PERSONS, CONTEXTS, AND PERSONAL PROJECTS

Assumptive Themes of a Methodological Transactionalism

Brian R. Little

Department of Psychology
Carleton University
Ottawa, ON K1S5B6, Canada

1. INTRODUCTION

Our research program on personality and social ecology is based explicitly on a set of assumptive propositions about the nature of persons, the nature of contexts, and the transactional features of persons in context (Little, 1976, 1983, 1989; Little & Ryan, 1979). Our perspective shares many of the assumptions of other transactional or social ecological approaches (e.g. Altman & Rogoff, 1987; Bronfenbrenner, 1979; Endler, 1983; Moos, 1973; Wapner, 1987) but those commonalities will not be the primary concern of this chapter. Rather, I wish to emphasize the most distinctive feature of our approach: its emphasis on ways of *measuring* person-context relations This approach assumes the need for isomorphism between conceptual units of analysis and their measurement operations. This *methodological transactionalism* is the superordinate assumptive theme in our work and undergirds each of the other core themes to be discussed in this chapter.

Central to our perspective is the assumption that personal projects, extended sets of personally salient action, serve as "carrier" units for the study of the transactional processes of persons acting in context. A personal project is neither exclusively a person unit, nor a contextual unit; it is a "person-in-context" unit of analysis (Little, 1987; Wapner, 1981).

By way of overview, personal projects analysis (PPA) as a methodology comprises several assessment modules. Individuals first generate a listing of their own personal projects. They then appraise each project on a set of dimensions (typically between fifteen and twenty) chosen for their theoretical and applied importance (e.g., how

enjoyable, stressful, and how much under their control each project is). Optional procedures examine the impact of projects on each other (as well as those of other people), and the hierarchical position of each project within the larger system.

Introductions to the methodological components of personal projects analysis have appeared elsewhere (Little, 1989, 1993, in press a, in press b) as have detailed treatments of the social ecological model (Little & Ryan, 1979). My goal in this chapter will be to *interrelate* these two aspects of our work by showing that, common to both the social ecological theoretical perspective and the methodology of personal projects analysis, are four major assumptive themes: constructivism, contextualism, conativism and consiliency. Consistent with the goals of this volume, I will show how these four core assumptions are linked with twelve measurement criteria and how these linkages have generated a novel set of theoretical, research and policy implications for environment-behavior research and for the study of human well-being.

2. ASSUMPTIONS

2.1. Constructivism: Reflexive, Personally Salient, and Evocative Assessment

Constructivism is the assumption that the individual's personal construal of self, context, and daily transactions is of fundamental importance, and that a comprehensive examination of person-environment transactions must include the systematic exploration of the individual's personal viewpoint. Although this assumption is consistent with phenomenological and narrative perspectives in environmental psychology (e.g., Sarbin, 1983; Seamon, 1987) the root source of our particular social ecological perspective is Kelly's (1955) personal construct theory (Little, 1972, 1983). Kelly emphasized the critical importance of understanding the distinctive "personal constructs" through which individuals view themselves and their contexts. Personal constructs are bi-polar templates or conceptual "goggles" through which individuals view their worlds. One of the distinctive contributions of Kelly was his development of a methodology, repertory grid technique, through which one can obtain actual samples of the personal constructs used by individuals (Kelly, 1955).

Kellians have long argued that there is an intimate link between the tacit assumptions undergirding a theory and the stances we take toward our research subjects. Kellians regard their research subjects as co-scientists who are actively trying to make sense of their world by erecting and testing hypotheses about it. This assumption, formally known as *reflexivity*, is also part of the assumptive structure of our research program on personality and social ecology. It proposes that the analytic units through which we explain the actions of our research subjects should be the same as those through which we explain our own conduct as scientists. Both constructs and projects are common elements in the pursuits of professional and "lay"scientists alike and are, in that sense, reflexive units of analysis.

