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# **Personal Projects, Affect, and Need Satisfaction**

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Jonathan Thomas Ballantyne

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## ABSTRACT

The present study investigated effects that patterns of purposeful human action, conceived as personal projects, have on positive and negative affect and need satisfaction. Replication was attempted of main effects reported in the literature for project attributes upon affective experience. More importantly, a more complex view of the effects of projects attributes was proposed whereby project attributes interact with each other and age and sex to influence affect. In addition, an investigation into the determinants of need satisfaction was conducted utilising both within- and between-subjects modes of analysis.

Seventy respondents completed a questionnaire containing measures of positive and negative affect, a project elicitation list, and measures of the project attributes of need satisfaction, involvement, conflict, and time-frame. Regression analyses generally failed to replicate reported relationships between project attributes and positive or negative affect. In contrast, a number of significant interaction effects did emerge between project attributes and age and sex, although each of these related only to positive affect. These interactions were between involvement and age, conflict and sex, conflict and age. The determinants of need satisfaction were found to differ greatly in significance but not magnitude, according to the mode of analysis used. Need satisfaction was positively related to involvement, and engagement in long term projects, and negatively to inter-project conflict. In addition to these main effects a hypothesized quadratic effect for project conflict was found and interaction between sex and conflict.

The issues concerning which is the more appropriate level of analysis are discussed. It was concluded for the interaction analyses that, while project attributes may be considered as independent influences upon positive affect, they should not be considered independently of age and sex. It is concluded that projects did not adequately match expectations of relating to affect and need satisfaction and are limited in their seeming inability to account for negative affect.

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## CHAPTER ONE

### THE PERSONAL PROJECT

This thesis represents an investigation into the consequences of people's patterns of purposeful action (characterised by personal projects) for affect and need satisfaction. Previous research in this field is developed by investigating interactive effects of personal project attributes on affect and need satisfaction. In this chapter, the theoretical rationale behind the use of personal projects to structure human experience is presented along with justification for preferring the personal project ahead of other contemporary goal concepts.

#### *An Action-oriented Approach*

Great advances have been made in the field of natural science through conception of the physical world as made up of simple and independent particles of matter involved in blind yet lawful interaction. The promotion of the Cartesian tradition as the ideal and its widespread success in natural science have promoted similar attempts to impose such assumptions onto the study of human behaviour. Skinner, for example has been instrumental in reducing human behaviour to simple patterns of stimulus and response. This stance has been assumed also by many contemporary psychologists such as Holmes and Rahe (1967) who discuss human behaviour as a response subsequent to incoming stimuli. While such attempts have certainly advanced the knowledge and study of human behaviour, these theories are increasingly giving way, or at least being modified, to include within their confines the existence of the thinking mind.

An alternative for the psychologist to formulating the laws of behaviour has been proposed by the likes of Gauld and Shotter (1977). Their suggestion was for psychologists to adopt, what they labelled, a hermeneutical approach, which is one that assumes human behaviour to be purposive and meaningful rather than reactive. The concern, therefore, of psychologists should be with the study of meaningful pieces of human behaviour. And, in fact, a large following of this approach currently exists in

modern-day psychology, apparent from the work of such theorists as Bandura (1986), Frese and Sabini (1985), Mischel (1973), and Pervin (1983),

The units of study advocated specifically by the hermeneutical approach are patterns of human **actions**, or pieces of behaviour which are intentionally carried out, for then it becomes possible to speak of interpretation and the elucidation of meaning. In elucidating the meaning of an individual's actions, we can approach the pattern of action in two ways. We can observe the individual's actions in relation to his or her other actions, pointing to the parameters of the situation and what we believe the motivations of the individual are, and infer the meaning behind them. Or, alternatively, we can ask the individual to provide us with their account of the intentions and desires for which he or she acted. This serves to place their action in the context of the way they perceived the world and their position in it. Optimally, both these strategies would be pursued to provide a full elucidation of meaning.

It is not the intention of the writer to enter into a full-scale argument on the merits of the psychological discipline adopting a hermeneutic approach. However, for the particular study of certain phenomena within psychology, it seems that the hermeneutical approach might be more aptly suited. For instance the present study is considering the possible influences upon an individual's emotional experience. It would seem more appropriate that these influences be framed in the context of how the individual personally structures and experiences his or her life as a whole rather than viewing the individual as simply reacting to the presence or absence of external stimuli.

An ideal compromise between the two approaches to psychology, would surely be the adoption of a strategy which managed to utilise the advantages of both. Such a strategy would maintain the study of meaningful patterns of action as its principal interest, considering the individual to be doing more than just reacting to stimuli, yet could exploit, in its assessment, the methodological advantages apparent in the natural scientific tradition.

