when the technology to run these models was not yet available. Today, researchers often use the technology without the conceptual reflection. Therefore, Wohlwill’s book should be required reading for all developmental scientists. Reviews of the conceptual underpinnings of longitudinal research are offered by authors such as Baltes, Nesselroade, Schaie, and Reese, in the life-span developmental psychology book series they edited in the 1970s. A review of the history and rationale of longitudinal research can be found in Baltes and Nesselroade (1979).

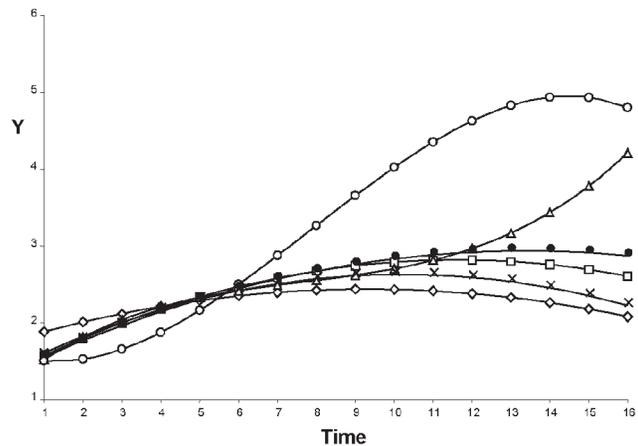
Today, researchers are in the fortunate position to have available both the conceptual advances made by these scholars and the technology to actually address the questions they envisioned. However, longitudinal research is complex and difficult. In addition to conceptual and statistical issues, important measurement and design questions need to be addressed. It is not possible to address all challenges and pitfalls of longitudinal research in this brief paper. Therefore, I will focus on a few key theoretical, statistical, measurement, and design issues.

### Theoretical Issues

Which studies should be considered longitudinal? The scope of longitudinal research is more common than typically thought. Longitudinal research does not simply apply only to traditional studies in which relatively large cohorts of participants are followed over time with monthly or yearly data collection points. To the scope of longitudinal research also belong training studies with repeated trials, diary research with daily record keeping, and time to failure data. Thus, the scope of longitudinal research is broader than typically conceived.

Outcome measures can be either continuous or categorical. Singer and Willett (2003) described two important groups of designs: studies in which the dependent variable is a continuous score tracked over time, and studies in which the dependent variable is the occurrence of a specific event. Variables of the first type are analyzed with growth curve models (the multilevel model for change). Variables of the second type are analyzed with survival analysis (event history analysis) (Singer & Willett, 2003).

Longitudinal data analysis has both a descriptive and explanatory part. The descriptive part is rather critical and should not be overlooked. It addresses questions such as: What is the developmental trajectory of a continuous variable across the time span under consideration? Is it linear or nonlinear? Increasing or decreasing? Simply properly and accurately estimating the growth curves for a sample and possible subgroups (e.g., girls vs. boys) is critically important. For categorical dependent variables, simply



“Multiple developmental dimensions may yield fascinating effects”

describing how the chance of occurrence of an event changes over time and where it peaks and declines is invaluable. Only after this stage is completed should the next step be taken to examine how predictors (time-varying or time-invariant) influence the starting values and slopes of these curves.

Recent methods of longitudinal data analysis allow us to ask research questions that cannot be addressed with other methods. For example, growth curve and event history methods allow researchers to examine the shape of developmental trajectories, whether predictor variables influence starting values, ending values, or other values at any point in a developmental trajectory, and the degree to which they influence growth acceleration, deceleration, or other variation in growths. These methods can assess the impact of life transitions and can model continuous growth or discontinuous, stage-like growth. It is possible to examine whether a predictor has an effect that is constant, irrespective of the developmental moment at which it occurs, or an effect that varies depending on the developmental time at which it takes place. These are important substantive questions that cannot be addressed with traditional multivariate methods, but are core substantive questions in many domains of developmental science.

In spite of these possibilities, a word of caution is in place. One common misconception is that because a study is longitudinal and includes time, causal relations are therefore being established with certainty. This is not true. In some sense, the only way to establish causal relationships with certainty is still the well-designed experiment. Results from growth curve models are still correlational in nature. Yet, for phenomena that cannot be manipulated experimentally (and of which there are many in developmental research), the availability of time can lead to strong suggestions of causality. Similar to traditional cross-lagged panel designs, it is possible to lag predictors and outcomes before and after one another. This may lead to useful suggestions of causality. Researchers in general, however, should be cautious not to overinterpret their results simply because the analyses were longitudinal. Relations between co-varying predictors and outcomes over time in growth curve models, for example, are just that, co-varying and not causal. This does not mean that those relationships are not important. Often, they are the closest to causality we can ever get in important areas of research. Yet, a conservative approach to interpretation is warranted (see, e.g., Davis, 1985; Finkel, 1995).

### Issues of Measurement

A consistent dilemma in longitudinal research on dimensions of human development relates to the choice of the measures of the developmental dimension under consideration. On the one hand, from a statistical perspective, it is ideal if the exact same measure is used at all times. On the other hand, measures should be age-appropriate and sensitive to the age and circumstance of participants at each measurement wave. This paradox is often difficult to resolve, especially in long-term studies. For example, aggression cannot be measured in the same way with 4-year-olds as with young adults. Because the expression of the underlying construct varies with age, different measures are needed at different ages.

A consequence of using different, but age-appropriate, measures at different time points is the lack of an equivalent metric over time. Furthermore, even when the same metric is used, it may not have the same meaning for participants across development (Dixon, 2005).

A frequent solution to this problem is the standardization of scores within time points. This, however, is generally not a good idea, as it equates sample means over time and limits to the possibility of uncovering developmental changes that, in fact, may exist.

There are no simple answers to this conundrum. While perhaps much is known about the validity of different measures at different ages, little is known about the equivalence of scales derived from different measures between age groups. In some cases, this problem may be impossible to solve. More research is needed to develop alternative ways of scoring age-related measures that will allow us to equate them without creating a mean that is constant over time.

### Design Issues

Three design issues are discussed. First, how many waves of data collection are needed? Although technically a study with two waves is longitudinal, a minimum of three is needed for recent methods of statistical analysis. As the number of data points increases, the analysis possibilities may also increase. For example, with a sufficiently large number of data points, dynamic systems analyses become possible. They represent an important new trend, but require many data points (e.g., Boker & Nesselroade, 2002). This is not surprising, since these methods have their roots in time series analyses of small samples, rather than in traditional longitudinal analyses using larger numbers of participants and fewer data points. Collecting the number of data points required for dynamic analyses is impossible in certain types of research. For example, in school systems it is often not possible to collect data more than once a year. In other designs, however, such as diary or learning studies, the number of data points may be sufficient for dynamic analyses.

Second, the spacing of data waves is important. Researchers often assume that equal spacing of data waves is required, and that any deviation from such a design makes analysis impossible. The contrary is true. Modern methods of longitudinal analysis can easily handle differential spacing of data waves. In some cases, there are actually power

advantages to having a data point further removed from other data points (Singer & Willett, 2003). Unequal spacing of data collection points is possible, as are individualized data collection schedules in which not all participants are measured at the same times. The only thing required here is to record a continuous measure of time for each participant, for which there are multiple flexible choices.

The third issue regards missing data. In most longitudinal studies, not everyone participates at all data collection waves. Moreover, within a given wave, participants may not complete all measures or questions. Modern statistical methods can handle missing data quite flexibly. For example, with enough overall power in a data set, in growth curve modeling a person who participated in only one wave of data collection still contributed to the overall estimation. This does not mean that researchers should not try to collect complete and balanced data. Even though missingness can be handled statistically, it may still have important consequences for

external validity. In many longitudinal studies, attrition is not random. Selective attrition is the rule more often than the exception. In studies of normative samples in school systems, students at the low end of the distribution of social and/or academic achievement are more likely to drop out of the study than other students. Low-performing students are more likely not to show up for school, to be ill, to be placed in a special school, or to change schools because of unstable home environments than higher performing students (Green, Navratil, Loeber, & Lahey, 1994). Without addressing the direction of causality of these associations, they cause selective attrition to the degree that longitudinal studies on normative samples are likely to study more adjusted samples over time.

Often researchers create the impression that selective attrition is not a problem by showing that there are no statistically significant differences between students who continued to participate and those who do not. Yet, the means of participants and non-participants across studies point consistently in the direction of lower adjustment scores for non-participants. Sometimes the effect sizes are moderate or large, even in the absence of a significant difference. A meta-analysis across longitudinal studies would without a doubt point to selective attrition. Rather than sweeping it

**“A frequent solution to this problem is the standardization of scores within time points.”**



“Are these children entering their own data?”



under the rug, developmentalists should embrace this issue as an inherent aspect of the phenomena we are studying. This issue does not play a role in longitudinal studies in which students are followed no matter where they go (e.g., into a different school system). Those studies are expensive and less common. The recent NICHD study on early child care in the United States is an example. For other studies, Loeber and colleagues have made important design recommendations regarding the reduction of attrition in longitudinal research (Cotter, Burke, Loeber, & Navratil, 2002; Navratil, Green, Loeber, & Lahey, 1994).

### Statistical Issues

The number of statistical methods available to analyze longitudinal data is large and their number rapidly increasing. Most of these techniques are sophisticated and take time to learn. It is clear, however, that the days of MANOVAs with time as a repeated measures factor or simple regressions are over. Researchers who conduct longitudinal data need to learn (latent) growth curve modeling, survival analysis, or the multilevel model for change in one of their varieties, and the software needed for them (e.g., AMOS, EQS, HLM, Lisrel, MIWin, MPlus, or MIXED in SAS or SPSS). The good news is that as these techniques are becoming more common, software packages and manuals are becoming increasingly user friendly. Yet, the burden of good interpretation is still with the researcher, and this is an issue that still requires a substantial amount of training and experience.

### Future Directions and Conclusions

In developmental science, longitudinal research is the way of the past but also the way of the future. The potential contributions of good longitudinal research to understanding human development are clear. Researchers need to become increasingly familiar with the growing arsenal of sophisticated methods to collect and analyze longitudinal data. Most researchers are becoming familiar with multilevel or latent models of change. The potential of techniques that examine categorical outcomes, event history analysis and survival analyses, however, are underestimated by modern researchers. An important new trend consists of dynamic systems approaches to longitudinal data (e.g., Boker, 2002) in which principles of time series analysis, dynamic systems, and traditional methods are coming together. These new developments place high demands on the quantity and quality of data collection. They also place high demands on the skills of the researcher. Developmental scientists who limit themselves to MANOVA and regression approaches will quickly become outdated in this fast growing field.

I close with two recommendations. First, international collaborative studies with joint funding can generate the new longitudinal data sets that will move our science forward. Second, organizations such as ISSBD should continue to support advanced workshops on longitudinal data analysis, especially for scholars from parts of the world without easy access to statistical and methodological consultants and related resources. These are exciting times for the international scientific community of developmental scientists interested in longitudinal research. Implementation of these recommendations will foster the transformation of

this excitement into important advances in the study of behavioral development across the world.

### Acknowledgements

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## Modeling Multilevel Data: Some Cautionary Notes

Xiaojia Ge

Department of Human and Community Development  
University of California, Davis, Davis, CA, USA

E-mail: [xjge@ucdavis.edu](mailto:xjge@ucdavis.edu)

Multilevel modeling is a generic name for a statistical procedure for analysis of hierarchically structured data. Because this procedure was developed through an accumulation of efforts by researchers from multiple disciplines (Raudenbush & Bryk, 2002), different names have

been attached to this technique. It is called 'random coefficient model' in econometrics or 'mixed random effect model' in statistics perhaps because it allows estimated coefficients to vary, rather than be fixed, across observations. It is called 'multilevel model' or 'hierarchical linear model', names more familiar to educational and developmental researchers, perhaps because it allows random coefficients to become independent variables at multiple levels (Raudenbush & Bryk, 2002). Multilevel modeling was developed in response to many substantive and methodological concerns that exist in multiple disciplines. Before it was developed, sociologists had long been concerned about how to analyze contextual- or group-level effects on individuals when data were typically collected from individuals (Blalock, 1984). Education researchers were concerned about how to estimate the effect of variation in teaching style or school climates on pupils' academic performance, as multiple pupils are exposed to the same teacher or in the same school. Similarly, developmental researchers had wondered how to handle the correlated errors when repeated measures were obtained from the same individuals.

***“The increased popularity of multilevel modeling is largely due to its ability to model hierarchically nested data”***

The increased popularity of multilevel modeling is largely due to its ability to model hierarchically nested data, a frequently seen phenomenon in social and developmental research: Pupils are nested in classrooms; classrooms are nested in schools; and schools are nested in school districts, and so on. Every student of developmental sciences is taught about Bronfenbrenner's (1979) ecological model where child development is influenced by a set of hierarchically nested subsystems and where inter-system linkages are of significant importance to children's development. Although an ecological model makes great theoretical sense, methodological challenges arise when, say, examining the effect of variation in school climates on pupils' academic performance. This is because multiple pupils are exposed to the same school. Such a "clustering" makes the observation, i.e., the pupils, from the same unit at a higher level, i.e., the school, no longer independent. Multilevel modeling responded to these concerns by correcting for the biases in parameter estimates resulted from clustering.

The ability of the multilevel modeling to examine developmental change and stability is obviously attractive because, after all, inter-individual differences in intra-individual changes are the essence of life-span developmental psychology (Baltes & Nesselroade, 1979). In longitudinal studies, time-ordered observations are nested within individuals. When pooled across individuals, repeated measures obtained from the same individual are not independent in a statistical sense. The so-called auto-correlated errors or serial correlations often present challenges to statistical modeling because, as in the case of clustered pupils, the independent assumption is not tenable. Not only does multilevel modeling provide correct standard errors and thus parameter estimates, but it is also a way to separate the total variance in an outcome variable into intra- and inter-individual portions.

The popularity of multilevel modeling has also been fueled by recently published, wonderfully written, and easily accessible texts (Goldstein, 1995; Kreft & de Leeuw, 1998; Raudenbush & Bryk, 2002, Singer & Willett, 2003). Its

popularity is by no means restricted to developmental research: It contributes significantly to the resolution of the long-standing predicament in studying micro-macro links in sociology (Mason, Wong, & Entwisle, 1983), to issues of experimental design (Raudenbush, 1993) and preventive intervention trials (Raudenbush, 1997), and to statistical models of genetically informed sibling data (Guo & Wang, 2002), just to mention a few examples. Even during manuscript or grant proposal reviews, reviewers tend to urge the employment of the so-called "state-of-the-art" statistical procedures among which the multilevel modeling is frequently a method of choice.

These are of course exciting advances in measuring and modeling multilevel data. We are almost guaranteed to expect to see an even sharper increase in applications of multilevel modeling in developmental research. In the midst of such an optimism, however, it is not too early to remind applicants of multilevel modeling to take special care to possible violation of distribution assumptions, covariance assumptions, and metric of measurement, three issues mentioned specifically by Bryk and Raudenbush (1987, p. 156).

Multilevel modeling has a special appeal to social and developmental researchers because of its ability to model hierarchically structured data and to estimate change parameters as well as predictors of these parameters. Take a simple two level model for example,

$$y_{ij} = \beta_{0i} + \beta_{1i}x_{ij} + u_j + e_{ij}$$

where  $y_{ij}$  is the variable for the  $i$ th observation at level one and the  $j$ th cluster at level two. For example,  $y_{ij}$  can be a depression score assessed at  $i$ th occasion for  $j$ th individual. The subscript  $i$  for the intercept,  $\beta_{0i}$ , (e.g., the starting level of depression) and slope,  $\beta_{1i}$ , (how much it changes) indicates that these level-1 parameters vary from unit to unit at level-2. A standard assumption is that the parameters for the random effects are  $E(u_j) = E(e_{ij}) = 0$  and  $\text{var}(u_j) = \sigma_u^2$  and  $\text{var}(e_{ij}) = \sigma_e^2$ , meaning that these level-1 parameters have normal distribution. This assumption, however, is rarely assessed empirically. With increased applications of multilevel modeling expected on samples of small size, however, care needs to be exercised. This is because violation of the normality assumption is more consequential to small sample application where one or two outliers, say, a couple of pupils with extremely sharper increase in the outcome variable among generally flat slopes of his/her schoolmates, can seriously bias estimated results. Therefore, when analyzing hierarchically nested data, attention to the violation of linearity assumption, normality assumption, and assumptions about error variance/covariance structure is of significant importance. Singer (2002) has provided some general guidelines for exploring possible violation of assumption about error structures in SAS PROC MIXED models.

Multilevel modeling also has a special appeal for analysis of hierarchically structured data because it provides correct standard errors for significance tests when observations are clustered at higher-level units and are no longer independent. For example, repeated measures, e.g., depression scores, obtained from the same individual over multiple occasions, are not independent observations as



those obtained from randomly selected individuals. Examining the within-cluster intra-class correlation,  $\rho = \sigma_u^2 / (\sigma_u^2 + \sigma_e^2)$ , gives an indication of whether the independent assumption is violated. When such an independent assumption is violated, as is often the case in general linear models, the standard errors are underestimated and, thus, confidence intervals and significance tests tend to be biased. Although applicants of multilevel modeling are generally aware of the importance of intra-class correlation, they have no guidelines with regard to what constitute a non-ignorable intra-class correlation coefficient. Does a statistically significant intra-class correlation coefficient imply that multilevel modeling is needed in place of ordinary regression? Or is a magnitude of  $\rho = .05$  large enough to warrant multilevel modeling instead of ordinary regression? Some rules of thumb for how to gauge the appropriateness of each technique would certainly help.

Moreover, there is no clear guideline for designing a project to which multilevel modeling will be applied. Of course, designing any study would have to be tailored towards answering substantive questions. In order to answer the substantive questions, researchers need to know the requirements for applying particular analytical tools to the data. For example, researchers who want to apply multilevel modeling to study neighborhood effects would like to know what the minimum observations should be in a geographically defined neighborhood and how many neighborhoods are needed for estimating a multilevel model. They would like to know what the methodological constraints are for appropriate estimation of a multilevel model. These are not only a statistical power issue but they also are a budgetary issue. Such information would be tremendously useful for substantive researchers who want to design a study with application of multilevel modeling in mind.