One consequence of the reflexivity assumption is the adoption of what personal construct theorists call a credulous approach to assessment. This assumes that individuals are privileged sources of information about their transactional experiences. We thus approach our undergraduate student subjects as inquisitive co-investigators rather than as sleepy data points in baseball caps. If we are puzzled about how these subjects

think about a particular situation, context or transition, the credulous approach enjoins us, in Allport's (1937) classic phrase to "ask them" (to which Kelly, 1955 adds "They might just tell us").

Our own adoption of the constructivist assumption and its corollary of credulousness is seen in the elicitation phase of personal projects analysis (PPA) (Little, 1983). In PPA our concern is with determining what individuals are currently doing in their lives. Such "doings" are transactional units of analysis affording us an image both of the person and of the context within which the action occurs. In lay terms we are asking "What are people up to?". In the project elicitation procedure, respondents generate a list of their personal projects which may be at the inception or planning stages, in full flight, or nearing completion. The listings we have received and stored over the years have been informative and often intriguing. They have ranged from quotidian routines (e.g., "pick up the newspaper", "put out the cat") to the prepossessing commitments of our lives (e.g., "Help my Mom cope with Alzheimers"; "figure out whether I still want my relationship with Suzanne to work"). The essential characteristic of this methodological reflection of a constructivist theme is that the unit of analysis with which subjects work is *personally salient* to them. The contrast to such a methodological approach would be the use of assessment techniques in which individuals are probed via questionnaire items that reflect the *investigator's* professionally salient constructs, rather than the respondents' personally salient ones. As we shall see, it is possible to conjoin both of these legitimate concerns in a transactional methodology.

An important consequence of the constructivist assumption, both in the study of personal constructs and of personal projects, is that it provides a distinctive solution to a problem that I believe has received insufficient attention. We might call this the "winnowing problem"—the need to deal with the potentially unmanageable volume of information that is generated if one takes a constructivist approach seriously. Consider, for example, the sheer volume of cognitions and acts in which individuals engage in their daily lives. To attempt a complete elicitation and cataloguing of these would be impossible. The question thus arises as to how to winnow appropriately for the purposes of understanding important aspects of human conduct. One approach to this is to allow the theoretical or applied interests of the researcher to dictate and delimit the types of cognitions or acts that are going to be studied. This is a time honored and appropriate approach, and the social ecological perspective that we have been developing can be adapted for such theoretical or applied research purposes. However, we believe that there is a more fundamental, propaedeutic task that needs to be carried out, at least in concert with, if not before, theory testing research. We need to know the content, frequency, and nature of the personally salient actions in which individuals are engaged, without respondents being specifically primed to elicit information in any particular domain. Our position is that until such research is carried out we will remain ignorant of the actual distribution of projects and activities in daily life and therefore have a truncated or distorted base upon which to construct an empirical science. Environmental psychologists will recognize this as essentially the same argument employed by Roger Barker in admonishing researchers to catalog exhaustively the activities going on in behavior settings, before proceeding to the logically subsequent task of discovering and explaining regularities by causal models (Barker, 1968).

The final implication of basing our methodology on a set of constructivist assumptions is that it becomes possible to make the assessment experience itself something that is *personally evocative* for the participant in our research. One of the heartening

aspects of adopting methodological tools such as personal projects analysis is that participants frequently report that the assessment experience is evocative and provides opportunities for personal reflection (see, for example, Omodei & Wearing, 1990). Relatedly, I have recently suggested that psychologists be encouraged to explore the considerable potential of multimedia technology in their assessment methodologies, so that the coming together of scientist and subject or professional and patient can actually be an engaging aesthetic experience. (Little, in press c).