An approach which appears to conform adequately with each of these criteria has been

developed by Little (1983). His development of the 'personal project' as a unit for analysis of human experience owes much to the work of Murray (1959) who had suggested the study of individual's serials - long enterprises in which individuals act in accordance with extended plans of action. The lack of an accessible method for measuring serials at the time led to its apparent abandonment. Prompted by the potential of the serial as a unit capable of capturing human experience and equipped with an assessment methodology derivative of personal construct theory, Little theoretically derived his own unit of analysis with accompanying assessment technique.

### *The Personal Project*

The project has been defined by Palys and Little (1983) as "an interrelated sequence of actions intended to achieve some personal goal" (p. 1222). The explicit hermeneutical nature of the project is apparent in this definition with the emphasis firstly, on action, and secondly, on action which achieves meaning from the unifying qualities of a personal goal. Projects are therefore everyday human pursuits ranging from endeavours small and trivial like "cleaning up my room" to the grand enterprises of a lifetime such as "becoming Prime Minister". They can be initiated personally or dictated by others. They may be undertaken solitarily or with the support of others. Projects may be isolated and peripheral aspects of our lives or may be central to our very being.

According to Little, projects develop in four distinct, sequential stages. The first stage is **inception** where individuals become aware of their project, identify it, and make a judgement as to whether to proceed with it. Once individuals have resolved to undertake a project they then proceed to the second stage of **planning**, where they devise the means of carrying out their project. This stage may involve seeking feedback from others on their plan, maybe recruitment of others, checking there are adequate resources and possibly the scheduling of an approach. The third stage is **action** where individuals engage themselves in the project, trying to maintain control and motivation. The final stage is that of **termination**. This stage is usually indicated by some sort of signal that the project is nearing its logical end and due to wind down. If there are no barriers to ending the project then individuals can conclude it.

Any one project by definition must be at one of these four stages although need not progress through all four. For instance, an individual may abandon a project at any of the stages or the project may be of such a nature that it never actually terminates. This stage analysis by Little of the structure of projects reveals the strong potential of projects to tease out the heterogeneities and homogeneities among individuals in the way their lives are structured and experienced. At any of the four stages individuals can differ along such lines as acceptance of the project, their preference of approach, perception of control, perception of progress, motivation to achieve, degree of competency - to name only a few major areas. In fact, it is not difficult to imagine many conventional notions such as locus of control, self-efficacy, or social support as compatible with the project framework as they can all, potentially, be framed in relevance to personal goals.

The four different stages also reflect Little's (1983) claim for the integrative quality of the project in that it allows access to the three aspects of human conduct - cognition, behaviour and affect.

In contrast to more conventional 'reactive' theories which could be characterised at the extreme, for the sake of comparison, by Holmes and Rahe's (1967) life event approach to stress, the project as a unit carries with it certain conceptual advantages.

Firstly, personal projects structure human experience in terms of a unit which is personally relevant to the individual, purposeful, and framed in the context of their own view of the world. Holmes and Rahe, on the other hand, see human experience as a succession of reactions to external events. Subsequently, no allowance is made for what an individual actually chooses to do.

Secondly, projects are temporally extended, placing the individual in the context of time. Behaviour is being regulated by the past from feedback received on project progress so far while the future is important too as projects comprise actions intended to fulfil a future goal. Life events pinpoint the individual in the present or the past only, as reacting to events which are happening or happened.

Holmes and Rahe would hold that simply adding up the total of life events an individual has experienced would be enough to indicate their level of well-being. The properties of the project, in comparison, extend beyond just the unit itself since projects do not exist in isolation. Projects have systemic attributes in that any one individual can be seen to simultaneously have a number of different projects which are inevitably interacting with each other. In a project system, projects may be facilitating each other, hindering each other, overlapping in content, competing for time, or even progressing parallel to each other with no obvious effects. Project systems then, have organisational, structural and dynamic features which, when taken as a whole, are totally unique to each individual.

Not only does an individual possess a project system of his/her own but each individual's project system is inevitably interacting with other people's around them. As Little (1989) expresses it "my trivial pursuits may play havoc with your magnificent obsessions and both may end up missions impossible" (p.9).

#### *Other Goal-related Concepts*

Personal projects are not the only goal-related concepts to have been developed. A healthy literature has accumulated in psychology focusing on the role of individuals' consciously accessible personal goals. Goal concepts other than personal projects which have appeared in the literature are: personal strivings, life tasks, current concerns, and personal plans.