When modeling intra-individual change, any prudent researcher could not help asking a question: How will I describe accurately the change of the phenomenon under study? Accuracy in describing true change involves at least two components: accurate model specification and accurate assessment of the phenomenon under study. Although specifying change parameters accurately is largely an issue of theory, whether true change will be captured is also heavily dependent on accurate measurement. A thorny problem arises because we usually model trajectories based on the assumption that the measure we used indeed is not only reliable but also sensitive to detecting change. Unfortunately, sensitivity to change has not been a serious consideration of psychometric investigation when cross-sectional assessment was the norm rather than exception. The classic test theory has mostly been concerned with test-retest reliability. Interestingly, the higher the test-retest reliability a measure displays, the smaller the rank-order individual change it has during the test-retest period. Thus, the paradox is that if one chose a highly reliable measure, one might have chosen a measure less sensitive to change. As most, if not all, psychological measures were developed without much consideration for their sensitivity to change, we know little about whether the results from multilevel modeling with conventional measures provide accurate

estimation of true change. Collins (1991, 2002) was among the first to tactfully point out this disparity and develop procedures to examine both reliability and change in categorical variables.

What kinds of metric would be most appropriate for detecting change? The usual 5- or 7-point scale employed in psychological assessment may be inadvertently restrictive by having ceiling and flooring effects. It is also difficult to know whether a person scored a "4" (I am happy) today on a 5-point scale item has indeed one-point increased happiness than yesterday when she scored a "3" (I am somewhat happy). Even if she does, what does that one point actually mean in terms of happiness? Thus, growth curve modeling of changes in earning (measured in dollars) leaves little room for ambiguity when inflation is taken into account, whereas a growth curve model for trajectories of positive mood leaves much to be speculated about: Does an increased number in rating of positive mood really mean the person become happier and happier?

Developmental researchers should seriously consider the three measurement requirements for modeling longitudinal data listed by Singer and Willett (2003): equitable metric, equal validity, and equal precision in meanings over time. These requirements are not trivial and they are often at odds with each other. The equitable metric requirement is usually the first to be considered: Researchers would like to have a measure with the same metric across time in order to model change. That is, if a measure has 5 items with 5-point scale format, the number of items and their answering format should be maintained across all the assessment occasions. In one of the first applications of the growth curve model, McArdle (1987) used a clever scaling strategy by transforming the WISC data into "maximum percentage" of items that can be correctly answered. By doing so, individual scores over time can be compared in terms of their percentage of items that were "correctly answered."

This equitable metric requirement is often not easy to meet, however, in long-term longitudinal study because of the second measurement requirement – equal validity. Developmental researchers are keenly aware of the importance of selecting measures that are age- or developmentally appropriate. For example, the Child Depression Inventory (CDI) used for assessing depressive symptoms among children and adolescents has to be replaced with developmentally appropriate measures of depressive symptoms when the participants become adults. However, measures developed and validated for different age groups are often not on an equitable metric. The equal precision in meaning is even harder to evaluate. Developmentally speaking, the meaning of a measure for individuals over time is not expected to be constant. As individuals develop, their cognitive ability develops and their understanding of the meaning of the assessment tool should change. Brooks-Gunn, Rock, and Warren (1989) have stressed the importance of comparability of constructs across time. However, the comparability of meaning to participants over time has received little attention (Ge, Lorenz, Conger, Simons, & Elder, 1994). At this point, our measurement development appears to lag much behind the progression of statistical models.

***"The usual 5- or 7-point scale employed in psychological assessments may be inadvertently restrictive"***

About 18 years ago, Bryk and Raudenbush (1987) had cautioned the users of hierarchical linear models to pay added attention to the distribution assumption, covariance assumption and metric of measurement. This warning still rings true today. With the increased popularity of multilevel models, research designs that take the distribution assumption, covariance assumption, and measurement requirement into consideration will yield significantly more convincing results than those who do not consider these methodological issues.

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## Group-Based Modeling of Developmental Trajectories<sup>1</sup>

Daniel S. Nagin

E-mail: [Dn03@andrew.cmu.edu](mailto:Dn03@andrew.cmu.edu)

The H.J. Heinz III School of Public Policy

Carnegie Mellon University, Pittsburgh, PA, USA

Psychologists call the evolution of an outcome over age or time—its developmental trajectory. Most standard statistical approaches for analyzing developmental trajectories are designed to account for individual variability about a mean population trend. However, many of the most interesting and challenging problems in longitudinal analysis have a qualitative dimension that allow for the possibility that there are meaningful sub-groups within a population that follow distinctive developmental trajectories that are not identifiable *ex ante* based on some measured set of individual characteristics (e.g. gender or socioeconomic status). In psychology, for example, there is a long tradition of taxonomic theorizing about distinctive developmental progressions of these sub-categories. For research problems with a taxonomic dimension the aim is to chart out the distinctive trajectories, to understand what factors account for their distinctiveness and to test whether individuals following the different trajectories also respond differently to a treatment such as a medical intervention or major life event such as the birth of a child.

Because traditional approaches to longitudinal analysis do not lend themselves to the identification and analysis of distinctive developmental trajectories, researchers have commonly resorted to creating the theorized groups using a blend of analysis and insight that is inevitably subjective. The use of subjective classification rules is fraught with statistical dangers including most prominently the dual risks of creating groups that reflect only random variation and failing to identify important but unusual developmental patterns. Uncertainties about the reliability of the group assignments may also invalidate conventional statistical tests of differences across groups.

Over the past fifteen years I have worked on the development of an alternative approach, based upon a

<sup>1</sup> This article is substantially excerpted from Nagin (2005) and describes research that was conducted with generous financial support from the National Science Foundation (SES-9911370), the National Institute of Mental Health (RO1 MH65611-01A2), and the NSF sponsored National Consortium on Violence Research.



formal statistical model, for conducting group-based analysis of developmental trajectories. Key collaborators in this enterprise have included Ken Land and Richard Tremblay. The culmination of the effort is my recent book *Group-Based Modeling of Development* published by Harvard University Press.

Rather than assuming the existence of developmental trajectories of a specific form before statistical data analysis begins, the group-based method provides the capacity for testing whether the hypothesized trajectories emerge from the data itself. It also provides an exploratory capacity to identify previously unrecognized developmental patterns. As such, it can be thought of as a methodology for identifying meaningful groups in time-based data. It also provides the capacity for statistically identifying the factors that both predict and alter these distinctive time-based progressions.

Much research on human development aims to identify distinctive life trajectories and to understand the complex set of forces that propel people down these very different life paths. The methodology is designed to support such research by providing the statistical capacity for linking distinctive trajectories with characteristics of individuals and their environments that might account for qualitative differences across persons in their developmental course. Human behavior, however, is not immutable; for example, trajectories of drug abuse may be altered by treatment or major life events. The group-based method is also designed to provide a statistical basis for identifying the forces that alter life trajectories.

Across all application domains, this group-based statistical method lends itself to presentation of findings in the form of easily understood graphical and tabular data summaries. In so doing, the method provides statistical researchers with a tool for figuratively painting a statistical portrait of the predictors and consequences of distinct trajectories of development. Data summaries of this form have the great advantage of being accessible to non-technical audiences and quickly comprehensible to audiences that are technically sophisticated.

### Group-based Trajectory Modeling Contrasted with Standard Growth Curve Modeling

Hierarchical modeling and latent curve analysis are two important alternative approaches to the group-based methodology for modeling developmental processes. Like the group-based approach these two alternatives are designed to provide a statistical tool for measuring and explaining differences across population members in their developmental course. Because all three approaches share the common goal of modeling individual-level heterogeneity in developmental trajectories, each must make technical assumptions about the distribution of trajectories in the population. It is these assumptions that distinguish the three approaches.

While the assumptions underlying hierarchical modeling and latent curve analysis differ in important respects, they also have important commonalities. For our purposes here one commonality is crucial: both model the population distribution of trajectories based on *continuous* distribution functions. Unconditional models estimate two key features

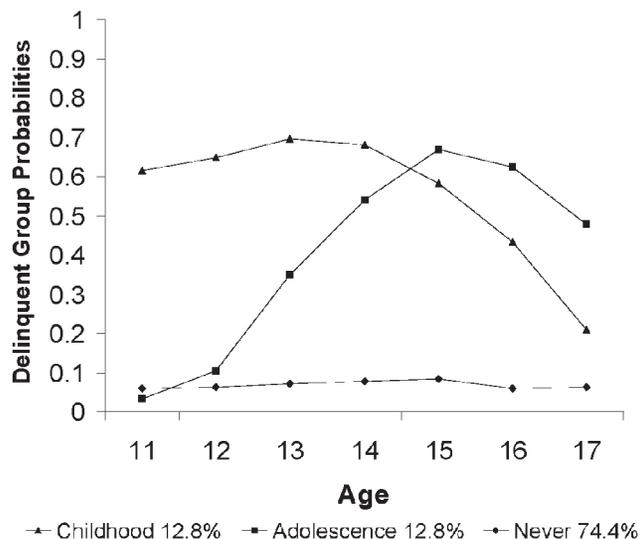
of the population distribution of trajectory parameters—their mean and covariance structure. The former defines average growth within the population and the latter calibrates the variances of growth throughout the population. The conditional models are designed to explain this variability by relating trajectory parameters to one or more explanatory variables.

Modeling individual-level differences requires that assumptions be made about the distribution of trajectory parameters in the population. Both hierarchical modeling and latent curve analysis assume that the parameters are continuously distributed throughout the population according to the multivariate normal distribution. The group-based methodology takes a qualitatively different approach to modeling individual differences. Rather than assuming that the population distribution of trajectories varies continuously across individuals and in a fashion that can ultimately be explained by a multivariate normal distribution of population parameters, it assumes that there may be clusters or groupings of distinctive developmental trajectories that themselves may reflect distinctive etiologies. In some applications, the groups may be literal entities. For example, the efficacy of some drugs depends on the users' genetic make-up. However, in many other application domains, the groups should not be thought of as literally distinct entities. Rather they serve as a statistical approximation to a more complex underlying reality.

An application of this group-based method is illustrated in Figure 1. The data were assembled as part of a Montreal-based study that tracked 1,037 males. Assessments were made on a wide range of factors. Among these were annual self-reports from age 11 to 17 about involvement with a delinquent gang. Application of the group-based method to this gang involvement data identified the three highly distinct groups shown in the figure (Lacourse, Nagin, Vitaro, Claes & Tremblay, 2003). The trajectory for each group is described by the probability of gang membership at each age. One trajectory, called the never group, is estimated to make up 74.4% of the population. This group's probability of gang membership was very small over all ages. The

**“Human behavior, however, is not immutable”**

Figure 1. Trajectories of Gang Membership



second group, called the childhood onset group, began at age 11 with a high probability of gang membership that modestly rises till age 14 and declines thereafter. The third group, called the adolescent onset group, had a near-zero probability of gang membership at age 11, but thereafter the probability rose to a rate that actually exceeded that of the childhood onset group. The latter two groups are each estimated to constitute 13.4% of the sampled population.

Had standard growth curve modeling methods been applied to these data, the product of the analysis would have been entirely different. The counterpart to the results in Figure 1-1 would have been the unconditional model which would have described the average probability trajectory of gang involvement at each age from 11 to 17 and an associated set of variance parameters measuring the population variability about this mean trajectory. Thus, the points of departure of the two modeling approaches for drawing inferences about data are fundamentally different. The growth curve approach aims to identify the factors that account for individual variability about the population's mean trajectory of development. By contrast, the group-based approach frames questions of statistical inferences in terms of the trajectory group—what factors distinguish group membership and how do groups differ, if at all, in their response to events that might alter a trajectory.

***“This is only natural because standard growth curve analysis has its roots in analysis of variance.”***

### ***For What Type of Problem is the Group-Based Methodology Best Suited?***

For what types of problems is the group-based approach more appropriate than standard growth curve modeling and conversely, for what types of problems is the standard approach a better fit? This is a question without a clear answer. Still some guidelines are possible. One guideline relates to the adjective “growth” that modifies “curve modeling.” The prototypical application of standard growth curve modeling involves a process in which populations members follow a common developmental pattern of either increase or decline. Raudenbush (2001, p. 59) offers language acquisition as a quintessential example of such a process. Standard growth curve methods are well suited for analyzing such developmental phenomena because it is reasonable to assume that most individuals experience a common process of growth or decline, albeit at different rates. However, there are large classes of developmental phenomena for which the conception of a common growth process does not naturally fit. Raudenbush describes the population differences for this class of problems as “multinomial” and for such problems he recommends a group-based approach as particularly appropriate. Raudenbush uses depression as an example. He observes: “It makes no sense to assume that everyone is increasing (or decreasing) in depression... many persons will never be high in depression, others will always be high, while others will become increasingly depressed.”

The basis for Raudenbush's distinction between the developmental processes underlying language acquisition and depression is fundamental and cannot be overstressed. The former are appropriately analyzed by conventional analysis of variation; the latter are not. Because the vocabularies of all young children from normal populations

increase with age, it is sensible to ask questions such as: What is the average growth curve of children's vocabulary over a specified age range? How large is the variation across children in their individual-level language acquisition growth curves? How do such “between person” variations relate to factors such as the child's cognitive functioning and parental education? How are “within person” changes in acquisition related to changes in interactions with primary caregivers due, for example, to parental conflict?

These questions are framed in the language of analysis of variance as reflected in the use of terms such as “within person change” and “between person change.” This is only natural because standard growth curve analysis has its roots in analysis of variance. Like analysis of variance, growth curve analysis is designed to sort out factors accounting for variation about a population mean.

To meaningfully frame an analysis in the conceptual apparatus of analysis of variance requires that it be sensible to characterize population differences in terms of variation about the population mean. For processes such as language acquisition the mean trend is, in fact, a sensible statistical anchor for describing individual variability. However, for many processes evolving over time or age, it is not. For example, it makes no sense to frame a statistical analysis of population differences in the developmental progression of attention deficit disorder (ADD) in terms of variation about the mean trajectory of ADD, because ADD is the exception, not the norm, within the general population. Other examples of evolving behavioral phenomena that are not properly described in terms of variation about a population mean are most forms of psychopathology and abuse of both licit and illicit drugs.

The assumption that all individuals follow a process that increases or decreases regularly within the population may also be violated because there may not be a single explanation for the differences in the developmental trajectories of subpopulations. For example, Nagin and Tremblay (2001) found that a host of predictors involving the individual's psychological make-up and family circumstances distinguished individuals following low versus high trajectories of physical aggression in childhood. However, a comparison of two distinct sub-populations of high childhood trajectories—those following a trajectory of chronic aggression versus those who started childhood with high aggression but later declined—revealed that only two maternal characteristics distinguished these groups. Using standard growth curve modeling methods, it would have been very difficult to identify this important difference in variables that distinguished among trajectories of childhood physical aggression. Identification of such differences is far easier with a methodology that clusters individuals with similar developmental trajectories.

A second guideline concerns the motivation for the analysis. One common aim of analyses of longitudinal data is to uncover distinctive developmental trends in the outcome variable of interest. For example, do sizable numbers of youths follow a trajectory of adolescent onset conduct disorder? The group-based approach is ideally suited for testing whether such distinctive patterns are present in the data. By contrast, another common aim of developmental studies is to test whether some identifiable



characteristic or set of characteristics are associated with individual differences in trajectories of development. An example is whether trajectories of conduct disorder differ across sexes. For this type of problem, standard growth curve modeling provides a natural starting point for framing the statistical analysis—a comparison of the mean trajectories for boys and girls. Thus according to this second guideline, the group-based approach lends itself to analyzing questions that are framed in terms of the shape of the developmental course of the outcome of interest, whereas standard growth curve modeling lends itself to analyzing questions framed in terms of predictors of the outcome's developmental course.<sup>2</sup>

A third guideline concerns the possibility of path dependencies in the response to turning point events such as marriage or to treatments such as hospitalization for a psychiatric disorder. Path dependencies occur when the response to a turning point event or treatment is contingent upon the individual's developmental history. For example, Nagin, Pagani, Tremblay & Vitaro (2003) find that the seeming impact of grade retention on physical aggression depended upon the child's trajectory of physical aggression. The subsequent physical aggression of children who had been following trajectories of little physical aggression or of chronic physical aggression appeared to be unaffected by the event of being held back in school. By contrast, the physical aggression of individuals who had been following trajectories of declining physical aggression seemed to be exacerbated. Such path dependencies are commonplace in the literature on human development (Elder, 1985). Indeed the possibility of path dependencies is a key rationale for longitudinal studies. The group-based trajectory model is well suited for identifying and testing whether the response to a turning point event or treatment is contingent upon the individual's developmental trajectory.

Laying out guidelines for the use of alternative statistical methods is a precarious exercise. Users naturally desire bright line distinctions. Yet bright line distinctions are generally not possible. The first guideline implies that developmental processes can be cleanly divided between those involving regular growth or decline and those that do not. The reality is that for many developmental processes it is not possible to confidently make this distinction. The second guideline implies that the objective of an analysis can be classified as either identifying distinctive developmental trajectories or testing predictors of developmental trajectories. The reality is that most analyses have both objectives. The third guideline might be interpreted as implying that it is not possible to identify path dependencies with conventional growth curve models. This is not the case. Stated differently, both methods are designed to analyze change over time. The group-based method focuses on identification of different trajectory shapes and on examining how the prevalence of the shape and the shape itself relates to predictors. By contrast, standard growth curve modeling focuses on the population mean trajectory and how individual variation about that mean relates to predictors. Thus, the alternative approaches are best thought of as complementary, not competing.

<sup>2</sup> I thank Steven Durlauf and Wayne Osgood for pointing out this important distinction.

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## The Application of a Person-Oriented Approach in Longitudinal Research on Individual Development

Lars R. Bergman

Department of Psychology, Stockholm University  
Stockholm, Sweden

E-mail: [lrb@psychology.su.se](mailto:lrb@psychology.su.se)

and

Bassam M. El-Khoury

Department of Psychology, Stockholm University  
Stockholm, Sweden

E-mail: [Bassam.el-Khoury@stadshuset.stockholm.se](mailto:Bassam.el-Khoury@stadshuset.stockholm.se)

By person-oriented research, we mean research that focuses on the person as a functioning totality within the area of study. The person "as a whole" then comes into focus as the main conceptual and analytical unit, often realized by studying patterns of values in the relevant factors. This approach can be contrasted to variable-oriented research in which the focus instead is on the variable as the main unit. This approach is much more common but is outside the scope of this article.