2.2. Contextualism: Ecologically Representative, Temporal, and Social Indicator Assessment

The environmental counterpart to our assumption of constructivism is contextualism—the assumption that human conduct is explicable only if the contexts within which it is embedded are systematically explored. These contexts range in scale from the microecology of action to the macroecology and historical epochs within which much of our behavior can be understood. The methodological implication of this is that our assessment units must be *ecologically representative*. By this we mean that they should bring into focus those aspects of their context that shape, facilitate and frustrate the daily lives of those being assessed. A number of methodological implications flow from this assumption. It entails the elicitation of information about the personal contexts of daily lives as well as of the objective environments, a distinction captured decades ago in Murray's distinction between alpha and beta press (Murray, 1938). These personal contexts may comprise both social and physical environmental features. We solicit information relevant to our respondents' personal contexts in several different ways. First, the content of the projects frequently is explicitly concerned with context relevant material (e.g. "Prepare the garden for fall", "clean up after the ice-storm"). Second, we use appraisal dimensions that are contextually relevant (e.g. "To what extent does your work environment frustrate or facilitate each of your projects?" (Phillips, Little, & Goodine, 1996). Third, we have used "open columns" in which respondents tell us "With Whom" and "Where" their projects are being undertaken (Little, 1983; Little, Pychyl, & Gordon, 1986).

Another aspect of our contextualist assumption is that our units of analysis need to be sensitive to the *temporal* aspects of behavior. Personal projects are *extended* sets of personally salient conduct and their dynamic nature means that we can examine the stages through which they progress as they move from the nascent thought of a course of action to reflection on its success or anguish over its failure. This feature of our methodology contrasts most clearly again with trait units, which are conceived of as relatively static features of individuals (e.g. Costa & McCrae, 1994). The psychometric implications of these differences are notable. High test-retest reliabilities of the indices derived from the assessment of dynamic projects could, in rapidly changing systems, actually be evidence of measurement *invalidity*. As it turns out, many of the features of project systems such as their overall stressfulness, meaningfulness, etc. have surprisingly high levels of stability. But this is simply an observed empirical fact, not a psychometric requirement (Little, in press b).

A third aspect of the contextualist assumptive theme is that the assessment of persons in context can supply important information about the social ecologies inhabited by people as well as information about the individuals themselves. In traditional personality research, for example, the primary goal of assessment is the valid ascrip-

tion of psychological predicates to people (e.g., Joachim has a high internal locus of control; Kimiko is stressed). Quite literally, after assessment is completed and an individual's normative score is calculated, the items on the test can be discarded. In contrast with this "wastebasket" approach to the measured units of analysis, our own approach, derived from the contextualist assumption theme, is that the same unit of analysis used for personal ascriptions can also be saved and stored as potential *social indicators*. For example we have stored in our SEAbank (Social Ecological Assessment Data Bank) literally thousands of personal projects and their appraisals on approximately twenty dimensions (e.g., stressfulness, control, enjoyment, efficacy) as perceived by the project pursuer. We also keep important demographic information such as age, gender, and place of residence. We are thus able to ask social ecological questions such as the following: what are the most stressful personal projects engaged in by teenagers in urban centers in Ontario? How do these compare with those of the elderly, or those in other countries? In what kind of work environments are individuals likely to experience a sense of efficacy in their project pursuit. In which do they seem to be constantly frustrated? In short, the contextualist assumption guides us to use the context not simply as a way of refining our understanding of individuals, but as a substantive, policy relevant domain of substantial importance in its own right.

2.3. Conativity: Systemic, Middle-Level, and Modular Measurement

A third assumptive theme of our research program is that *conative* processes (trying, striving, seeking after, etc.) offer a particularly effective vantage point from which to view the dynamics of persons in context. This assumption contrasts with purely cognitive perspectives, as well as with those that adopt more behavioral or affective lenses through which to view person-environment transactions. As units of analysis personal projects are explicitly conative: they are volitional undertakings, the meaningful pursuits to which individuals are committed.

Three features of our methodological approach reflect the assumptive theme of conativity.