The **personal striving** has been proposed by Emmons (1986) as a unit of analysis which unites goals and actions around a high or superordinate core need. As such, strivings are typically phrased at a higher level of abstraction than projects. A typical striving, according to Emmons (1989), is "trying to appear attractive to the opposite sex" as this is something a person could 'typically be trying to do' which unites various related goals and actions such as "wearing nice clothes", "watching my weight", and "making humorous comments".

The **life task** is claimed by its authors to typically be phrased at a more moderate level

of abstraction and slightly larger than an everyday project (Zirkel & Cantor, 1990), thus organising a wider range of behaviours under a specific domain than do projects. An example of the life task, as provided by them, is "succeeding academically". Life tasks are thought to be most salient to individuals in times of life transition (Zirkel & Cantor, 1990)

**Current concerns**, as proposed by Klinger (1977), refer to the specific goals held by an individual. An example of this construct given by Klinger, Barta and Maxeiner (1981) is "picking up a pair of pants at the cleaners" . This particular concept appears to emphasise action more so than tasks or strivings.

The **personal plan** is defined by Perring, Oatley and Smith (1988) as being an everyday activity designed to achieve a goal. No examples of this construct were provided by its authors but their definition certainly seems very similar in nature to that of the project.

Even though all of these units seem very similar in nature, small differences can be distinguished, at least in terms of stability and abstraction. Emmons (1986) has demonstrated that the personal striving is fairly stable over time (82% of original strivings were re-iterated after a retest interval of one year). In comparison, each of the other goal concepts, by definition, have units which are changing or even disappearing.

Differences in the level of abstraction refer to how far removed from pure activity the unit is and subsequently, the number of sub-goals which are organised underneath . The striving, for example, is claimed by Emmons (1986) to be phrased at a high level of abstraction. It is basically a theme in a person's life such as "trying not to be jealous of others" whereas the project is touted as a more tangible everyday activity like "trying to lose 5 kilograms". Little (1989), himself, believes "projects are middle-level units of analysis hierarchically lodged between overarching values, core concerns, strivings, justifications, reasons or goals, on the one hand, and molecular level acts or operations on the other." (p.8). These claims for divergence have some merit in that a list of subject-generated strivings would likely have a higher level of abstraction *overall* than a list of projects but there seems little doubt that the degree of overlap among all these

concepts is considerable. There certainly is no clear definition of what is **not** a project or what is **not** a striving.

The differences and similarities, in terms of abstraction, among each of these constructs are probably best illustrated in a diagram taken from Emmons (1989) (p.93).

High abstraction level

Level 1.

**Motive Dispositions**

Level 2.

**Personal Strivings**

Level 3.

**Projects**

**Plans**

**Tasks**

**Concerns**

Level 4.

**Specific Action Units**

Low abstraction level

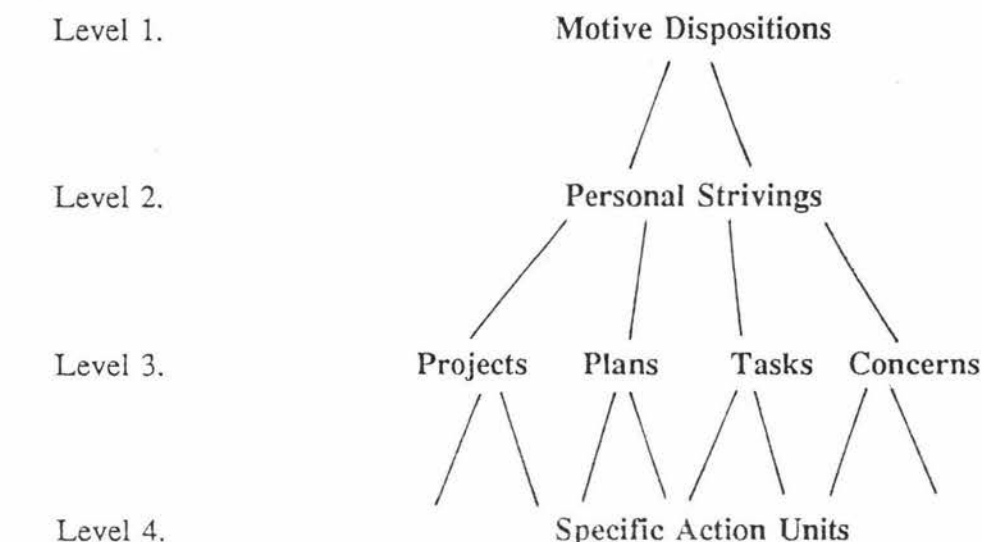


Figure 1. An illustration of the levels of abstraction in different goal concepts according to Emmons (1989).

There are two main reasons why the project as unit of analysis was preferred by the present study. The first reason related to the degree of theoretical and methodological development while the second pertained to the salience of the concept to subjects.