### Theoretical and Research Strategic Fundamentals of the Person-Oriented Approach

The person-oriented approach is founded in the holistic-interactionistic paradigm. This paradigm is central in the new developmental science (Cairns, Elder, & Costello, 1996) and a basic proposition there is that individual development can be described in terms of dynamic and adaptive processes in which different factors in the individual (mental, emotional, biological, and behavioral), and factors in the environment (social, cultural, and physical) are involved (Magnusson, 1995). Magnusson and Allen (1983) summarized the person-oriented approach in the following

way: "The person oriented approach to research (in contrast to the variable centered approach) takes a holistic and dynamic view; the person is conceptualized as an integrated totality rather than as a summation of variables" (p. 372). Of course, in a broad, more superficial, sense there is nothing new in this approach; see Magnusson (1998) for a historical overview of earlier theorists that includes Willem Stern, Gordon Allport, and Jack Block. What is new is that during the last decades the holistic-interactionistic paradigm and the person-oriented approach have matured, expanded, and been specified so that they now provide a scientific basis for carrying out empirical studies on individual development.

Bergman and Magnusson (1997) made the following five assumptions about the study of development within a person-oriented framework:

1. The process is partly individual-specific.
2. The process is complex and contains many interacting factors at different levels.
3. There is coherence and structure in individual growth and in differences in individuals' process characteristics.
4. Lawful processes occur within structures that are organized and function as *patterns* of operating factors, where each factor derives its meaning from its relations to the others.
5. Although, theoretically, there is an infinite variety of differences in process characteristics and observed states at a detailed level, there will, on a more global level, often exist only a small number of more frequently observed patterns ("common types"). This assumption is made both intra-individually and inter-individually and is claimed by Bergman and Magnusson (op. cit.) to be supported by a variety of considerations.

It should be pointed out that most research on individual development has been variable-oriented - where the variable is treated as the main conceptual and analytical unit (Wohlwill, 1973). In both theory formulation and statistical analyses the variable is a key concept. The results are interpreted from a mapping of the observed relations between variables to the expected relations among the theoretical constructs. However, from an interactionistic perspective, such a variable-oriented approach has limitations, as pointed out by, for instance, Bergman (1998), Cairns (1983), and Magnusson (1995). Relationships between variables and across individuals can be difficult to translate into an understanding of individual developmental processes due to the variable- and group-oriented, not individual-oriented, nature of the information. Another consideration is that if a standard linear model is used, the statistical analyses are usually based on a variance-covariance matrix. Such an approach disregards aspects of the data not reflected by this matrix. Higher-order interactions in the data can be lost. And what is worse, the researcher will not know it because the fit of the model is usually only tested in relation to this matrix.

We claim that, from the theoretical perspective we outlined above, a person-oriented approach based on the study of patterns of values in relevant variables is useful in a number of settings. When applying such a method it is crucial that the key aspects of the system under study are reflected by the variables chosen to be included in the observed patterns. Usually the interest is focused on finding

**"A variety of person-oriented methods could be used..."**

and studying typical value patterns, i.e. value patterns that occur frequently in the data set and, hence, characterize many individuals. Those may not appear with the same frequency under varying conditions but if the basic system design is the same we expect the same dominant typical patterns to emerge again and again. A variety of person-oriented methods could be used and it is beyond the space limitations of this article to present even briefly these methods, see for instance Bergman, Magnusson and El-Khoury (2003) or von Eye (1990) for overviews. Instead, to illustrate how a person-oriented approach may be implemented we will present LICUR, a basic person-oriented method that we have found useful in a variety of contexts

**Linking of Clusters after Removal of a Residue (LICUR)**

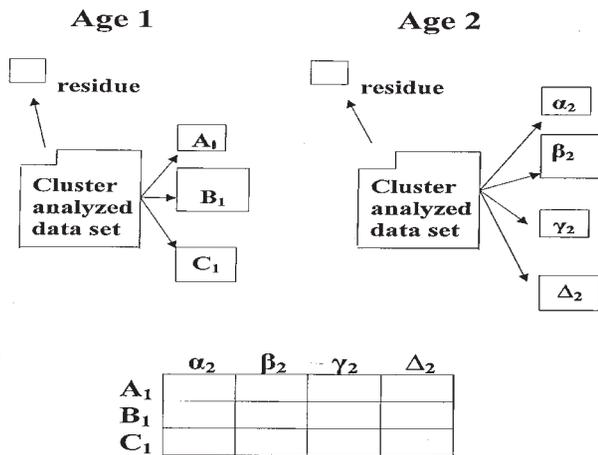
In LICUR, a classification is carried out separately at each age for a longitudinal sample and the results of the different classifications are linked between adjacent ages. In this way, individual class membership can be studied across age. It is assumed that the profiles of scores are based on interval scaled variables and that averaged squared Euclidian distance is a suitable measure of dissimilarity between profiles.

The basic steps in LICUR are:

1. In a first step, at each age separately a residue of unclassifiable persons is removed from the sample and is analyzed separately. This is done to remove multivariate outliers before the cluster analysis is carried out. The residue approach may be important for both theoretical and technical reasons, as explained by Bergman (1988). From our experience, for most data sets 1-3% of the cases are identified as residue objects.
2. In a second step, at each age separately a hierarchical cluster analysis is carried out. Different clustering algorithms are here possible to use but for standardization purposes it may be useful to rely on Ward's method (Ward, 1963). A set of four LICUR criteria helps in deciding on an optimal number of clusters.
3. Usually the age-specific analyses stop here but if the focus is strongly on achieving as homogenous clusters as possible, the initial cluster solutions can provide start solutions for k-means relocation cluster analyses where subjects are relocated to maximize the explained error sum of squares and minimize the heterogeneity within clusters. However, when this is done the hierarchical property of the cluster solution is lost, i.e., the solution with  $w$  clusters is no longer identical to the solution with  $w-1$  clusters with one of the  $w-1$  clusters split in two.
4. In the final step, cluster membership is linked across ages by cross-tabulating age-adjointing classifications and testing for significant types (over frequented cells) of cluster membership combinations. For this purpose, exact cellwise tests could be used (Bergman & El-Khoury, 1987).

We claim that LICUR is a robust and basic method that is applicable in a number of settings. You can study structural stability and change by comparing cluster means in the variables between ages to see if the same typical profiles emerge at different ages. You can study individual stability and change by searching for significant types of cluster membership between two adjacent ages. It should be noted

**Figure 2. Graphical illustrations of LICUR for a special case. Capital letters indicate cluster memberships and sub indices indicate age.**



For instance, A<sub>1</sub> similar to  $\alpha_2$  indicates structural stability and if also A<sub>1</sub> ×  $\alpha_2$  is a type it indicates individual stability.

that LICUR may also be useful when different variables are measured at the different ages and during periods of dramatic developmental changes. A detailed description of LICUR is given in Bergman, Magnusson, and El-Khoury (2003). We have developed a statistical package for person-oriented methods, SLEIPNER, which conveniently performs a LICUR analysis as well as many other types of person-oriented analyses (Bergman & El-Khoury, 1998; Bergman, Magnusson & El-Khoury, 2003). SLEIPNER and its manual is freely available on the internet from the following website: [HTTP://www.psychology.su.se/SLEIPNER](http://www.psychology.su.se/SLEIPNER).

## Discussion

In a special issue of the *Merrill Palmer Quarterly* (Laursen & Hoff, in press) dealing with a variable-oriented vs. a person-oriented approach in longitudinal research, both types of approaches were applied to empirical data sets in a series of articles. One conclusion from these articles seems to be that often the two approaches should be regarded as complementary and that each teaches you something partly different about reality. In a discussion of these articles this was partly acknowledged but it was also pointed out that the approaches can be antagonistic in that for each method to be appropriate certain assumptions must be fulfilled (Bergman & Trost, in press). From our person-oriented theoretical perspective, it is, of course, natural to use a person-oriented methodological approach. With this we mean, for instance, that theoretical formulations of relevant individual patterns to study and their expected structure and relationships should methodologically be matched by using a pattern-based method involving variables in the studied pattern that match these theoretical considerations. Within this framework it appears questionable to instead rely on a standard variable-oriented approach, ignoring the information value in the pattern as a whole and assuming that group statistics describe individual development (the ergodic assumption, see Molenaar, 2004 or the assumption about dimensional identity see, von Eye and Bergman, 2003).

At the heart of the choice of an appropriate method is, of course, the match between the theoretical conceptualizations and the assumptions of the statistical method applied. As was argued above, from an interactionistic perspective this match might in many cases be better using a person-oriented rather than variable-oriented method. However, we would like to come even further in having the methodology and statistical model used match theoretical conceptualizations, like continuous interactions or nonlinearity, and providing a model of the change process. For this purpose, methods for the study of dynamical systems appear promising. Models in this context aim at indicating a formula for how change happens in the system, to describe the motor of change. Many phenomena are best described by nonlinear dynamic systems (NOLIDS; Gleick, 1987) that now also have been introduced to psychology (Barton, 1994).

It is probably fair to say that functioning models of this type are mostly found in areas where controlled experiments are feasible (Kelso, 1995) but although there are many obstacles to the successful modelling of developmental phenomena using NOLIDS (Bergman, 2002), the rewards of successful modelling are great in that a mathematical model of a process is obtained that can mirror the holistic-interactionistic theory the researcher holds. The model also gives information about how change and stability is created and how it is contingent on contextual factors. Parameter estimation in NOLIDS can be very difficult but a method for using structural equation modeling for parameter estimation has been developed by Boker & Nesselroade (1998) and looks promising. We believe that for longitudinal research in nonexperimental settings the promise of NOLIDS at this stage of development lies foremost in the import of its ideas and powerful concepts. Person-oriented methodology has done this to some extent, for instance in that its key concept of "typical value pattern" is in many respects similar to the concept of "attractor" in NOLIDS.

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## COMMENTARY: Improving the Practice of Longitudinal Research

Judith D. Singer

Harvard Graduate School of Education  
Cambridge, Massachusetts, USA  
E-mail: [singerju@gse.harvard.edu](mailto:singerju@gse.harvard.edu)

and

John B. Willett

Harvard Graduate School of Education  
Cambridge, Massachusetts, USA  
E-mail: [willetjo@gse.harvard.edu](mailto:willetjo@gse.harvard.edu)

*"I entered the field before the advent of sophisticated growth modeling techniques and they have always aroused my suspicion to some extent. I have tried to keep up and to maintain an open mind, but parts of my review may be naive, if not inaccurate."*

Anonymous reviewer of a paper submitted to  
*Developmental Psychology*, 2003

*"All models are wrong, but some are useful."*

George E. P. Box (1979, p. 202)

Behavioral science research is in the midst of a methodological sea change. Looking beyond the details of their individual particular arguments, each of these essays reflects is a commentary on what has happened now that technical advances in statistics have finally caught up to with prior decades' theories about human development. Gone are the days when those interested in studying change were advised by experts such as Lee Cronbach and Lita Furby in their classic 1970 paper "How should we measure "change"—or should we?" to "frame their questions in other ways." It is now well accepted that you can study change—and do it well—as long as you have possess appropriate longitudinal data. The increasingly popular exhortation to collect longitudinal data—accompanied by rapid progress in statistical analysis and desktop computing—has placed sophisticated models for analyses of individual change within the easy grasp of every empirical researcher.

### It's Not Just the Data; It's What You Do with Them that Counts

But are longitudinal data being analyzed as wisely and carefully as they should? When completing our recent book on longitudinal analysis (Singer & Willett, 2003), we tried to get a sense of current analytic practices by reading (an admittedly haphazard sample of) 150 empirical papers published in 2003 in selected major journals of the *American Psychological Association* (such as *Developmental Psychology* and the *Journal of Personality and Social Psychology*). We found uncovered a proverbial "good news, bad news" story. True, we were delighted by the high prevalence of longitudinal designs evident in our reading, accounting which accounted for nearly half (47%) of the papers we read (up from 33% in a parallel survey that we had completed we did of papers published just 4 years earlier, in 1999). But depression soon set in when we read the papers' "Methods Sections" in order to assess how researchers were analyzing had analyzed the longitudinal data that they had taken they took such great pains (and time, and money) to collect.

**"Behavioral science research is in the midst of a methodological sea change"**



To our astonishment, only 15% of the papers that had reported analyses of longitudinal data fit had actually fitted some type of growth model (generously defined), even though most of the research questions being posed in the papers focused on individual change and development. Frighteningly large percentages of the papers instead used methods that once might once have been called well-intended but today are known we know to be inappropriate: 32% used “wave-toon-wave” regression (repeatedly regressing later waves of data on earlier waves); 17% conducted “separate but parallel” analyses (repeatedly fitting a cross-sectional regression model to each wave of data); 8% combined waves of data together using *ad hoc* methods (usually averaging across waves); and 7% set aside waves of data (particularly disconcerting given the energy required to collect these additional waves in the first place). And Even the 29% of papers that used repeated measures analysis of variance—which is a not necessarily inappropriate reasonable technique, but analytically constrained—obviously missed the opportunity to posit an explicit model for change (and inevitably bought into a restrictive set of assumptions that was rarely examined). Reading this issue’s commentaries an empirical researcher might conclude that everyone knows what to do with longitudinal data; all the field needs is more sophisticated evaluation of the methods’ appropriateness. In our experience, it appears as though ignorance of appropriate methods for the analysis of longitudinal data is far more common in empirical research than most developmental psychologists believe (and methodologists wish).

### So How Can We Improve the Practice of Longitudinal Research?

Empirical psychology is currently facing two countervailing dilemmas, perhaps both more insidious than their prior bias away from against the study of change.

The first order problem/dilemma asks is how we can to encourage the wider and appropriate use of appropriate longitudinal methods at a time when the field’s gatekeepers—the journal reviewers, the external funders, and the tenure committee members—trained in a prior era, may not fully appreciate the potential gains/benefits. The opening quotation to this our commentary was written by an anonymous reviewer confronted with a paper written by several of our colleagues. This paper that presented an (admittedly complex) individual growth model characterizing describing vocabulary development in toddlers. The paper it was rejected by *Developmental Psychology*, in part, because the methods seemed too “difficult” (in the words of another anonymous reviewer), and it was only insightful editors at *Child Development*—who took the time to solicit methodological reviews from experts in the field—that ensured that the paper would eventually be published (Pan, Rowe, Singer & Snow, 2005 in press).

The second order problem/dilemma is the one raised—albeit in somewhat different ways—by each of the commentaries papers in this special issue: How can we discourage methodological fetishism, whereby today’s new method *du jour* (i.e., individual growth modeling, group based modeling, or person-oriented methods) simply replaces yesterday’s (e.g., path analysis), without the necessary dose of skepticism, probing sensitivity analysis and constant admonishment to select a statistical method on the basis of that truly serves the research question (and not vice versa). No statistical method is a universal panacea, applicable to all research questions and data sets. Nor is it the It’s not a case of that “my

model’s better than your model.” Instead, methodologists need to develop and promote an array of models techniques suitable for addressing the many different types of research questions posed by today’s theoreticians that can then be tested using sound data. With an array of options, the field can then have the equivalent of a “market test” that evaluates whether the method’s underlying premises makes sense (e.g., Are there really discrete groups of trajectories?), whether its assumptions are tenable (e.g., Is growth really linear or it is more likely non-linear), and whether its resultant insights shed new light on important research questions (e.g., We needed a study to demonstrate this?).

As statisticians who have devoted much of our professional lives to improving the practice of multilevel modeling, individual growth modeling, and survival analysis, we applaud the editors of the ISSBD newsletter for dedicating precious space to these important methodological issues. Taken together, the essays in this special issue identify many desiderata—the need for equatable measures, the necessity for careful model specification, the importance of examining examination of the tenability of distributional assumptions—of for any longitudinal study. So, too, do they identify areas in which more additional methodological inquiry development is needed, especially concerning around issues of research design, including the number and spacing of the waves of data, sample size and measurement. Sound design and execution of a cross-sectional study is challenging; sound design of a longitudinal study is that much more complex even more so.

It is our hope that discussions of methodology appearing in prominent substantive forums like the ISSBD newsletter this will prompt researchers to explore the possibility of applying the new methods in their research. We’re not arguing for unthinking adoption of any particular analytic approach,—nor are we arguing that any particular method is “the” solution. However, we—but we do believe that the most important contribution any of us can make right now is to encourage the methods’ sound application of appropriate analytic methods when appropriate whenever possible...which we believe is far more common than many empirical researchers currently understand.

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### COMMENTARY: Longitudinal Data Analyses: How to Abstract Developmental Variations

Lei Chang

Department of Educational Psychology

The Chinese University of Hong Kong, Hong Kong, China

E-mail: [leichang@cuhk.edu.hk](mailto:leichang@cuhk.edu.hk)

and

*Hongyun Liu*

Department of Psychology, Beijing Normal University,  
Beijing, China

Email: [hyliu@bnu.edu.cn](mailto:hyliu@bnu.edu.cn)

and

*Zhonglin Wen*

Center for Studies of Psychological Application  
South China Normal University, Guangzhou, China

Email: [wenzl@scnu.edu.cn](mailto:wenzl@scnu.edu.cn)

These are important and interesting papers with each making unique contributions to a discussion of longitudinal research methods. Dr. Cillessen's paper provides a comprehensive and insightful understanding of many crucial issues about longitudinal methods. Several of his points are worth regurgitating and ruminating (no clinical connotation intended here). (By the way, we believe one of the best ways to learn research methods is to regurgitate and ruminate what others have said just like our even-toed and hoofed mammalian conspecifics (i.e., such ruminants as goats, cows, and giraffes) that chew again and again and use a multi-chambered stomach to digest food). He correctly points out that, whereas there are abundant statistically sophisticated methods to analyze various kinds of time sequenced data, the key to conducting good developmental research lies in the interpretation of these methods and their results. For example, researchers, including editors, whom Dr. Cillessen was too polite to mention, often have the misconception that causal inference is automatically derived from longitudinal designs. (Remember being asked by editors to tone down your manuscript by acknowledging that future longitudinal studies may help to better infer causal relations?) Like their cross-sectional siblings, many longitudinal data are simply correlations, depicting how a set of variables co-vary over time. As Dr. Cillessen implied, the descriptive use of longitudinal data, i.e., how development projects itself across time points, is often as important as or more important than the predictive use of the data. Longitudinal measurement issues are equally important, as pointed out by both Dr. Cillessen and Dr. Ge. When age-appropriate measurements are used, there is often the need to statistically equate the different measurement units across age or data points. Standardization will not work. A possible solution lies in incorporating Item Response Theory or other test equating (Kolen & Brennan, 2004) into some existing longitudinal models to better calibrate age-related trajectories before modeling their "true ability score" variations. Dr. Cillessen also called for more methodology workshops. We hope future workshops can devote more attention to the above-mentioned "soft" or interpretation issues that can also be presented in relation to real research problems rather than merely showcasing statistical techniques.