First, one of the most challenging aspects of daily living arises from the fact that we are typically managing not one, but a whole set of projects. Were these merely plans or cognitive expectations this would pose no particular difficulties, other than tradeoffs in one's attentional economy. But the conative nature of projects, the fact that they are volitional pursuits and commitments means that they form personal action systems with the potential for temporal, social, and ethical conflicts. This assumption requires that our methodology be designed to facilitate *systemic measurement*. We achieve this by having individuals directly rate the degree of impact of projects upon each other, using a cross-impact matrix. This allows us to calculate, within the single case, the degree of coherence or conflict among the personal projects. This matrix can also be expanded to look at similar relationship between the project systems of two or more individuals.

Second, personal projects are *middle-level* units of analysis (Little, 1987). By this we mean that personal projects fall in an intermediate zone between specific behavioral acts and higher order values and aspirations. One of the important features of using a middle level unit of analysis is that it allows us to access both higher and lower constructs in the action hierarchy by the use of various probes (see Little, 1983 for details on "laddering" procedures). Taken in conjunction with the systemic measurement criterion, personal projects methodology allows us to examine, within the single case, the hierarchical nature of project systems. For example, one project may be linked

with all other projects in a given project system, such that if it runs into difficulties or loses meaning for the individual, the rest of the project system is very much at risk. We call these *core personal projects* and we hypothesize that they are central to the overall sense of coherence experienced by individuals. Much of our current research is examining how human well-being is influenced by the successful and balanced pursuit of these core personal projects (Little, in press; McGregor & Little, 1998).

Third, in some assessment methodologies the measurement units, such as items on trait inventories, are fixed features that cannot be changed with impunity. Despite the protestations of the occasional obsessive-compulsive respondent, items on inventories cannot be changed, modified, shaded, or rewritten. To do so would vitiate the whole measurement philosophy that requires complete standardization in the measurement instrument. Our approach to conative assessment is based on a very different assumption: that the measurement system, much like a motherboard in computers, should be *modular*. This means that the various elements in the methodology are flexible, can be removed, modified or added to as required by the particular research question being explored. This feature of our methodology reflects the fact that personal project systems are not closed systems but open systems and more specifically, *personal* systems (Little, 1972, 1976). This means that while there may be relatively stable features of a person's project system, such systems are frequently in flux, in transition, or on occasion, in utter chaos. A well articulated, hierarchically integrated, coherent personal project system, however much desired, is unlikely to be experienced over long periods by most people. Exceptions might be found, however, with megalomaniacs, hermits or psychopaths, for whom the single minded pursuit of projects is enabled by their lack of awareness or concern for the projects of others. But in the muddling through of middle class lives, most of us have project systems that are vulnerable to the macro-level exigencies of economic downturns, the meso-level pressure of moving house, yet again, or the micro-level annoyances of incontinent pets or malfunctioning modems. And even if the surrounding context is relatively benign and stable, the pursuit of our projects can be brought to a dead stop by the caustic voice of self-recrimination or the inexplicable ache of incipient depression.

The modular nature of personal projects methodology can be illustrated by the use of "*ad hoc*" dimensions which are added to the standard PPA matrix. Typically, as alluded to earlier, respondents rate their personal projects on a set of approximately twenty appraisal dimensions that reflect theoretically important constructs such as how much enjoyment, control, and sense of efficacy people have with respect to their projects. But researchers have frequently created appraisal dimensions designed to capture some distinctive aspect of the social ecology of their respondents. We have asked Indo-Chinese refugees about the extent to which their personal projects require the extensive use of English, and senior managers in the public and private sectors about the impact of their organization's climate on their projects. Yetim (1993) has created dimensions examining the impact of economic factors on project pursuit, and Omodei and Wearing (1990) showed that well-being was closely linked with the extent to which personal projects were rated as satisfying the basic needs espoused in the motivational psychology of Murray (1938). Neil Chambers, in our Social Ecology Laboratory, has recently completed a richly documented and annotated Compendium of literally hundreds of special dimensions that have been used in PPA methodology over the past two decades (Chambers, 1997).