The three other papers each presented or commented on a different longitudinal method. Incidentally and serendipitously for us commentators, these three methods are logically organized by the degree to which individual growth variations are abstracted and by the different analytical emphasis placed on these variations. Dr. Ge commented on Hierarchical Linear Modeling (HLM), which assumes and subsequently abstracts individual growth variations into one mathematical function. Such depiction of growth is parsimonious but, as has been pointed out by Dr. Nagin, the

presenter and inventor of the Group-Based Modeling technique, there is loss of information. The analytical emphasis of HLM is to model or account for these individual deviations from the common trajectory by individual-level variables. However, if one third of the individuals follow an increasing trajectory, one third is decreasing, and one third is flat, shouldn't these trajectory variations be depicted and, more importantly, accounted for by individual-level variables? The answer to this illustrative question lies in the statistical techniques of Dr. Nagin's group-based approach.

Of course, every technique has its Achilles heel. As Dr. Nagin might be chuckling by now (because we are tickling his feet), Group-Based Model assumes only between-group but not within-group variations in growth trajectories. Thus, there is loss of information as well. Had Dr. Nagin and Dr. Ge compared notes, as we commentators were blessed to do, they would have identified as a link between their two models the General Growth Mixed Model (GGMM, Muthén, 2003; Muthén & Shedden, 1999; Muthén, Brown et al. 2002.) If you read Chinese or, for that matter, if you do not but wish to learn, you may also consult a Chinese text on the related subjects (Liu & Chang, 2005). For the benefit of those statistically tuned readers, to whom we apologize for being wordy, pedantic, and obtuse, let us copy below a couple of equations of GGMM to illuminate our discussion on how growth variations may be differently abstracted.

Assuming individual  $i$  in class  $k$  (where  $k$  is the  $k$ th class of latent categorical variable,  $C$ , with  $K$  classes,  $k=1,2,\dots,K$ )

$$Y_i = \Lambda \eta_i = 1, 2, \dots, n$$

where  $Y_i$  is a vector  $Y_i' = (y_{i1}, y_{i2}, \dots, L, y_{iT})$  containing scores for individual  $i$  ( $i = 1, 2, \dots, n$ ) at  $t$  ( $t = 1, 2, \dots, T$ ) occasions;  $\eta_i$  is defined as a  $p \times 1$  vector of intercept and growth functions;  $\Lambda$  is a  $T \times p$  design matrix representing specific aspects of change;  $\epsilon_i$  is a  $T \times 1$  vector of residual terms for individual  $i$ , which has a  $T \times T$  covariance matrix  $\Theta_k$ , possibly varying across the trajectory classes  $k$  ( $k=1,2,\dots,K$ ).

$$\eta_i = \alpha_k + \gamma_k X_i + \zeta_i$$

where  $\alpha_k$  is a  $p \times 1$  vector containing elements of the intercept parameter of class  $k$  ( $k=1,2,\dots,K$ );  $X_i$  is individual-level predictor;  $\gamma_k$  is a  $p \times 1$  parameter vector containing the effects of  $X_i$  on  $\eta_i$ ;  $\zeta_i$  is a  $p \times 1$  residual vectors with a zero mean and  $p \times p$  covariance matrix,  $\Psi_k$ , possibly varying across the trajectory classes  $k$  ( $k=1,2,\dots,K$ ), if individual  $i$  belongs to class  $k$  and it is zero otherwise.

In words, GGMM contains a combination of continuous latent growth functions,  $\eta_i$  (e.g., intercept, linear slopes) and a latent categorical variable,  $C$ , with  $K$  classes that allow estimation of more than one growth pattern. Growth variation is thus abstracted into discontinuous or different statistical functions. Within each pattern of growth trajectory, individual variations are assumed and modeled. Between trajectory variations are equally modeled. Both Hierarchical Linear Model (as well as Latent Growth Curve Model) and Group-Based Model can be considered special cases of GGMM. When the latent categorical variable,  $C$ , has only one class ( $K = 1$ ), GGMM is reduced to HLM. When the growth function variances and covariances are constrained to zero within each latent class ( $\Psi_k = 0$ ), GGMM is reduced to Group-Based Model.

When allowing individuals to vary across multiple growth patterns still cannot account for the growth variations of the data, Dr. Bergman and Dr. El-Khouri provide a final panacea. In fact, Dr.

**“Dr Cillessen’s paper provides a comprehensive and insightful understanding of many crucial issues...”**



Bergman and Dr. El-Khouri showed us a different way of life, that of "liberty and freedom" because the Person-Oriented Approach assumes every individual is different and takes on his/her own growth variations. With this assumption, the person-oriented approach groups persons or abstracts data by persons rather than by variables. Incidentally, as Dr. Bergman and Dr. El-Khouri must also know, the world is divided into those who practice the person-oriented approach and those who do not. We confess that we have been the non-practitioners so far. However, from reading Dr. Bergman and Dr. El-Khouri, we have come to believe that the person-oriented approach might solve many abstraction problems that have been baffling variable-oriented developmental researchers. To end on an equally positive note, we hope our short commentary has been more person- than statistically oriented.

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## COMMENTARY: What Can We Learn about Development from Longitudinal Research?

Arnold Sameroff

Department of Psychology, University of Michigan  
Ann Arbor, Michigan, USA  
E-mail: [sameroff@umich.edu](mailto:sameroff@umich.edu)

Longitudinal research is the topic of this special section devoted to understanding its importance, issues, and new directions. The four articles have been relatively clear about new directions and the authors have described a range of analytic strategies; raised important issues about longitudinal analyses in terms of defining constructs, the choice of analytic approach, and the pitfalls of causal analyses; and underlined the importance of longitudinal research for studying continuity and discontinuity across time.

A key remaining question is how longitudinal research relates to the study of development. If development is defined simply as change over time in single constructs, or more complexly, in patterns of behavior, then we are on safe ground. However, if development involves "dynamic adaptive processes" among multiple individual and environmental factors as Bergman and El-Khouri (2005) argue or an examination of "how processes unfold" as Cillessen (2005) claims or Ge's (2005) description of "change of phenomena" or Nagin's "evolution of an outcome", then things become more complicated. Each of these phrases imply that development involves something far more intricate than changes in single variables or even patterns of variables for individuals or groups of individuals across time.

## New Directions in Longitudinal Methodology

With Cillessen (2005) giving an overview of the range of methodologies involved in longitudinal research, the other papers present comprehensive descriptions of three cutting-edge approaches related to variable and person-centered approaches. Ge (2005) fully describes current multilevel modeling in its historic and contemporary usage pointing to the advantages in using this procedure to examine change over time especially in nested models. The multilevel approach is ideal for integrating individual and contextual factors, especially in ecological models, for example, where students are nested in classrooms that are nested in schools that may be nested in neighborhoods or communities. Caveats are raised about the constructs to be measured. Growth

curves work very well where something actually grows over time like measurements of height or measurements of vocabulary. However, the variability across measurement points found in emotional constructs like depression or relative variables like IQ scores (where the mean at each age is set to a score of 100), may not index development, but rather individual ups and downs.

Nagin (2005) and Bergman and El-Khouri (2005) focus on group approaches. Nagin's work emphasizes the importance of identifying groups of individuals that follow different trajectories on a selected variable. He argues that such methodology is more appropriate for factors that do not show a normative increase or decrease over time. Linear and non-linear correlates of these trajectories can then be identified to illuminate why some groups change in the level of a specific behavior in contrast to other groups that don't. I find this to be an exciting approach that has not yet been fully actualized. Most published studies that use such methodologies typically end up with the same four trajectories: high-highs, high-lows, low-highs, and low-lows. Clearly these groups are of interest in that there are groups that begin in the same place and end up quite differently, and groups that begin in different places and end up quite similarly. However, such analyses do not go much beyond a simpler median split table. The advantage of the Nagin approach is that more than two time points can be used to identify trajectories. Hopefully, future work with this method will uncover more complex trajectories that have important developmental significance.

Bergman & El-Khouri also focus on identifying groups of similar individuals but use a multivariate approach to identify the groups at each time point. Although many studies do their clustering using only personal measures, there are increasingly more that include both individual and contextual variables so that patterns of individuals in context can be examined across time. Cross-time analyses are somewhat limited using this methodology in contrast to the multilevel and multigroup analyses discussed by Ge and Nagin. First, the clustering of variables at each time point often results in different patterns, and second the method does not yet incorporate information from multiple time points in the same analysis.

Unfortunately, three additional methodologies for longitudinal research mentioned by Cillessen were not given sufficient exposition in this group of papers—survival analysis, structural equation modeling, and dynamic systems analysis. Survival analysis is especially helpful in studies of dichotomous outcomes such as deviance, where the question is to determine when an individual becomes disordered, or when marriage and childbearing occurs to determine when individuals reach defined developmental milestones. Moreover the shape of the population survival curve

provides interesting developmental data. One could presume a marriage of methodologies where survival curves could be calculated using specific *a priori* groups, e.g., gender and ethnicity, or *a posteriori* methodologies like empirical clustering.

Structural equation modeling, although now being combined with multilevel methodologies, has been the best technique for uncovering the interplay among variables across time. For those of us interested in interactional and transactional processes, the mediated and moderated pathways that characterize almost all developmental phenomena, structural modeling has been successfully used to examine bidirectional effects across time. Of special interest have been demonstrations where one variable may take the lead during one stage of development and another one at a later stage, for example where there are strong parent effects on child conduct disorder early that change into child effects that change parent behavior later on.

Dynamic systems analyses have the most face validity as the preponderance of developmental researchers have come to view development as a dynamic, holistic, adaptive system. It has had successes in revealing simple relations within complex processes, for example when leg strength is discovered to be the strange attractor for coordinated walking, instead of the development of inhibitory processes in the nervous system. However, the methodological realization of dynamic systems conceptions is still in an early stage, and still limited to the study of a few variables at one time.

### Longitudinal Research and Development

There are many conceptions of development ranging from the linear growth of some inborn capacity to the systematic emergence of more and more complex structures through the interaction of mind and experience. As Wohlwill (1973) argued decades ago, and Cairns (2000) more recently, much of our methodology is designed to mask development. The use of IQ scores is a classic example. Because the scales are standardized for each age a three-year old with an IQ of 115 is presumed to be smarter than a 10-year old with an IQ of 85, even though the 10-year old knows far more than the 3-year old. From the 30's on, theoreticians like Piaget and Werner argued that intelligence was not a reflection of some continuous underlying trait, but a series of increasingly complex understandings of the experiential world. For those who continue to view development in such a dynamic framework, tying together a series of different markers over time becomes a major challenge for longitudinal analyses.

A number of the papers in this section have argued for using developmentally appropriate measures. The proposed solution is to use age-varying markers for such constructs as conduct

problems, but this procedure may mask the developmental implications of why these markers change over time. There remains a continuing intellectual challenge to wed methodology to theory. In the socioemotional domain attachment researchers (Sroufe, Egeland, Carlson & Collins, 2005), have tried to meet this challenge by identifying age appropriate relationship measures that incorporate different observables but retain similarity in overarching organization. In the cognitive domain, longitudinal methodology is revisiting Werner's microgenetic approaches where the details of processes are examined in shorter segments of time (Seigler & Crowley, 1991). For such studies the methodology of choice may be a resurrection of Guttman (1944) scales.

In sum, this special section has summarized for us how far the methodology for studying change over time has progressed. The fundamental basis of statistics is to help researchers discover the signal in the noise. Technically we have seen major improvements in this ability. It still remains a major concern to understand when change over time is developmental.

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## Editorial

### Editor

Xinyin Chen

ISSBD Newsletter

Department of Psychology

University of Western

Ontario

London, Ontario

Canada N6A 5C2

email: xchen@uwo.ca

### Editor

Joan G. Miller

### Correspondence Address:

ISSBD Newsletter

Department of Psychology

New School for Social

Research

New York, NY 10003, USA

email:

millerj@newschool.edu

### Production:

Psychology

Press

27 Church Road

Hove, East

Sussex

BN3 2FA, UK

### Distribution:

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## Notes from The President

Since I wrote the last Notes from the President much has happened concerning ISSBD and my office. I have been especially busy keeping in contact with members of the Steering Committee and the Executive Committee to maintain the smooth running of the Society, especially in light of the imminent move of our International Journal of Behavioral Development (IJBD) to the new publishers, Sage, and their take-over of several important administrative functions of the Society. In particular, because Sage has already started the process of taking over handling membership dues, I have been in frequent contact with our Acting Membership Secretary and Treasurer, Fred Vondracek, at Penn State in the US. This has been extremely important because the move to Sage not only means changes to the work undertaken by the office of both Membership Secretary and Treasurer, but as you know from previous Notes, due to other commitments, Fred will stand down at the end of this year. As formal elections for these offices cannot be held before 2007 it was again necessary to find an interim solution and to draw up guidelines for finding a replacement. The selection of a new Treasurer and Membership Secretary was discussed at the EC meeting in Atlanta in April this year. One name was proposed and unanimously supported by the EC. I'm happy to say that, when approached, Marcel Van Aken, from the University of Utrecht in the Netherlands agreed to take over the posts. We are therefore on track for a smooth transition at the end of the year and, having worked with Marcel before, I am absolutely confident that both these offices will be in excellent hands - my thanks to him for having agreed to step into the breach and take over these important tasks.

I have also had regular contact with Jari Nurmi, our Secretary General, particularly concerning the Executive Committee Meeting of ISSBD that was held in Atlanta on the occasion of the SRCDC Meetings in April this year, and concerning the upcoming elections of three general members of the EC for the period 2006 - 2012. With regard to these elections, a Call for Nominations was included in the Fall issue of the Newsletter, and following discussion at the Atlanta EC meeting, the President Elect (Anne Petersen) was asked to chair the nomination committee that will oversee the election.

At the EC meeting in Atlanta I also arranged for Sage's representative, Michael Carmichael, to be present and to report on progress and future plans concerning their takeover of the publication of IJBD and the various administrative tasks already mentioned. As expected, all was of the highest standard (including the small reception for the EC and other invited guests hosted by Sage at the end of the meeting) and I was more than satisfied that things were progressing as planned. The new look for IJBD that has been developed by Sage in collaboration with the Editor, Bill Bukowski, and my office was also on display. This will be used as of issue 1, 2006. The main aim was to have continuity but at the same time reflect change, and I think this has been nicely achieved. I'm sure you will agree that the result is very smart.

On the subject of publishers and IJBD, I feel it important to underscore again that the decision to move from Psychology Press was not taken as a result of any dissatisfaction with the standard of service they had provided but was prompted by the need to secure administrative support for the Society and, more importantly, to ensure its financial well-being long-term by maximizing returns on the Journal. I have maintained contact with Rohays Perry of Psychology Press and I am pleased to report that there are no bad feelings on either side. She and her

colleagues at Psychology Press have been cooperating fully with Sage in making the transition at the end of this year as seamless as possible, for which I am very grateful and hereby send thanks on behalf of the Society to all involved. In fact, I had a very cordial meeting with Rohays recently during the European Congress of Psychology in Granada where we discussed not only matters related to the transfer to Sage but also a proposal from the local organizer of the Moscow Workshop (see later in these Notes for more details), Professor Yermolova, concerning the possible translation into Russian of some articles already published in IJBD. Once translated they would appear in "Psychological Science and Education" (title translated), published by the Moscow State University of Psychology and Education. There is still a great problem concerning English in Russia and related countries, and I think it would be in both the interest of ISSBD and Psychology Press to have some articles in broader circulation. Rohays was very positive in her response to this suggestion.

Returning to the take-over of IJBD etc by Sage, besides the meeting with Michael Carmichael in Atlanta, my office has also been in regular contact with the publishers over a multitude of day-to-day issues. Verona Christmas, who has worked with me on this since negotiations started in 2003, paid another visit to Sage's offices in London on my behalf where further management issues were discussed. One matter was the digitalization of back issues of the Journal - currently these just go back to 1996 but I have been able to lend Sage issues going back to issue 1 volume 1, published in 1978. This means that eventually all articles ever published in IJBD will be available on-line - an amazing feat I think you will agree. This should also encourage sales of the Journal via Sage's 'Psychology Collections' package, thus increasing income for the Society and visibility for all those who publish in IJBD. One caveat though - I say all issues but actually that isn't quite true - two issues have been lost from my collection over time. These are issue 3, Volume 5, 1982 and issue 1 Volume 12 from 1989. If by chance anyone reading this has copies of these issues and would be willing to lend them for a short period, do please let me know. It would complete the set and we would all be most grateful.

Apart from dealing with Society issues from my office in Jena I also travel extensively on its behalf. As already noted, I attended the EC meeting in Atlanta earlier in the year. In addition to the EC meeting I had several meetings concerning Society-related matters, in particular with Marcel Van Aken and Fred Vondracek concerning the offices of Membership Secretary and Treasurer and the transfer of membership files and financial documentation.

I also attended and was actively involved in running the ISSBD workshop on "Self-regulation in context of social change" held in Moscow June 20 - 23, 2005. This followed extensive collaboration with the local organizer, Tatiana Yermolova, in its preparation. The aim of the workshop was to enable young scholars of human development in countries undergoing rapid social and political change to draw from the best of research on self-regulation within a dynamic paradigm of human development in social context. Besides me, 6 international contributors (Karen Bierman, Nancy Eisenberg, Jutta Heckhausen Alexander Grob, Kenneth Rubin, & Anna Stetsenko) and several dozen young scholars participated in the workshop. The organization was splendid and the overall result, both scientifically and socially, was excellent. This was our second workshop in this remarkable city - the first one took place in 1993 - and we all were impressed by the changes in the city's

appearance. Unfortunately the pace of physical change has not been paralleled by investment in education and science. Thus, for some participants the discrepancy between what they want to do (following some of the examples presented at the workshop) and what their institutional backing will allow was disheartening. I hope that ISSBD will be able to do more in the near future.

Shortly before the Moscow workshop I attended the ISSBD workshop on "Chronic exposure to catastrophic war experiences and political violence: Links to the well being of children and their families" in East-Jerusalem. It was a very special and moving event – involving more than 100 participants, about 1/3 each from Palestine, Israel, and other regions, including several international participants. Many very interesting research papers related to the particular situation in this area of the world were presented, sometimes even by joint Israeli-Palestinian teams. There were also excellent international contributions and a feeling of a breakthrough - the Dean of the (Palestinian) Al Quds University in Jerusalem expressed the will of his college and the entire university to collaborate with Israeli researchers and those from abroad on pressing issues, e.g., of trauma resolution and its effects on human development. As many know, preparations for the workshop were not easy, but the organizing committee did a wonderful job and I want to express my deep gratitude to all involved, particularly to Avi Sagi-Schwartz and to Professor Taisir Abdallah, Dean of Al Quds University, Jerusalem. There are plans for a special section in *IJBD*, as well as other publication plans. When we began planning this workshop in Jerusalem, some had concerns about the Palestinian participation - our hopes were exceeded, and this perhaps is the best news. In addition, everybody realized that research on human development, even under the present dire circumstances, can become a resource for the entire region. Overall I deem this workshop, and the Moscow workshop (as well as the recent Africa workshop) excellent models for what ISSBD activities can achieve.

One important point that has arisen, especially in relation to the ISSBD Africa workshop organised a while ago by Bame Nsameng, has been the level of ISSBD membership in the regions where workshops are held and the need to have active local representatives who can handle membership issues. In light of this, and following a discussion about how to promote the participation of people from the developing countries in the activities of the Society, a work group was formed at the last EC meeting, with Xinyin Chen as Chair. This group (see Minutes of the 2005 EC meeting for more details) have been developing some plans that will be discussed soon. In my experience, a natural move would be to establish a system of stipends for young investigators that would entail a site visit of several weeks with follow-up work at a research laboratory of their choice, possibly in combination with a scientific meeting in the area to optimize travel costs. Further, thanks to the new contract with Sage, ISSBD is for the first time in a position to have better means to support international scholars. We could finance such a program from our own reserves, and ask for additional funds from other agencies. (Some time ago I handled a similar program with success.) Together with all involved I will work towards a quick solution.

From a more general perspective, I recently met with the Membership Secretary to discuss (amongst other things) overall level of membership and membership renewal, especially the problem for the Society of non-payment of dues (about 200 members still have not paid for 2005). In answer to this I will send a personal letter to these members in the hope that it will persuade them to take action. On the subject of membership, and following on from the paragraph above, at a recent workshop we gained new members who paid their dues on the spot, but had severe problems in making international payments. Rather than

risk losing members from an area where they are already scarce I have arranged for a donation to be made to ISSBD from a discretionary account. The intention is that this will cover payment of these dues until such time as the money-transfer problem can be solved.

Turning back to our workshop program, I have also maintained contact with John Schulenberg over the workshop 'Developmental Transitions as Turning Points: An International Workshop on Theoretical and Methodological Perspectives' (organized together with Jari Nurmi and Lisa Crocket) proposed for spring 2007. (Originally scheduled for 2006 it was moved to 2007 primarily to avoid a clash with the 2006 ISSBD Biennial Meetings in Melbourne.) This has, in principle, been approved by the EC pending approval of a well-justified budget for the workshop. Finally, as this workshop will happen during Anne Petersen's term as President, I will hand over responsibility for it to her at the next suitable opportunity.

Plans for a seventh regional workshop in Africa are also well underway that will take place at the University of the Witwatersrand Johannesburg, South Africa in spring 2006. The theme of the workshop will be 'Human development in adversity'. This theme cuts across age, gender and ethnicity and would include research and papers on such groups as orphans and vulnerable children, street children, marginalized groups, and groups experiencing trauma as a result of civil conflict, abuse, disasters, displacement etc. Other themes included would be HIV/AIDS, poverty and social disruption etc.

As well as being occupied with the various workshops I have also been busy concerning the 2006 Biennial Meetings of ISSBD that will be held in Melbourne, Australia (do check out the website <http://www.issbd2006.com.au/index.shtml>). Planning is well underway and the Call for Papers, as well as registration, is now open - and remember, there are significant savings for registering early. In particular I have worked with the local organizers to send requests to two private foundations with the aim of securing funding for the pre-conference workshop on "Development in context: Making best use of existing longitudinal data". As with the previous Meeting in Ghent, this will target young scholars, especially those from countries where the local financial situation hinders participation in high-ranking international conferences such as ours.

Also, just a reminder, at the Melbourne Meetings we will again be presenting the ISSBD Awards and a Call for Nominations can be found in this Newsletter. ISSBD has three award categories: The ISSBD Distinguished Scientific Contribution Award; the ISSBD Award for Distinguished Contributions to Applications and Theory in Behavioural Development; and the ISSBD Young Scientist Award. A committee chaired by Avi Sagi-Schwartz has been working on this matter and will be overseeing nominations.

Finally, I would like to mention our continuing search for Newsletter Editors to take over from Joan Miller and Xinyin Chen when they stand down at the end of this year. They have agreed to continue until the spring Newsletter 2006 is ready but in the world of publishing that is not so far away. Both of these offices are challenging in the time they require but, as Joan and Xinyin would tell you, they are also immensely rewarding. We have already received some nominations but there is still time if you would like to be considered. When this is the case (or if you have any comments or suggestions concerning any of the issue covered here) please contact me urgently at [rainer.silbereisen@uni-jena.de](mailto:rainer.silbereisen@uni-jena.de).

I hope that you are reading this following a restful and energizing mid-year break, and I look forward to meeting as many of you as possible in Melbourne next year, on which occasion I will hand over to Anne Petersen as the new President of ISSBD.



## Minutes of the ISSBD Executive Committee Meeting:

### Atlanta, the United States, 2005

**Time:** April 7th, 8.30 – 12.00.

**Members of the EC present:** Xinyin Chen, Patricia Greenfield, Jari-Erik Nurmi (Secretary), Anne C. Petersen (President-elect), Abraham Sagi-Schwartz, Arnold Sameroff, Rainer K. Silbereisen (President), Marcel van Aken, and Fred Vondracek (Acting Treasurer/Membership Secretary).

**Editors present:** William Bukowski (IJBD) and Xinyin Chen (Newsletter).

**Apologies for absence received from:** Avshalom Caspi, Andrew W. Collins, Joan G. Miller, Rohays Perry, Peter K. Smith, Kenneth H. Rubin, and Suman Verma.

**In attendance for a particular item:** Michael Carmichael (Sage), Verona Christmas-Best (various), Ann Sanson and Mary Ainley (XIXth Meetings), and Wolfgang Schneider (XXth Meetings).

#### 1. Opening

The President, Rainer K. Silbereisen, welcomed the EC members.

#### 2. Minutes of the EC Meeting in 2004

The Minutes of the EC Meeting in Ghent, Belgium, July 11th, and those of the Business Meeting, July 14th, 2004 were approved unanimously.

#### 3. President's report

The President, Rainer K. Silbereisen, summarized his recent activities, and plans for the Society as follows: "One matter in which I have been involved is the search for a new publishing contract for the IJBD and for the provision of services to support several of the Society's administrative tasks. I have also been heavily concerned with arrangements for the up-coming regional workshop in Moscow, as well as other workshops, and for the next Biennial Meetings that will take place in Melbourne in 2006. All major activities were conducted whilst keeping the Steering Committee fully included. I have also kept in close contact with the Executive Committee. The membership were kept regularly informed through the Notes from the President.

I have had frequent contact with Fred Vondracek over financial and membership issues related to the 2006 Biennial Meetings in Melbourne, and over the impending transfer of membership administration to Sage Publishers. My main contact with the Secretary General has been concerning upcoming nominations and elections, over organization of the Executive Committee Meeting in Atlanta, and over issues stemming from the redevelopment of the Society's web site resulting from our move from Psychology Press to Sage Publishers. My contact with the President-elect has been primarily related to issues of her involvement in events that will happen under her watch.

The aim of negotiating a new contract for the International Journal of Behavioral Development, and managerial support services to ISSBD, was to put the Society on the best possible financial footing. This required getting the best possible return for the IJBD and the outsourcing of some administrative tasks to ease the burden placed on our volunteer officers, in particular those related to membership administration and keeping the website up-dated. The culmination of those efforts was the decision to move from Psychology Press to Sage Publications and the signing of a new contract in December last year.

Psychology Press (formerly Erlbaum UK) had published the IJBD for several years and our relationship with Psychology Press overall was very good with little grounds for complaint in any of our general dealings with the company. In fact, both the Editors of the Journal and the Newsletter reported being satisfied with the publisher. During negotiations it became clear that the IJBD was a highly prized asset and one through which the Society could receive considerably more revenue than it had done previously, or than Psychology Press was prepared to

offer. Further, I was impressed with the enthusiasm, vigor and professionalism with which Sage tailored its offer to meet our requirements above and beyond publishing the Journal and with their proactive stance to promoting both the journal and ISSBD.

A draft contract was submitted to the EC and the journal and newsletter editors for comment. Following receipt of some points for consideration the contract was amended. The new contract was duly signed by the President on behalf of ISSBD and by Leo Walford as Associate Director, Journal Publishing on behalf of Sage. The Sage team already had a well-formed action plan and draft publicity material.

I have also liaised with Psychology Press and they have assured me of their full cooperation with Sage in the transfer of matters related to the IJBD and the Newsletter, and the web site. In Jena we have also started by transferring useful archive material such as back issues of the IJBD, the Membership Directory, and pre-web copies of the Newsletter. Once again, let me mention here the good memories we will take away with us of the years ISSBD worked with Psychology Press, and let me thank in particular Rohays Perry and Kirsten Buchanan for all their efforts.

With regard to the IJBD it had been decided, following a request from the Editor, Bill Bukowski, that the web-based manuscript handling system, (negotiated as part of the new contract with Sage) would not be installed until a new editor begins handling new manuscripts in July 2007 prior to full take-over of the Editorship in January 1, 2008. However, Bill Bukowski has reconsidered and now realizes that it would be helpful to both himself, the new Editor, and the IJBD, for the web-based system to be installed as soon as possible. Sage has agreed to work with Bukowski to get the system up and running as soon as possible. This brings the IJBD into line with other top-ranking journals, such as *Child Development*, who have already introduced on-line manuscript handling systems.

As part of the move to Sage, the ISSBD website will be upgraded in due course to an interactive system with password-controlled secure areas that will enable tasks, such as elections, to be conducted on-line. Following extensive discussions between the Jena office and the Sage web team concerning the desired functions to be offered by the new site, work is already underway.

Leni Verhofstadt-Denève and her team did a terrific job with the 18th Biennial Conference in Ghent. In fact, it went so well that I was contacted by Leni Verhofstadt-Denève and offered an additional sum of 5000 Euro (6,450.00 \$) for ISSBD. The Meetings were so successful (attracting 1304 participants, a record number for ISSBD) that they were able to make this donation to the Society over and above repaying the start-up loan.

I have also been involved with the Melbourne 2006 Meetings by being in regular contact with Ann Sanson of the University

of Melbourne and head of the local organizers over various issues related to the Meetings. Progress has been made: The official website is up and running (<http://www.issbd2006.com.au/>). The International Program Committee for the 2006 Biennial Meetings has started its work: there have been intensive discussions and a letter to key-note and other invited speakers has gone out. The budget has been optimized in close consultation with the Treasurer and the President so as to allow maximum flexibility concerning attendance as well as encouraging membership.

There are some issues that need to be mentioned. I have become aware that there has been a change in role for Ann Sanson with some implications for the Meetings. We had an initial agreement with Ann Sanson as acting head of the AIFS but this has now changed. The issues of sharing responsibility and financial liability for the Meetings have been discussed and I have confidence that the organizers will present a good and positive up-to-date status report very soon. I have always supported Ann Sanson in her efforts and will continue to do so. I have also had discussions with Sanson concerning a pre-congress workshop particularly targeting young scholars, and potential sources of funding, and with Sanson and Suman Verma concerning a Young Scholars Initiative (YSI). Based on the success of the YSI at Ghent, it is planned that something similar will be undertaken in Melbourne. To this end, young scholars will be approached for proposals for sessions on specific themes and for panel discussions on cross-cultural issues. At present, the intention is to involve two young members of ISSBD — Deepali Sharma and Karina Weichold as coordinators.

Concerning workshops related to the congress Ann Sanson has suggested addressing the issue of secondary data analyses of large-scale longitudinal studies. Such skills would enable young scholars from economically weak countries to work with first-rate data and this would mesh nicely with the expectations of foundations. In Ghent, we had a workshop funded through the Jacobs Foundation. For Melbourne, if the Ghent example is to be followed, a grant proposal must be written and submitted to whichever foundation is chosen very soon.

Concerning the ISSBD 2008 congress in Wuerzburg, I asked the President-elect, Anne Petersen, to be a vice-chair of the meeting and work together with the chair, Wolfgang Schneider. Wolfgang Schneider has already made substantial progress concerning organization and funding.

I have also been contacted by Manuela Verissimo to say that the Developmental Department of the Higher Institute of Applied Psychology (ISPA) in Lisbon would be very interested in organizing an ISSBD meeting in Portugal. I explained that all is in hand until 2012 but nevertheless received a positive response suggesting that they are interested in proceeding.

I have been working on preparing guidelines to assist future organizers of ISSBD Biennial Meetings in their preparations, starting with information required in the initial proposal, through budget set-up, and grant applications, to the final report. I am basing much of this on my experiences and on the IAAP document that sets out to do something very similar. This takes time and it will be a while yet before it is ready to present to the EC.

I'm happy to be able to report a very successful conclusion to the workshop organised by Bame Nsamenang. The workshop entitled 'HIV/AIDS and the African Youth: Theory, Research and Practice with Youth in Peer Education, Families and Communities' took place in Yaounde from 25-31 July, 2004. Holding a workshop in Africa was long overdue and we were lucky to have someone like Bame Nsamenang willing to take on the task. Thanks also go to Therese Tchombe and Jacques-Philippe Tsala Tsala, and to the University of Yaounde, for their support. About 40 senior scholars and young researchers attended the five-day event, and there were participants from

some 10 African countries. Plans are underway to publish the results of the workshop.

I have been particularly involved with helping to organize the Moscow regional workshop that took place June 20-23, 2005. The principle local organizer was Professor Tatiana Yermolova of the Russian Academy of Education in Moscow, and Avshalom Caspi and Ken Rubin worked with me as co-organizers on behalf of ISSBD. The following institutions in Moscow were also involved: Moscow State Psychology-Pedagogical University and Moscow State University. The particular goal of the workshop was to facilitate scientific and cultural exchange between young scholars from Russia and surrounding countries and more senior colleagues from across the world who can transfer achievements in research on emotional and behavioral regulation in a context-sensitive framework of human development. As well as being informed on recent developments in the field of human self regulation, the young participants were able to present and discuss their own research with some of the foremost scholars in the area. It was also hoped that the workshop would lead to new individual or joint projects on the topic being instigated. More information can be found on the web site (<http://www.devteam.ru/issbd/index.htm>).

I corresponded with Avi Sagi-Schwarz with regard to the Israel workshop, 'Chronic exposure to catastrophic war experiences and political violence: Links to the well being of children and their families', which was held in May, 2005. The workshop was taking shape and there were already a large list of confirmed participants. Final formal invitations to speakers and participants were sent out in late January and February, 2005.

I have also been in correspondence with Mambwe Kasese-Hara over a potential regional workshop to be held in (South) Africa in 2006. I have asked Mambwe Kasese-Hara to develop a full proposal, to contact Bame Nsamenang for help in how to go about this, and have provided her with a list of topics that should be detailed. Once I receive such a proposal I plan to forward it to the President-Elect for her attention as this workshop would happen during her term as President.

I have also been in correspondence with John Schulenberg over a proposed workshop 'Developmental Transitions as Turning Points: An International Workshop on Theoretical and Methodological Perspectives' that would take place in spring 2007. Originally planned to take place at the University of Michigan, Ann Arbor, in May or Early June, 2006, this workshop has been rescheduled for 2007. As this workshop will happen during Anne Petersen's term as President, I plan to hand responsibility for it over to her at the next suitable opportunity.

I have kept in close contact with our Membership Secretary and Treasurer, Fred Vondracek, particularly concerning the implications of our transfer to Sage of membership administration, and concerning the state of the Society, both in financial terms and membership levels. I have had very positive feedback about both although there is no need for complacency especially in terms of membership numbers. As the membership is the life blood of the Society, we must all do all we can to encourage colleagues to join, particularly young blood. We also need to consider how to ensure existing members remain and how to get members to stand for office and to be more involved in the running of the Society.

As you know, Fred Vondracek took over the offices of Membership Secretary and Treasurer as a temporary measure pending our search for a new substantive post holder; he stands down at the end of this year and the search for his replacement is now underway. I have been in contact with him to draw up guidelines for finding a replacement and these were sent to the EC for comment and recommendations.

With regard to membership administration, discussions have already commenced between Sage, the Membership Secretary, and me. To make the process as painless as possible and in order to avoid unnecessary confusion, Fred Vondracek's



recommendation has been for Sage to commence handling membership administration in March 2005, following the process of membership renewal that begins each November. Paper records relating to membership will also be transferred at this time.