It should also be mentioned that not only can project appraisal dimensions be added or deleted from PPA methods, but projects themselves can be "added" to a

person's matrix. For example, in study of eating disorders, all subjects were "supplied" with the project of "controlling my weight". The appraisal ratings on this project alone were sufficient to significantly discriminate between eating disorder patients and a "weight-pre-occupied" control group, as well as between anorexic and bulimic patients (Goodine & Little, 1986).

2.4. Consiliency: Conjoint, Integrative, and Directly Applicable Measurement

The final assumptive theme undergirding our research program is that integrative and transdisciplinary analytic units and methods are required in order to address the complexities of human conduct. Wilson (1998) has recently invoked the term "consiliency" (literally, a "jumping together") to characterize the vital need for linkage between the humanities and the life sciences. I believe the term is also appropriate for depicting a set of methodological issues in environment-behavior research.

The first methodological issue relates to the need for *conjoint* individual and normative levels of measurement. There has been a long standing debate between researchers over the status and significance of single case studies in behavioral research, in which those favoring idiographic studies are pitted against those concerned with normative or nomothetic analysis.

Since the outset of our research program we have emphasized the need for conjoint measurement at both levels of analysis, and the statistical properties of PPA afford us this opportunity. For example, it is possible to examine the relationship between the stressfulness and sense of control over one's personal projects at the individual level by correlating ratings on these two dimensions across the personal projects for a single person. But it is also possible to take the average stress and control ratings (across projects) for each individual and run these correlations at the group level. Depending upon the goals of the assessment, for example whether the main focus is for clinical or for institutional purposes, either or both of these levels of analysis can be adopted. The ability to carry out such conjoint analysis enables us to address some important psychometric issues which have been of concern to statisticians and methodologists. For example, Simpson's paradox in mathematical statistics holds that the relationships between a set of variables measured at one level of analysis are not mathematically constrained to hold at other levels of analysis. To assume that there is isomorphism between levels can give rise to a number of inferential fallacies, the most famous of which is the "ecological fallacy" in which it is assumed that normatively measured relationships will hold for individual cases. But the fallacy can also work in the reverse direction. Richards (1990) has demonstrated a counterpart fallacy in the environmental psychology literature which he refers to as the "individual difference fallacy". This fallacy assumes that the reliability of assessments of environmental climate, which are measured at the level of the individual, are isomorphic with the reliability of *aggregated* climate scores. In our personal projects methodology the issue of isomorphism between relationships at the two levels is approached the same way as we do the issue of reliability: it is a matter of open empirical inquiry rather than a psychometric constraint.

Indeed, Travis Gee has recently completed an intensive examination of the possible operation of Simpson's paradox in a comprehensive analysis of individual level versus normative level measurement of personal project systems (Gee, 1998). Using multidimensional scaling analysis, he found clear and striking evidence that the under-

lying nature of the personal project space for normative level analysis is strongly iso-morphic with that obtained at the individual level, suggesting that there may be mutual informative transfer of research findings between case studies and the more traditional normative inquiry in projects analysis.

A second consiliency goal in our research is the requirement that our methods be *integrative*. By this we mean that assessment of persons in context not be restricted to one domain, for example, the cognitive or behavioral or affective domains, but allows each of these aspects of human action to be incorporated into the assessment proce-dure. For example, personal projects are clearly cognitive phenomena in the sense that they represent plans or goals that can be examined through the lens of classical cog-nitive theory. But they have equal claim to providing information about the affective experiences and behavioral undertakings of individuals. Thus we are increasingly con-cerned with asking individuals about the extent to which their ongoing projects are a source of passion for them (e.g., Phillips, Little, & Goodine, 1996; Pychyl, 1995), and we are beginning to explore the social or behavioral impact of personal projects in terms of the extent to which they might create "social capital" for their ecosystems. The central point of consiliency, then, is that we are able to access cognitive, affective, and behavioral aspects of the lives of individuals not by the use of *separate* methods from each sector, but through a single consilient assessment methodology that is explicitly designed to afford us an integrative view of people in action.