In terms of the Society's financial situation, I have asked Fred Vondracek to make an evaluation of our investments so that once the new Treasurer is appointed Fred Vondracek can work with the new person to affect an orderly transfer of assets, which could include consolidation into one diversified account rather than the two we have now.

It was with great pleasure that I read in the Membership Secretary's report of the improved level of Society membership over the past year and of the impact attributed to a greater level of activity on the part of the Membership Committee under the leadership of Andrew Collins. The impact and importance of the work of this committee should be kept in mind, especially in relation to the next Biennial Meetings, and when a new Chair has to be found.

This year sees the start of a search for new editors for the Newsletter. The current editors' term of office finishes at the end of this year. I would like to take this opportunity to express my thanks to Joan Miller and Xinyin Chen for their sterling work over the last 6 years. Under their auspices the Newsletter has gone from strength to strength.

The Society also needs to appoint a new Editor for the IJBD to start handling new manuscripts as of July 2007 with a view to taking full control from January 1, 2008. I had expected that the new Editor would also be taking on the new web-based manuscript handling system. The new Editor would have had to have been selected at least by the end of 2006. With regard to this it would be good to re-establish the Publication Committee and to have it involved in the editor search process.

I was co-editor with Bill Hartup of "Growing Points in Developmental Science" which was the first in an ISSBD book series. The intention is to have more books and this has been written into the contract with Sage. Because this needs to be coordinated I think it is time to revive the idea of the Society having a Book Series Editor.

Following my own involvement in an IUPsyS/APA initiative for a workshop related to the Tsunami disaster, I discussed possible financial support with my colleagues on the Steering Committee. The main reason for my involving ISSBD is that the Society is an affiliated member of IUPsyS and I feel it is important to show that such an affiliation also implies some responsibilities. It was subsequently decided to pledge up to 3,000\$ US with the aim of either funding an expert participant, or funding young participants from the region. However, we also made it clear that in our view the topics and aims of the workshop proposal were not yet sufficiently clear enough, and that we hoped to have more details shortly.

Finally, I am now starting to get prepared for my hand-over to Anne Petersen on the occasion of the Biennial Meetings in Melbourne next year. To this end I have already started to pass responsibility to her for events that will occur when she is president. I know she is keen for this to happen, and I certainly welcomed a similar move when I was preparing to take over from Kenneth Rubin."

The President thanked his collaborators Verona Christmas-Best and Katrin Mueller for their outstanding service, and also thanked the University of Jena and the German National Science Foundation (DFG) for their continuing support.

The President's report was unanimously approved by the EC and GBM.

## 4. Secretary's report

### 4.1 Operations

The Secretary, Jari-Erik Nurmi, reported the following activities: the Secretary's office has been involved in many activities in

running the Society, such as preparing agendas and minutes of the Executive Committee meetings and General Business meetings, administering the contents of the Society's web-pages, answering a variety of questions from Society members, disseminating information about the Society to other societies and international volumes, and furnishing the President and other officers with information concerning the Society's By-laws, previous decisions and other organizational matters.

Besides these activities, the Secretary has: 1) arranged the nomination of candidates for the election of new Executive Committee members 2006 – 2012; 2) provided the organizers of biennial meetings, summer schools and workshops with information about the Society; and 3) been involved in the initiation and planning of one workshop proposal (Michigan, Ann Arbor).

All this work would not have been possible without support from the University of Jyväskylä and its Department of Psychology, and the hard work done by Anne-Riitta Vanhala, the Secretary and international coordinator of the department.

The report of the Secretary General was approved unanimously.

### 4.2 Call for nominations

The Call for Nominations was announced in the 2004 Fall issue of the ISSBD Newsletter. As a result, a total of only 55 nominations were received for 45 people. The EC appointed the President-Elect, Anne Petersen, to act as the chair of the Nomination Committee which should come up with a final list of 6 candidates for the elections of 3 Executive Committee members 2006 – 2012.

## 5. Report from the Treasurer/ Membership Secretary

The Acting Treasurer/Membership Secretary, Fred Vondracek reported on Society membership and finances.

### 5.1. Treasurer

The main duty of the Treasurer is to manage all the Society's financial assets. ISSBD has considerable financial assets in investment accounts as well as maintains several cash accounts to fund the operations and activities of the Society and its officers. The Treasurer collects monthly statements on all accounts and prepares an annual report detailing the performance of all financial assets. In addition, the Treasurer collects and records the Society's income and is responsible for all disbursements from Society accounts, both regular and extraordinary, as directed by the Executive Committee. The Treasurer also maintains all current and historical financial records of the Society, provides data for the preparation of tax documents, and arranges for the completion of tax returns by a properly qualified accountant.

As and when required, the Treasurer receives grant income and oversees its disbursement in accordance with the grantor's directives (augmented, as appropriate by the Executive Committee). The treasurer also assists conference and workshop organizers in the planning and execution of conference and workshop budgets, as needed (subject to approval by the Executive Committee).

The treasurer communicates with Sage Publications (who handle routine membership administration as of April 2005) and with the membership, as necessary, regarding issues concerning payment of annual dues. The Treasurer periodically reviews the dues structure and makes recommendations for changes to the Executive Committee.

The transition in the Society's financial management from Barry Schneider to Fred Vondracek has been exceedingly complex, time-consuming, and drawn-out. There are a number of reasons for this, including the incomplete transfer of authority

from Brett Laursen to Barry Schneider and the difficulties of crossing national boundaries.

ISSBD income in 2004 came from Royalties paid by Taylor & Francis (Psychology Press) (\$40 277.71), the Psychology Press (T&F) editorial stipend (27 695.00), the Jacobs Foundation Travel Grant (32 405.00), investment income (17 030.03), membership dues (66 614.23), and other income (12 650.00). ISSBD disbursements for 2004 included stipends for the Society officers and expenses for workshops. A summary of the financial report is presented in Table 1.

	<b>2002</b>	<b>2003</b>	<b>2004</b>
Opening Balance	\$395,822	\$439,391	\$544,902
Revenues	\$122,227	\$116,616	\$164,267
Total	\$518,049	\$556,007	\$35,257
Disbursements and changes in assets	\$78,658	\$11,105	\$35,257
<b>Closing Balance</b>	<b>\$439,391</b>	<b>\$544,902</b>	<b>\$673,912</b>

Professional liability insurance is necessary to protect the officers of the Society from liability regarding their fiduciary responsibilities. The previous insurance coverage was allowed to lapse in early 2003. Consequently, the Treasurer purchased a new "Non-Profit Organization, Director & Officer Liability Policy" underwritten by the Cincinnati Insurance Company. The policy is valid for three years.

Thanks to the dedication of Brett Laursen, the Society's finances are in excellent shape. Membership dues should remain at the current level at least for the next couple of years, partly because the finances of the Society are solid, and partly to attract a larger membership in the years to come. Regional dues should be reviewed, with a view toward the possibility of reducing them to \$5.00 for much of Africa, and increasing them for China.

Special thanks are due to Dean Raymond T. Coward of Penn State University's College of Health and Human Development for providing space, infrastructure, and staff support for the work of the Acting Membership Secretary. Becky Reese deserves special thanks for her diligence in providing clerical support.

The Executive Committee discussed several issues related to the Society's finances: First, the Treasurer, Fred Vondracek, suggested that the Society's investments should be reviewed in the near future. Second, the President-Elect, Anne Petersen, suggested the Society should nominate a Financial Committee. After a discussion, the EC decided to form a Financial Committee, which consists of the President, the President-elect, the Treasurer and a financial expert (to be invited within 3 weeks following the meeting).

At the meeting the Treasurer also reported the arrival of the US\$ 96k signing bonus from Sage and of an unaccounted-for surplus of US\$ 20k that might be followed up by the IRS next year.

The report of the Treasurer and the accounts were approved unanimously by the EC. The EC also expressed its gratitude to the Acting Treasurer for his excellent work.

### 5.2 Membership Secretary

Regular duties include the distribution of membership renewals, correspondence with members, as well as prospective members regarding membership issues, maintaining the membership data base, providing assistance to the Membership Committee, supporting Regional Offices in their membership efforts, and providing the publisher with up-to-date membership information.

Membership information through 2001 has been presented in previous reports. Membership figures for 2002 and 2003 are not as complete and reliable because the current Acting Membership Secretary was not in charge during all of 2002 and

the first half of 2003. What is reported for 2002 represents information that was transferred from Ottawa. The number of members was 998 in 2002, 783 in 2003, and 1139 in 2004, which is the highest since 1996.

The Society is fortunate to have a number of excellent Regional Coordinators. Belarus (Yuri N. Karandashev) reported 11 regional members; China (Huichang Chen) has been particularly successful in attracting new members, with the most recent count at 158; India (Suman Verma) continues to do very well with 97 members; Russia under the leadership of Tatiana Yermolova, is making a come-back with 32 regional members; the regional coordinator position for the Baltic countries was discontinued; Rita Zukauskienė has done a great job as Regional Coordinator for Lithuania, reporting 16 members; Indonesia (Surastuti Nurdadi) and West and Central Africa (Jean Tano) have been inactive. A good number of new African members were recruited by Bame Nsamenang in connection with the Cameroon workshop.

The membership of the Society appears to have stabilized near the historical levels of the past several years. With the Ghent meeting serving as a stimulant for attracting new members, as well as a more active Membership Committee under the leadership of Andrew Collins, further gains in membership are likely. Thanks to the success of some of the Regional Coordinators, further increases in regional membership appear all but certain. Moreover, efforts have been made to recruit back previous members who discontinued their membership.

Special thanks are due to Dean Raymond T. Coward of Penn State University's College of Health and Human Development and Becky Reese.

The EC discussed several matters related to membership. The Membership Secretary Fred Vondracek suggested that the Society make an effort to find an office coordinator from Africa. The President-Elect, Anne Petersen, suggested setting up a committee to consider how to promote the participation of people from the developing countries in the activities of the Society. The President suggested that the members of this committee for Global Participation and Activities should be: Xinyin Chen (chair), Anne Petersen and Suman Verma. The EC accepted the proposal unanimously. The terms of reference for this committee should be sent to the President as soon as possible by the Chair. The committee should also liaise with the Membership Committee.

The Membership Secretary, Fred Vondracek, suggested a \$5 reduction in the membership fee to representatives of Eastern, Western and Central regions of Africa. The EC accepted the proposal unanimously.

The EC and GBM unanimously approved the report of the Membership Secretary.

## 6. Publications

### 6.1. International Journal of Behavioral Development

The Editor, William Bukowski, reported the following developments:

The main office of the editorial site of the International Journal of Behavioral Development is located in space provided by the Centre de recherche en développement humaine at Concordia University in Montréal. The Editor is William M. Bukowski and the Managing Editor is Jonathan B. Santo. Four Associate Editors started their terms in July 2001. They are Margarita Azmitia (University of California, Santa Cruz), David Crystal (Georgetown University), Jutta Heckhausen (University of California, Irvine), and Karen Li (Book Reviews, Concordia University). More recently Todd D. Little (Yale University/University of Kansas) was added. Due to parental duties, Drs. Azmitia and Li have retired early from their positions. Two new Associate Editors will join the editorial team soon. They are Chang Lei and Silvia Koehler. The members of



the Editorial Board come from around the world and represent many domains of developmental science.

The IJBD continues to publish papers in all areas of developmental psychology. If there are any domains of inquiry that distinguish the IJBD from other journals, they are the interest in a life span perspective and in diversity in development across culture, region, and other contexts. One of the Society's goals is to encourage submissions in these areas while maintaining the IJBD as a broad-based "platform for research on human development."

Each year the IJBD publishes 6 issues, each containing 96 manuscript pages, making a total of 576 pages. Assuming that the average paper is approximately 10 manuscript pages in length, roughly 55 articles are needed each year.

During the past nine months the IJBD has received 112 papers, a rate that is somewhat higher than the usual yearly rate. This total does not include papers submitted for special issues or those that were rejected outright. We expect to publish roughly 60 papers in the present volume, including three special sections or issues. One special issue, which made up the March issue, included papers on the study of the dyad as a developmental context. The September issue will include papers on the effects of harsh parenting. The December issue will include papers based on the pre-conference on development and psychopathology at last year's ISSBD meeting in Ghent. The articles submitted to the Journal in 2004 came from 17 countries.

The time used to process articles from the moment of the initial submission to the first-action letter is approximately 80 days, which is slightly longer than in the past. When delays did occur we made sure that authors knew that the review process was moving, albeit slowly. The current gap between acceptance and publication is about 6 months.

The Montreal office is in frequent and very amicable contact with the publisher, Psychology Press in Brighton, England. We especially appreciate the efforts of Kirsten Buchanan. The publisher has been very responsive to our requests for information and advice on several matters.

The Editor has been in contact with the production staff at Sage and plans are underway for the smooth transfer from one house to the other.

The President noted that there were some factual errors and typos in the Editorial Board list in the Journal, and that the affiliations were not up to date. It was also noted that some members of the editorial board were not ISSBD members, but it was generally accepted that although it was desirable it was not always pragmatic to insist.

The report of the Editor was unanimously approved by the EC.

## 6.2. Newsletter

In their report, the Editors, Joan G. Miller and Xinyin Chen, reported the following plans and activities: The Newsletter continues to publish Special Sections devoted to central topics in developmental psychology, while serving as a forum for dissemination of organizational news of ISSBD and announcements of general interest to its members. The Spring 2005 Special Section of the Newsletter was devoted to the topic of "Sociocultural Perspectives on Cognitive Development". In terms of future plans, the Special Section in the Fall 2005 issue will center on the topic of "Longitudinal Research on Human Development: Importance, Issues and New Directions". The term of the present Newsletter editors ends in December, 2005 and a search for new editors is presently underway.

We greatly appreciate the excellent working relationship that we have had with Psychology Press during our time as editors and are grateful, in particular, to the wonderful support provided by Rohays Perry and Kirsten Buchanan.

The report of the Newsletter editors was approved unanimously. The EC also made special mention of the

outstanding work carried out by the Newsletter Editors who are both standing down at the end of this year when their term of office expires.

## 6.3. Former Publisher's report

The Publisher's report was presented in the absence of a representative from Psychology Press by the President. According to the report, institutional subscriptions to the Journal have remained at about the same levels as they have been, although there was a slight decrease during 2003 - 2004. The figures also show that online usage of the journal continues to increase. The importance of a journal's impact factor and the citation index in general were discussed, prompted by the fact that the journal still suffers from too low an impact factor compared to its mission. The EC praised Psychology Press, and Rohays Perry and Kirsten Buchanan, in particular, for their helpful attitude following Sage's successful bid to take over the Journal.

## 6.4. New Publisher's report

Michael Carmichael from Sage gave a short introduction to the most current matters in the process of changing the Journal's publisher. After introducing the editorial team, he reported actions taken so far towards moving from Psychology Press to Sage. For example, all issues of the journal available in electronic form, as well as paper issues from 1988, have been archived. Moreover, Sage will start to handle the journal by means of an electronic system from fall 2005. At the same time, a new website will be ready to operate, and Sage will also be taking over handling the membership of the Society. The website will also be developed to be able to handle elections in electronic form. The marketing policy of both the journal and the Society was discussed in the EC. In the discussion, it was noted that members of the EC should send notification of upcoming conferences etc. to Sage so that they can consider attending. The idea of having a 'Meet the Editor' session followed by a reception hosted by Sage at the Melbourne Meetings in 2006 was raised and approved. At the end of the discussion, the President thanked Michael Carmichael and Sage for constructive negotiations and getting co-operation off to a good start.

## 6.5. New Publication Committee

EC discussed the need of once again forming a Publication Committee for the Society. The President, Rainer K. Silbereisen, suggested a) that the forming of this committee can wait until the new editor of the IJBD has been nominated, and b) that the EC should discuss possible names of the Publication Committee by e-mail in the meantime.

## 6.6. Editorial policy of the ISSBD book series

The President, Rainer K. Silbereisen, introduced the idea of a series of ISSBD books by pointing out that, when, together with William Hartup, he had edited a volume based on a special issue of the IJBD, they already had it in mind to extend this later on to a whole series of books. The President outlined 2 possible models for the series: 1) Sage would accept a certain number of books per year with 1 person as overall editor; 2) books would be an outlet for the dissemination of particular projects with an editor assigned for each specific book and with an individual contract between the editor, the President, and Sage for each book.

## 7. Membership Committee

As the chair of the Membership Committee was unable to attend, the President summarized his report.

The Membership Committee consists of Huichang Chen (China), Mary Louise Claux (Peru), Debora Dalbosco Dell'Aglio (Brazil), Jeanette Lawrence (Australia), Seong-Yeon Park (Korea), Marcel Van Aken (The Netherlands), and Karina Weichold (Germany).

The Committee is continuing the regional strategy that has proven successful in the immediate past. The present members have been reliable partners in making developmental scientists in their countries aware of the organization and the benefits of membership. The efforts of the Australian/New Zealand, South American, Chinese, and Korean members are especially important to this strategy, and the representatives from those regions have been assiduous in their attention to the task. Among these activities have been e-mail campaigns in Australia/New Zealand and continued contacts with potential members in China. The Committee hopes that membership in the Pacific rim countries will receive a boost from the Melbourne meetings.

The Chair appreciates the dedication of the committee members, as well as the cooperation and support of the President, the Secretary, and the Membership Secretary in carrying out the work of the Committee.

The EC unanimously approved the report of the Membership Committee.

## 8. Biennial Meetings

### 8.1. Melbourne 2006

Ann Sanson reported on progress in organizing the 2006 ISSBD meeting in Melbourne. All the major decisions concerning conference office, venue and overall program structure have been made. Sanson also reported that the meeting of the Program Committee will take place during the SCRD meetings in Atlanta. The President suggested that the organizers do all they can to work with the budget in order to hold it to the lowest possible level. The matter of fees was discussed again and the possibility of external funding for special events was raised. The President noted the need to approach the Jacobs Foundation for support of young scholars attending the preconference workshop, and that any such grant application would have to be submitted in June/July this year at the latest via the President. Marcel van Aken was approached for his experience in such endeavors. The EC also discussed the Young Scholars Initiative – this is to be as in Ghent but more structured. It was noted that in the budget and in any financial documentation related to the Melbourne Meetings the figures are to be given in Australian dollars. The President thanked Ann Sanson and her team for productive work for the next biennial congress.

### 8.2. Wuerzburg 2008

Wolfgang Schneider, the chair of the 2008 ISSBD Biennial Meetings, reported on recent developments in congress organization. The congress will take place in Wuerzburg, Germany, July 12-16, 2008, in a Congress centre that is able to host more than 1000 participants. The Intercongress agency has been chosen as the professional congress organizers, mainly for two reasons. First, it has previously successfully organized a congress under Wolfgang Schneider's chairmanship, and secondly, the agency takes over the financial risk of the congress. Negotiations over the final contract are in progress. Also the preliminary day-to-day schedule has been planned. Schneider also presented a preliminary budget for the 2008 ISSBD congress.

The EC thanked Wolfgang Schneider for his work for the 2008 ISSBD meetings.

## 9. Search for new officers

### 9.1. Membership Secretary/Treasurer

Acting Membership Secretary/Treasurer, Fred Vondracek, has informed the President that he would like to vacate his office at the end of 2005. Because according to the Bye-laws of the society, this office cannot be filled in an appropriate manner before the Biennial Meetings in 2008, the President suggested

to the EC that the office will be filled in the interim by the President. The President revealed that he had already held talks with Marcel Van Aken about the possibility of him taking over until a new Treasurer could be elected. It was decided that the President, the current Acting Treasurer and Marcel van Aken should meet and discuss the way forward. The EC approved the move unanimously.

A new Membership Secretary/ Treasurer will be elected later on following the procedure of the Bye-laws so that he/she will take office in 2008 at the same time as the new President-elect and Secretary General also take office (nominations in 2006 and ballots in 2007).

### 9.2. Newsletter editors

As requested by the President, the current Newsletter editor, Joan Miller, has written a job description outlining the responsibilities of editing the ISSBD Newsletter. Announcement of the post was published in the Spring, 2005 issue of the Newsletter.

## 10. Other relevant business

The following reports on future workshops have been sent to the EC.

The ISSBD regional workshop on "Self-regulation in the context of social change" will be held in Moscow from June 20 to 23, 2005. The program will consist of 10 invited lectures. Around 60 graduate students and younger faculty will participate (20 of them with financial assistance). The budget of the workshop was set at \$40,000, with a slight overrun, pending approval by the President.

The ISSBD workshop on "Chronic exposure to catastrophic war experiences and political violence: Links to well-being of children and their families" will be held in East Jerusalem, May 16-18, 2005. Besides the ISSBD, the cooperating institutions are Al Quds University, The University of Haifa and Peres Center for Peace. The program has been planned and the speakers have been invited. Around 70 scholars are expected to participate, and applications have been received from 17 countries. To cover a short fall between expenses and funds, the President suggested that he and Avi Sagi-Schwartz will apply for some additional funds from the German Federal Ministry of Education and Science.

The ISSBD Workshop on "Developmental Transitions and Turning Points: An International Workshop on Theoretical and Methodological Perspectives" will be held in spring 2007, in Michigan, Ann Arbor. The next stages in organizing the congress include refining the workshop format, identifying potential speakers, seeking additional funding and considering the locations for the workshop at the University of Michigan. Anne Petersen, the President-elect, and Xinyin Chen suggested that the organizers should seriously work to increase the international emphasis of the workshop. The EC envisions providing up to \$25 000 for the workshop, pending the approval of a well-justified budget for the workshop.

Mambwe Kasese-Hara has contacted the President concerning a potential regional workshop to be held in South Africa in 2006, as a continuation of the series of regional African workshops. The EC decided to ask her to come up with a full proposal for the workshop as soon as possible. The President will contact her again and communicate the need to be specific in terms of aims and procedure.

*Jari-Erik Nurmi*  
Secretary



19th Biennial Meeting  
International Society  
for the Study of **behavioural  
development**  
the interface of research with policy and practice

2nd-6th July 2006 Carlton Crest Hotel  
**Melbourne Australia**

[issbd2006.com.au](http://issbd2006.com.au)

**19TH BIENNIAL ISSBD MEETING CALL FOR PAPERS NOW OPEN**

The 19th Biennial Meeting of the International Society for the Study of Behavioural Development (ISSBD) will be held in Melbourne, Australia from 2-6 July 2006.

On behalf of the organizing committees for ISSBD 2006 we invite you to join your Australian and international colleagues for the first conference to be hosted by Australian ISSBD members. Australia boasts a proud tradition of scholarship and practice in human development. Participation in ISSBD 2006 will give you an opportunity to experience life 'down under', renew friendships and research contacts, and embark on new associations as you keep up to date with the latest research and thinking on human development.

Melbourne is gateway to a wider experience of what makes Australia a special place. Visit the website for information on pre- and post-conference tour opportunities (<http://www.issbd2006.com.au/pre&post.shtml>). We



invite you to make ISSBD 2006 part of your forward planning and to submit a presentation.

Many people are contributing to the organization of the conference. The Local Organizing Committee includes members from most Melbourne-based universities reflecting the strong cooperation among them in ensuring this conference is one to remember. A National Committee includes representation from other Australian states and the leading professional psychology and human development organizations. The International Program Committee is also helping to ensure that a cutting-edge scientific program is offered to participants. Details of the membership of these committees can be found on the website (<http://www.issbd2006.com.au>).

Visit us at:  
<http://www.issbd2006.com.au>

## PROGRAMME OVERVIEW

### SCIENTIFIC PROGRAMME

English is the official language of the conference. The scientific programme includes keynote and invited addresses, paper and poster symposia, and individual posters. The programme also includes special features such as a Young Scholars Initiative, a Discussion Hour on how ISSBD can support scholars in developing countries, and a Pre-Conference Workshop on secondary data analysis of large longitudinal data sets.



### KEYNOTE SPEAKERS

We are delighted to announce that eminent keynote and invited presenters have accepted our invitation. Their areas of scholarship reflect the inter-cultural richness of ISSBD and they represent six continents.

*Associate Professor Andrew Dawes* (South Africa)  
*Professor Lei Chang* (China)  
*Professor Michael Chandler* (Canada)  
*Professor Maria Clotilde Rossetti-Ferreira* (Brazil)  
*Professor Jacqueline Goodnow* (Australia)  
*Professor Harlene Hayne* (New Zealand)  
*Professor Barbara Rogoff* (United States)  
*Professor Jaccqui Smith* (Germany)  
*Professor Richard Tremblay* (Canada)

The programme also includes a number of invited symposia on cutting-edge research issues, as well as many other paper and poster symposia. The Young Scholars Initiative is being organized by Deepali Sharma from India, Karina Weichold from Germany, Kharissa Cheah from the USA and Sophie Havinghurst from Australia, and will provide a forum within the conference that will enable young scholars to interact with each other and with senior scientists in small groups. The Discussion Hour on “How can ISSBD make a difference in the developing world?” will feature a distinguished international panel of ISSBD members and will invite audience participation. With these and many more conference highlights including symposia and poster sessions, we believe the scientific program will be stimulating and memorable.

### PRE-CONFERENCE WORKSHOP

The two-day workshop will be held on the 1st and 2nd of July 2006, immediately preceding the ISSBD

Conference. The workshop is entitled, “**Development in context: Making best use of existing longitudinal data**” and will be of value to all researchers with an interest in secondary data analysis, as well as those interested in longitudinal studies in general. It will be targeted particularly,

but not exclusively, to young scholars who do not have the resources to collect extensive across-time data themselves, but have an interest in relatively complex analyses of large-scale datasets. The workshop will highlight a selected set of recent significant findings emerging from longitudinal studies and explore how

analyses of these studies can achieve greater breadth and depth through use of appropriate statistical techniques, by linking the research findings to policy, and by identifying areas of common concern across data sets.

**The Pre Conference Workshop is specifically designed to be capacity building, facilitating access to datasets for researchers without the resources to gather such large-scale data.** The theoretical framework for the workshop will be grounded in the contextualization of human development. Senior representatives of the selected longitudinal studies as well as researchers with expertise in analysis will be presenting.

### Social Programme

The Local Program Committee has put together a number of social events to complement the scientific program. The Welcome Reception will feature a welcome to delegates by an Indigenous Elder. Registration includes morning and afternoon teas and lunch throughout the conference program to give delegates the opportunity to meet and exchange news and views with international colleagues over coffee and lunch in congenial surroundings between conference sessions. A highlight of the social program will be

“The Not to be Missed Dinner with the Fishes” to be held at the Melbourne Aquarium. The novel venue promises a memorable dinner with a touch of the unexpected. This occasion will be talked about long after the conference is over.

Visit us at:  
<http://www.issbd2006.com.au>

### Submissions

The Program Committee invites submissions for paper symposia, poster symposia symposia and

individual posters from ISSBD members, non-members, students, faculty and researchers. Contributions are welcomed on a range of topic areas, as listed below, within a wide range of clinical, and applied to and theoretical areas of developmental science. The online abstract submission site can be found at <http://www.issbd2006.com.au/callforpapers.shtml> as listed below.

Review panel topic areas include:

- Infancy
- Perceptual, sensory, motor & and psychobiological processes
- Children at risk & and atypical development
- Adolescence
- Language
- Cognition
- Educational issues & and school context
- Social development & and peer relations
- Affect & and temperament
- Parenting, family & and kinship relations
- Cultural & and cross-cultural studies
- Adult years & and ageing
- Methodology & and statistics
- Life span
- Development & and psychopathology

**Paper Symposia** – Paper symposia include oral presentations on a specific theme and involve an integration of findings from different research projects. Symposia should be organised by two co-convenors (preferably from different countries) and will be scheduled for 1½ hours. Paper symposia should normally include 3 presentations and a discussant, or 4 presentations. Submissions must be in English and should include:

- name, affiliation, and contact details of co-convenors,
- name and affiliation of discussant,
- 250-word abstract on the overall symposium followed by
- 250-word abstract of each presentation (all in the one document) with the name, affiliation and contact details of each presenter and any co-authors listed at the top of each abstract, and
- review panel preference.

**Poster symposia** – A poster symposium is a set of about 6 to 10 posters based around a theme. Poster

symposia should be organised by two co-convenors (preferably from different continents), and should include a discussant. Posters will be displayed for at least 2 hours, and a 1-hour discussion period will be scheduled. Submissions must be in English and should include:

- name, affiliation and contact details of co-convenors,
- name and affiliation of discussant,
- 250-word abstract on the overall symposium,
- 250-word abstract of each poster (all in one document), with name, affiliation and contact details of first author and any co-authors, and
- review panel preference.

**Posters** – individual posters will be accepted for the presentation of theoretical, empirical or applied research. Submissions must be in English and should include:

- 250-word abstract, with name, affiliation and contact details of first author and any co-authors listed at the top of the abstract, and
- review panel preference.

**The online abstract submission site can be found at** <http://www.issbd2006.com.au/callforpapers.shtml>

### YOUNG SCHOLARS INITIATIVE – DEVELOPMENT THROUGH THE LIFE SPAN

This forum is an exciting part of the ISSBD 2006 Meeting, which will enable young scholars to interact with each other and also meet with senior scientists in small groups to talk about the scholar's area of research interest. The forum aims to be able to provide the support and mentorship for young scholars, especially those from developing countries.

Interested participants are urged to submit an **abstract (250 words)** on their research topic on at the online abstract submission site at <http://www.issbd2006.com.au/callforpapers.shtml>



### Melbourne, Australia

If you haven't visited Australia or are returning for another experience again, we look forward to making your participation in the 19th ISSBD Meeting a memorable one. The conference will provide wonderful social events for you to relax and enjoy the company of your colleagues.



The conference venue, The Carlton Crest Hotel Melbourne, is situated only 10 minutes (by tram) (or a 30 minute leisurely walk) from the heart of the city. It overlooks a lake embedded in beautiful parkland and a lake and is close only a short-

distance from St Kilda, one of Melbourne's most vibrant areas offering a great range of cafes and restaurants.

**PRE & POST CONFERENCE HOLIDAY PACKAGES**

A range of tours is offered for ISSBD delegates to visit some



of Australia's truly unique locations, such as including, including The Great Barrier Reef, Uluru (Ayers Rock) and Kakadu National Park in the Northern Territory, Tasmanian wilderness, as well as Sydney, the host of the 2002

Olympic Games, along with and many other locations along the way.

Day tours in and around Melbourne will also be offered to delegates, with our tour operators will be pleased to assist you with additional information and bookings.



**Visit us at:**  
<http://www.issbd2006.com.au>

**REGISTRATION, ACCOMMODATION & TRAVEL INFORMATION & REGISTRATION DETAILS**

Registration can be made on-line at <http://www.issbd2006.com.au>. The registration fee includes the Welcome Function, morning and afternoon tea, and lunch for the duration of the conference. Details on a range of accommodation options, useful links to travel and airline sites, and registration fees are all detailed now on the website. A Registration Form is printed here and may be submitted by fax to the Conference Office at the address which appears at the end of this announcement.

The exchange rate for Australian dollars varies but is generally around US\$0.75 and Euro 0.63.

Accommodation will be offered at the University of Melbourne Colleges for as low as AUD\$48 (including breakfast) and at the conference venue for AUD\$120, as well as a range of other nearby hotels and apartments.

We look forward to seeing you in Melbourne, Australia, and urge you to submit an abstract and plan to attend the ISSBD 2006.

**Please visit the website for full details**  
[www.issbd2006.com.au](http://www.issbd2006.com.au)





The preferred method of registration is via the web at: [www.issbd2006.com.au](http://www.issbd2006.com.au). Otherwise, please complete this form.



19th Biennial Meeting  
**International Society**  
for the Study of **behavioural**  
**development**  
the interface of research with policy and practice

registration form ↘



The preferred method of registration is via the web at: www.issbd2006.com.au. Otherwise, please complete this form.

TAX INVOICE

ABN: 84 002 705 224

Please print in block letters and keep a photocopy for your record. One form per person please.

Note that all prices quoted are in Australian dollars and are inclusive of Goods and Services Tax (GST).

By completing this registration form you have read, understood and agree to both cancellation policies and the privacy statement as stated on this form.

19th Biennial Meeting International Society for the Study of behavioural development



the interface of research with policy and practice

CONTACT DETAILS

Form with fields for contact details: Title, Surname, First Name, Organisation, Position, Address, Town/City, Country, Zip/Postcode, Mobile (cell) Telephone, Work Telephone, Work Fax, Home Telephone, Email, Preferred Name for Name Badge.

1 CONFERENCE REGISTRATION \*Full registration (including student registration) includes attendance at all conference sessions, morning teas, lunches and afternoon teas, conference satchel and materials.

Table with 4 columns: TYPE OF REGISTRATION, EARLY BIRD (paid by 28 February 2006), STANDARD (paid by 1 June 2006), LATE (paid after 1 June 2006). Rows include ISSBD Members Registration, Non Members Registration, Reduced Fee Registration, Day Registration, and Accompanying person.

\*If you are applying for a Student Registration you must send proof of your full time student status to the Conference Office, The Meeting Planners, 91-97 Islington Street, Collingwood, VIC 3066, Australia



## 19th Biennial Meeting International Society for the Study of Behavioural Development

**2 PRE CONFERENCE WORKSHOP****Development in context: Making best use of existing longitudinal data**

The workshop will be of value to all researchers with an interest in secondary data analysis, as well as those interested in longitudinal studies in general. (Refer to the Pre Conference workshop section at [www.issbd2006.com.au](http://www.issbd2006.com.au) for further details).

**Saturday 1st & Sunday 2nd July 2006**

Two days \$200     Sat only \$120     Sunday only \$120

**PRE CONFERENCE WORKSHOP SUB TOTAL A\$** **3 SOCIAL EVENTS – CONFERENCE DINNER****WELCOME RECEPTION**

Sunday 2 July. This event is included in the cost of the registration fee and to assist with catering please indicate if you wish to attend.

Yes. I will attend.     No. I will not attend.

Tickets for partners/guests can be purchased for AUD\$35

No. of tickets  x AUD\$35 = AUD\$

**CONFERENCE DINNER** – The “Not to be Missed Dinner with the Fishes” at the Melbourne Aquarium, Wednesday 5 July  
This event is not included in the cost of the registration fee. Additional tickets are available for partners/guests.

No. of tickets  x AUD\$100 = AUD\$

**SOCIAL EVENTS SUB TOTAL A\$** Name of additional attendee/s **DIETARY REQUIREMENTS**

Please indicate if you have any special dietary requirements

Please indicate if your guest/s have any special dietary requirements

**4 ACCOMMODATION**

The conference office cannot accept accommodation booking after 31st May 2006. Delegates will need to make their own accommodation arrangements after this date. Refer to the Accommodation section at [www.issbd2006.com.au](http://www.issbd2006.com.au) for full details.

RATING	NAME	ROOM TYPE Rate per room per night Double (one bed)
4.5	<b>Carlton Crest</b> (Conference venue) 65 Queens Road, Melbourne 3004	Standard Room \$120 Superior Room \$150
4.5	<b>St Kilda Rd Parkview Hotel</b> 562 St Kilda Road, Melbourne Vic 3004 (5–10 min walk)	Twin, Double & Queen Rooms \$155
3.5	<b>The Oaks Griffin Suites</b> 604 St Kilda Road, Melbourne Vic 3000 (5–10 min walk)	Studio Room – \$116 One Bedroom – \$143 2 Bedroom – \$206
	<b>*St Mary's College</b> <b>The University of Melbourne</b> Swanston St, Parkville Vic 3052 (20 min tram ride)	\$45 per night – student full time (proof may be requested) \$52 per night – non student (both rates include substantial continental breakfast)

Please indicate your preference:

**1st Preference****2nd Preference**, if first choice is not available**3rd Preference**, if first & second choice is not available

**Note:** Hotel bookings will not be accepted unless accompanied by a minimum of one night's tariff as deposit.

\* Full payment for all nights staying is required for St Mary's College



19th Biennial Meeting International Society for the Study of Behavioural Development

ACCOMMODATION SUB TOTAL A\$

Payment of this 1st night deposit will secure your reservation. The rates per room per night are inclusive of GST. However the GST will be charged by the hotel, as we will forward this deposit to the hotel on your behalf.