Finally, consiliency also characterizes the applied aspects of our social ecological perspective. Once again, the critical role of the unit of analysis arises. Many of the ana-lytic units currently influential in both personality and environmental psychology have only an oblique relevancy to attempts to change or ameliorate the conditions of people's lives. For example, neither traits nor macro-level economic factors influencing human well-being can be easily changed. Personal projects, on the other hand, allow for *direct applicability* in clinical, counseling, organizational change or community development interventions; in essence they afford tractability for change attempts. The implications of whether a unit has such interventional utility are considerable. For example, a recent review of the genetic base of the disposition to be happy concludes "it may be that trying to be happier is as futile as trying to be taller and therefore is counterproductive" (Lykken & Tellegen, 1996). But it can also be shown that appraisals of personal projects serve as excellent proxy indicators for overall life satisfaction (Omodei & Wearing, 1990) and our own research has shown that increases in the sense of meaning, structure, efficacy, and support, and lowering the level of stress of personal project systems has a salutary effect on individuals (Little, 1989). By dealing with person-context transactional units that provide at least some tractability for change we may not be able to make people happy, but at least we may help them be happier.

3. CONCLUSIONS

Environmental-behavior research is only as secure as the tacit pre-suppositions undergirding it. I have presented the case that the methodological tools adopted in the field is a crucial factor in the viability of the research enterprise. Our social ecological perspective emphasizes that an assessment methodology needs to be constructivist, contextualist, conativist and consilient. These high C's are the assumptive themes that have generated twelve specific criteria for methodological development and they will continue to animate our explorations of persons-in-context.

REFERENCES

Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt.

Altman, I., & Rogoff, B. (1987). World views in psychology: Trait, interactional, organismic, and transactional perspectives. In D. Stokols, & I. Altman (Eds.). *Handbook of environmental psychology* (pp. 7–40). New York: Wiley.

Barker, R. G. (1968). *Ecological psychology: Concepts and methods for studying the environment of human behavior*. Stanford, CA: Stanford University Press.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Cantor, N. (1990). From thought to behavior. "Having" and "doing" in the study of in personalty and cognition. *American Psychologist, 45*, 735–750.

Chambers, N. (1997) Personal Projects Analysis: The Maturation of a Multi-dimensional Methodology. Unpublished manuscript, Carleton University, Ottawa, Canada.

Costa, P. T., & McCrae, R. R. (1994). Set like plaster? Evidence for the stability of adult personality. In T. Heatherton, & J. L. Weinberger (Eds.), *Can personality change?* (pp. 21–40). Washington, DC: American Psychological Association.

Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology, 51*, 1058–1068.

Endler, N. S. (1983). Interactionism: A personality model, but not yet a theory. In M. M. Page (Ed.), *Personality: Current theory and research* (pp. 155–200). 1982 Nebraska Symposium on Motivation. Lincoln, NB: University of Nebraska Press.

Gee, T. (1998). *Individual and joint-level properties of personal project matrices: An exploration of the nature of project spaces*. Unpublished Ph.D. Dissertation. Department of Psychology, Carleton University, Ottawa, ON.

Goodine, L. A., & Little, B. R. (April, 1986). *Personal projects analysis: A contextual approach to measurement in anorexia and bulimia*. International Association for Eating Disorders, New York, NY.

Kelly, G. A. (1955). *The psychology of personal constructs*. New York: Norton.

Little, B. R. (1972). Psychological man as scientist, humanist, and specialist. *Journal of Experimental Research in Personality, 6*, 95–118.

Little, B. R. (1976). Specialization and the varieties of environmental experience: Empirical studies within the personality paradigm. In S. Wapner, S. B. Cohen, & B. Kaplan (Eds.), *Experiencing the environment* (pp. 81–116). New York: Plenum.

Little, B. R. (1983). Personal projects: A rationale and method for investigation. *Environment and Behaviour, 15*(3), 273–309.