Any Special Requirements

I have arranged to share with

ARRIVAL

Day In /7/06 (check in 2:00pm onwards) Time of arrival : am pm

DEPARTURE

Day Out /7/06 (check out approximately 10:00am)

Change of Booking

Any change to a reservation (changes can only be accepted up to 31st May 2006) must be notified in writing to the Conference Office and not directly to the hotel.

Refund/Cancellation

Unless notification of cancellation is received in writing thirty days prior to arrival date, the accommodation deposit will be forfeited in all instances.

PAYMENT SUMMARY

Please transfer all sub totals from the sections above and check your calculations carefully.

1 CONFERENCE REGISTRATION AUD\$

2 PRE CONFERENCE WORKSHOP AUD\$

3 SOCIAL EVENTS AUD\$

4 ACCOMMODATION AUD\$

TOTAL PAYMENT AUD\$

METHOD OF PAYMENT

- Cheque Bank Draft (cheques/bank drafts payable in AUD\$ to "ISSBD 2006") Credit Card Bankcard MasterCard Visa American Express Diners

Cardholder's Name

Expiry Date

Card No.

Signature

If paying by credit card, registrations can be made by facsimile or via the website.

All amounts in this brochure are in Australian dollars (AUD\$) and include 10% Goods and Services Tax (GST).

Cancellation Statement

Cancellations received in writing at the Conference Office by 31st May 2006 will be accepted and all fees refunded less an AUD\$100 administrative fee. Cancellations received after this date cannot be accepted and will not be refunded, however transfer of your registration to another person is acceptable. The full name and details of the person who will replace you must be advised in writing to the Conference Office prior to the Conference. No refunds will be made for non-attendance at the Conference. It is recommended that you keep a copy of this registration form. By submitting this form you agree to terms of the cancellation policy.

Privacy Statement

The ISSBD 2006 Conference Organizing Committee is bound by, and committed to supporting, the National Privacy Principles (NPPs) set out in the Privacy Amendment (Private Sector) Act 2000.

ISSBD will collect and store information you provide in this Registration Form for the purposes of enabling us to register your attendance at the conference, to assist with administrative and planning purposes and for future planning and development of the conference and other events, to facilitate your requirements in relation to the conference and to allow the compilation and analysis of statistics.

The information that you provide in the Registration form and information provided at any other time during the conference, including without limitation any feedback obtained during the conference, will be used by ISSBD to offer, provide and continue to improve its conference and other services. ISSBD may disclose some of the information that is collected in the Registration Form such as your name, organisation and its location and your email address to other ISSBD delegates and (unless you object in writing to us) to conference sponsors and exhibitors for marketing purposes.

ISSBD will not otherwise, without your consent, use or disclose your personal information for any purpose unless it would reasonably be expected that such purpose is related to the offer, provision and improvement of ISSBD or where such purpose is permitted or required by law.

Please complete and return this form to:

Conference Office
The Meeting Planners Pty Ltd
91-97 Islington Street
Collingwood VIC 3066 AUSTRALIA

If you require additional information contact:

www.issbd2006.com.au
Ph: + 61 3 9417 0888
Fax: +61 3 9417 0899
Email: issbd2006@meetingplanners.com.au



## The ISSBD Workshop in Jerusalem: A New Palestinian-Israeli friendship

Sometimes as we stroll through life we meet someone that we just feel we have known all of our lives. Such is the case when we met.

It was while working on an Israeli-Palestinian joint regional scientific workshop entitled "Chronic exposure to war experiences and political violence: Links to the well being of children and their families" that took place in Jerusalem on the 15th -18th May 2005. The workshop was sponsored by the International Society for the Study of Behavioural Development (ISSBD) in cooperation with Al Quds University, the University of Haifa and the Peres Center for Peace.

The Stimulating and successful workshop consisted of eight sessions covering 25 lectures. Between speakers and participants the total number of those attending was 100, divided almost equally between Israelis, Palestininas and Internationals.

Organizing the workshop in Jerusalem was not easy, and we had many worries. The organizing committee, composed of Palestinians and Israelis, worked together like a wonderful orchestra – each member contributed in his/her capacity and our experience as members of the organizing committee were both professionally and personally so rewarding.

Any professional would know what we are speaking about when we say someone will come into a room and you feel a strong bond of cooperation almost immediately. This, along with many other things in our lives, is unexplainable. It just can happen and when it does, you realize you have found a special treasure. This person, many times, becomes the sensible side of your nature. The outsider looking in.

It is not easy to find a special person who enrich your life in more ways than can be imagined, and who will change your life for ever. Someone who came into your life and you are sure this person is there to stay.

Such is the case when we met. We started as good colleagues and ended up as best friends. We have not been friends a long time, but it seems as though we have known each other all of our lives.

On many occasions we feel that this is a live proof that Israelis and Palestinians can work and study together but above all, we are now certain that they can become friends.

**Christine Jildeh**

*Al-Quds University*

**Vered Mayer**

*University of Haifa*

*Both were members of the organizing committee*

*Haifa, Jerusalem  
7th August, 2005*

## The ISSBD Workshop in Moscow

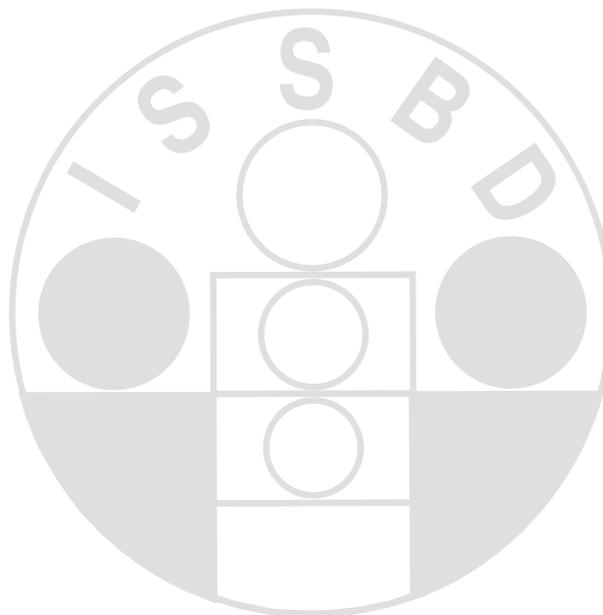
The ISSBD sponsored regional workshop on "Self-regulation in context of social change" was held in Moscow June 20-23, 2005. The aim of the workshop was to enable young scholars of human development in countries undergoing rapid social and political change to draw from the best of research on self-regulation within a dynamic paradigm of human development in social context. There were four areas of focus: Models of developmental regulation and social change; Emotion regulation and adjustment; Behavioral regulation and adjustment; and Optimization of development and intervention. Senior scholars from abroad and Russia who took part in the workshop were Karin Bierman, Pennsylvania State University; Nancy Eisenberg, Arizona State University; Alexander Grob, University of Berne; Jutta Heckhausen, University of California, Irvine; Kenneth Rubin, University of Maryland; Rainer K. Silbereisen, University of Jena; Laurence Steinberg, Temple University; and Anna Stetsenko, City University of New York; Andrey Podolsky, Moscow State University.

The Workshop comprised two lectures each morning followed by discussions in thematic groups and poster sessions in the afternoons. In the evenings various formats allowed young scholars to discuss their work with the senior scholars.

Applications were received from 100 graduate students and younger faculty members from Russia and other new countries in the region who are working in the field of emotional — behavioral regulation.

Forty participants presented their own research via a poster exhibition and had an opportunity to discuss it with some of the foremost scholars in the field.

The workshop was sited in the Russian State Pedagogical-Psychology University, Moscow. Professors Tatiana Yermolova, Elena Sergienko and Marina Egorova served as participants and hosts.



## Memoir: Harold Stevenson

Harold Stevenson, one of the most influential developmental psychologists of the second half of the 20th century, died on July 8. He was an energetic creator of international connections between developmental scientists worldwide.

Harold was born in the coal-mining town of Dines, Wyoming, where he received his elementary education in a one-room schoolhouse. He joined the Navy in World War II and studied at the Japanese Language School in Monterey, CA where a fascination with East Asia was born. After the war, he received a B.A. from the University of Colorado, where he also met Nancy Guy. Later when Harold and Nancy were graduate students at Stanford University, they married.

Beginning in 1950 Harold taught at Pomona College, and then moved to the University of Texas, the University of Minnesota, and the University of Michigan where he retired in 2001. At Texas, Harold established one of the first racially integrated university preschools in the country. In 1959 he became the Director of the Institute of Child Development at Minnesota, helping forge it into one of the premier programs in child psychology in the country and the world. In 1971 he moved to the University of Michigan as Professor of Psychology and Fellow at the Center for Human Growth and Development.

An individual can make a contribution to developmental science in many ways: through his or her own research, through students, through efforts on behalf of institutions and organizations which nurture and shape the field. What distinguishes Harold Stevenson is that he contributed remarkably in all these roles.

In the 1960s he helped define and establish the field of children's learning, one of the most fundamental topics of concern to developmental psychology. Harold traveled to China in 1973 as part of the first delegation of Western researchers to visit after the Cultural Revolution. This helped re-ignite his interest in East Asia leading to his second wave of famous research, that on educational achievement and learning in Japan, China and the US, summarized in 1992 in his well-recognized book (with Jim Stigler) "The Learning Gap." Harold's approach was typically direct, ingenious, and rigorous. To devise a test of mathematics achievement, he began by extensively analyzing the mathematics textbooks and curricula in the three countries. Only concepts taught at the same grades in all three cultures were included on the test which was given to statistically representative samples of children. His research program also encompassed tests of reading and basic cognition as well as observation and analyses of in-class and at-home teaching. In the end it included

research in Hungary, Canada, Britain, and Germany (as well as the US, Japan, China, Taiwan and Hong Kong).

This research greatly impacted public debate in the US about American education, and was as influential in China and Japan as in the West. It was featured in *Newsweek*, *Scientific American*, many newspapers worldwide, and in numerous television shows as well.

Harold was also extremely influential in establishing and invigorating a number of important organizations. In particular he was a founding member of ISSBD and its President from 1987-91. Harold, with his colleague Jing Qicheng in Beijing, was key to the initial establishment of relations and cooperative programs between psychologists in mainland China and the West. With his colleague Hiroshi Azuma he invigorated similar relations between psychologists and educators in Japan and the

West. Through ISSBD he arranged for the

ISSBD meeting in Tokyo, and for the ISSBD satellite meeting in Beijing. In 2004 the Chinese Psychological Society hosted the International Congress of Psychology meetings in Beijing, a direct outgrowth of international cooperative arrangements initially established by Stevenson and Jing.

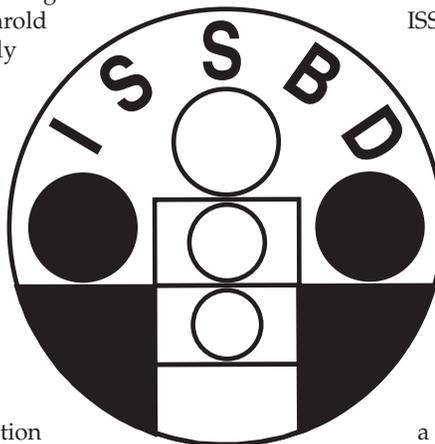
Harold's contributions were magnified by the great many impressive students he mentored. In 1996 dozens of former students and current colleagues wrote letters to Harold when he was honored with a Festschrift. One of these noted:

"Everyone who has seen you in action is continually amazed at your incredible talents as an administrator. I remember that whenever something needed to be done in Division 7 (of APA) or SRCD or ISSBD the cry would always go out – "Let's see if we can get Harold to do it!" ... It is not just your administrative skills that virtually guarantee success in such ventures. People also like and trust you. They know you are an honest and decent person, a warm human being who has that rare commodity-- real integrity."

These themes of organizational acumen and integrity are constantly echoed by many who knew Harold, as are comments about his boundless energy, his respect for diversity and other cultures and his ability to enable others to do their best work.

In addition to his wife Nancy of 54 years, Harold is survived by his four children and seven grandchildren. It is fitting to end on this note because family was enormously important to Harold. Fortunately, a great many of us were included by him into his larger international family of friends and colleagues.

*Henry Wellman*  
Department of Psychology  
University of Michigan  
USA





## ISSBD Call for Awards 2006

ISSBD is pleased to announce its biennial call for awards in an effort to recognize the distinguished contributions of Society members. You will find below a description of the four awards to be made at the 2006 Biennial Meetings of ISSBD in Melbourne, Australia.

Nominations, as outlined below, should be sent by mail, fax, or e-mail to Avi Sagi-Schwartz, Chair, Awards Committee. Deadline for receipt of nominations is December 31, 2005.

**Avi Sagi-Schwartz**  
**ISSBD Award committee**  
**Center for the Study of Child Development**  
**University of Haifa**  
**6035 Rabin Building**  
**Haifa 31905**  
**Israel**  
**Fax: + 972 4 8253896 |**  
**Email: [sagi@psy.haifa.ac.il](mailto:sagi@psy.haifa.ac.il)**

**The ISSBD Distinguished Scientific Contribution Award** honors a single individual who has made distinguished theoretical or empirical contributions to basic research, student training, and other scholarly endeavors in Behavioral Development. Evaluations are based on the scientific merit of the individual's work, and the significance of this work for generating new empirical or theoretical areas in the study of Behavioral Development.

**The ISSBD Distinguished Scientific Award for the Applications of Behavioral Development Theory and Research** honors researchers who have made distinguished theoretical or empirical advances in Behavioral Development leading to the understanding or amelioration of important practical problems. The award is for an individual whose work has contributed not only to the science of Behavioral Development, but who has also worked to the benefit of the application of science to society. The individual's contributions may have been made through advocacy, direct service, influencing public policy or education, or through any other routes that enable the science of Behavioral Development to improve the welfare of children and/or adults, and/or families.

**The ISSBD Award for Distinguished Contributions to the International Advancement of Research and Theory in Behavioral Development** honors distinguished and enduring

lifetime contributions to international cooperation and advancement of knowledge. Candidates may be from any country.

For these awards, nominators should include in the letter of nomination a statement addressing the following questions:

1. What are the general themes of the nominee's research program?
2. What important research findings are attributed to the nominee?
3. To what extent have the nominee's theoretical contributions generated research in the field?
4. What has been the significant and enduring influence of the nominee's research?
5. What influence has the nominee had on students and others in the same field of study? If possible, please identify the nominee's former (and current, if relevant) graduate students and post-doctoral fellows.

Nominations must include a letter of nomination; a current curriculum vita; up to five representative reprints; and the names, addresses, and e-mail addresses of several scientists familiar with the nominee's research and theoretical writings.

**The ISSBD Young Scientist Award** recognizes a young scientist who has made a distinguished theoretical contribution to the study of Behavioral Development, has conducted programmatic research of distinction, or has made a distinguished contribution to the dissemination of developmental science. The award is for continued efforts rather than a single outstanding work. Scientists who are within seven years of completion of the doctoral degree are eligible, and for the 2006 award, nominees should have received their degrees in 1999 or later. The Young Scientist Award will include also travel money, free registration and a stipend (\$500).

For this award, nominations must include a letter of nomination; a current curriculum vita; up to five representative reprints; and the names, addresses, and e-mail addresses of several scientists familiar with the nominee's research and theoretical writings.

Members of the Awards Committee are excluded as possible nominees. The President and President-Elect of ISSBD are ineligible for nomination.

## MAJOR CONFERENCES OF INTEREST

### 2006 May 2-6

*2006 Conference of the European Association for Research on Adolescence (EARA)*

Venue: Hotel Sheraton Voyager Antalya

Website: <http://eara2006.ebuline.com>

E-mail: [eara2006@ebuline.com](mailto:eara2006@ebuline.com)

### 2006 July 16-21

*26th International Congress of Applied Psychology of the International Association of Applied Psychology (ICAP)*

Location: Athens, Greece

Website: [www.iaapsy.org](http://www.iaapsy.org)

### 2006 May 25-May 28

*The 18th Annual Convention of the American Psychological Society (APS)*

Location: New York, NY, USA

Website: [www.psychologicalscience.org/convention](http://www.psychologicalscience.org/convention)

### 2006 July 23-27

*Fourth Biennial International SELF Research Conference*

Location: Ann Arbor, Michigan, USA

Contact: Jacque Eccles ([jeccles@umich.edu](mailto:jeccles@umich.edu)) or Deanna Maida ([dmigut@umich.edu](mailto:dmigut@umich.edu))

Website: [www.SELFconference.org](http://www.SELFconference.org)

### 2006 July 11-15

*18th Congress of the International Association of Cross-Cultural Psychology (IACCP)*

Location: Isle of Spetses, Greece

Website: [www.iaccp2006.psych.uoa.gr](http://www.iaccp2006.psych.uoa.gr)

### 2006 August 10-13

*The 114th Annual Convention of the American Psychological Association (APA)*

Location: New Orleans, Louisiana, USA

Website: [www.apa.org/convention](http://www.apa.org/convention)

### 2006 July 12-16

*29th Annual Scientific Meeting of the International Society of Political Psychology (ISPP)*

Location: Barcelona, Spain

Website: <http://ispp.org/meet.html>

### 2008 July 20-25

*XXIX International Congress of Psychology (ICP)*

Location: Berlin, Germany

Website: [www.icp2008.de](http://www.icp2008.de)

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## NOTE FROM EDITORS

With our editorial term ending soon, we wish to express our tremendous appreciation to the many individuals who have worked closely with us in insuring the success of the Newsletter. This includes the authors who have contributed to the thoughtful intellectual interchange that takes place each issue, as well as to the many individuals who have helped to make the Newsletter an effective forum for communication about the activities and concerns of ISSBD. It has been our pleasure to serve in this role and we have been grateful for the opportunity.

During the past years, we have fully shared responsibility for the intellectual direction of the Newsletter, including identifying topics and authors for the Special Section and providing feedback on manuscripts, with Joan Miller taking the lead in everyday administrative aspects of the Newsletter. This division of responsibilities will continue to the end of our term. However, with this issue and extending into the future, the editorship of the Newsletter will be changed to a system of "joint editors".