Little, B. R. (1987c). Personality and the environment. In D. Stokols, & I. Altman (Eds.), *Handbook of environmental psychology*. New York: Wiley.

Little, B. R. (1989). Personal projects analysis: Trivial pursuits, magnificent obsessions, and the search for coherence. In D. Buss, & N. Cantor (Eds.). *Personality psychology: Recent trends and emerging directions* (pp. 15–31). New York: Springer-Verlag.

Little, B. R. (1993). Personal projects and the distributed self: Aspects of a conative psychology. In J. Suls (Ed), *Psychological perspectives on the self*. (Vol. 4, pp. 157–181). Hillsdale, NJ: Erlbaum.

Little, B. R. (1998). Personal project pursuit: Dimensions and dynamics of personal meaning. In P. T. P. Wong, & P. S. Fry (Eds.), *The human quest for meaning: Theory, research, and clinical application*. Mahwah, NJ: Erlbaum.

Little, B. R. (in press a). Free traits and personal contexts: Expanding a social ecological model of well-being. In W. B. Walsh, K. H. Craik, & R. Price (Eds.). *New directions in person-environment psychology* (2ⁿᵈ Ed.). Mahwah, NJ: Erlbaum.

Little, B. R. (in press b). Personality and motivation. In L. Pervin, & O. John (Eds.), *Handbook of personality theory and research* (2ⁿᵈ edition). New York: Guilford.

Little, B. R. (in press c). Personality psychology: Havings, beings, and doings in context. In S. Davis, & J. Halonen (Eds.), *The different faces of psychology in the twenty first century*. Washington, DC: American Psychological Association.

Little, B. R., Pychyl, T., & Gordon, C. (May, 1986). *What's a place like this doing in a project like me?* Eastern Psychological Association: New York, NY.

Little, B. R., & Ryan, T. J. (1979). A social ecological model of development. In K. Ishwaran (Ed.), *Childhood and adolescence in Canada* (pp. 273–301). Toronto: McGraw-Hill Ryerson.

Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science, 7*, 186–189.

McGregor I., & Little, B. R. (1998). Personal projects, happiness and meaning: On doing well and being yourself. *Journal of Personality and Social Psychology,* ••. .

Moos, R. H. (1973). Conceptualizations of human environments. *American Psychologist, 28,* 652–665.

Murray, H. A. (1938). *Explorations in personality.* New York: Oxford University Press.

Omodei, M. M., & Wearing, A. J. (1990). Need satisfaction and involvement in personal projects: Toward an integrative model of subjective well-being. *Journal of Personality and Social Psychology, 59*(4), 762–769.

Phillips, S. D., Little, B. R., & Goodine, L. A. (1996). *Organizational climate and personal projects: Gender differences in the public service.* Ottawa, ON: Canadian Centre for Management Development.

Pychyl, T. A. (1995). *Personal projects and the lives of doctoral students.* Unpublished Ph.D. Dissertation, Department of Psychology, Carleton University, Ottawa, ON.

Richards, J. M. (1990). Units of analysis and the individual difference fallacy in environmental assessment. *Environment and Behavior, 22,* 307–319.

Sarbin, T. R. (1983). Place identity as a component of self: an addendum. *Journal of Environmental Psychology, 3,* 337–342.

Seamon, D. (1987). Phenomenology and the environment. *Journal of Environmental Psychology, 7,* 367–377.

Wapner, S. (1981). Transactions of person-in-environments: Some critical transitions. *Journal of Environmental Psychology, 1,* 223–239.

Wapner, S. (1987). A holistic, developmental, systems-oriented environmental psychology: Some beginnings. In D. Stokols, & I. Altman (Eds.). *Handbook of environmental psychology* (pp. 1433–1465). NY: Wiley.

Wilson, E. O. (1998). *Consilience: The unity of knowledge.* New York: Knopf.

Yetim, U. (1993). Life satisfaction: a study based on the organization of personal projects. *Social Indicators Research, 29,* 277–289.