The project appears to be the goal concept most endowed with theoretical and methodological development. Little's (1983) article was dedicated primarily to the provision of a theoretical rationale for studying projects. This level of theoretical development was of decisive importance for the present study as the intention was to move briskly on from the general introductory level to the relationships of projects with further domains of human experience. Also detailed in Little's (1983) article was a

sound accompanying assessment methodology based on the repertory grid technique. This methodology seems further developed and is more widely applicable than the methodologies accompanying plans, concerns or tasks.

The striving, on the other hand, does have a well-developed methodology (modelled on that of the project!) and reasonable theoretical development. Emmons (1986) has promoted the striving as a suitable alternative to traits for studying personality especially given the stable nature of the concept and this is probably a reasonable assertion. However, the present study is concerned with studying patterns of action rather than personality and the very definition of the striving restricts its utility in this context. The definition offered by Emmons (1986) requires goals and actions to be united around a *high or superordinate core need*. The problem with this definition is that individuals may not always be as aware of their higher needs as they are of their actions. Pervin (1982) has noted that though people are often unaware of their core needs and the specific goals they adopt to meet these needs, they are much more aware of their extended plans of action. Murray (1938), also, has pointed out that the extended plans of action linking specific goals chosen to meet universal needs are more available for conscious report than are either needs or goals. According to this argument, even though subjects might verbalise what they think to be their strivings, they may only be cognizant of what they are consciously doing or acting on. For instance, a person may have a core need to be loved by others but may not necessarily be so aware of this need that they can articulate it as such. They may, however, be able to articulate the plans of action organised around this need such as "make more friends" or "read more books on relationships". Again, this notion reflects back to the earlier hermeneutical argument that meaning is best able to be elucidated from people's patterns of action.

The problem of awareness was also raised by Zirkel and Cantor (1990). They were aware that life tasks, which are supposed to be moderately abstract, are not always available to awareness. Consequently, they study life tasks only at times of life transition (such as leaving home for university) when people's goals are more easily articulated.

In summary of this chapter, an alternative approach to conventional 'reactive' theories

for the study of human experience has been proposed. This approach emphasizes as its unit of study patterns of purposeful human action. Many of these units have emerged in the literature with considerable conceptual overlap, but for the purposes of the present study the personal project as developed by Little (1983) was deemed most appropriate.

## CHAPTER TWO

### THE PERSONAL PROJECT MATRIX

Chapter two presents the methodology proposed to systematically appraise an individual's personal projects and addresses accompanying measurement issues.

#### *The Personal Project Matrix*

The methodology developed by Little (1983) for the analysis of personal projects was driven by several important criteria. He believed that projects had to be elicited from subjects in as natural a way as possible. They had to be amenable to both qualitative and quantitative analysis and needed to be assessable both ipsatively and normatively. The procedure he adopted, which managed to satisfy each of these conditions, is quite similar to the repertory grid technique (Kelly, 1955) but uses personal projects rather than personal constructs as the focus.

The Personal Project Matrix (PPM) as espoused by Palys and Little (1983) introduces subjects to the concept of a personal project. Examples of projects are given that illustrate them as able to be done alone or with others, concrete or abstract, short-term or long-term. Subjects then list personal projects in which they are currently personally engaged. The number of projects can be left open-ended, which, according to Little (1989), results in an average of around 15 spontaneously listed projects. However, for research purposes, subjects are generally asked to choose for analysis 10 of the projects they have spent the most time on. No rationale is provided by Little in any of his articles as to why 10 projects are chosen, as opposed to any other number. It can only be presumed that the appraisal of 15 or more projects would place a considerable burden of time on the project matrix procedure as well as taxing subjects' attentional resources. Ten is a smaller number yet still samples an adequate proportion of the 15 listed spontaneously. Since Omodei and Wearing (1990) have presented some preliminary evidence for 10 projects as a valid representation of the life-space, it seems sensible that the present study should persevere with this number.

According to Palys and Little (1983), the project list serves much the same purpose as

items on a traditional personality inventory, with the exception that the "items" in the PPM have been provided by subjects, are personally meaningful to them, and possess greater ecological validity than is typically the case. The projects in the list, by themselves, can offer rich data for analyses such as analysis by project category (for example, academic projects vs leisure projects), level of abstraction, or degree of social desirability.

Following the generation of the project list, subjects are asked a variety of questions about each of their projects. These questions can be designed to elicit quantitative or qualitative information. For instance, quantitatively, subjects might be asked to indicate, using rating scales, the degree of importance each project has to them or how difficult each is to carry out. Qualitatively, subjects might be asked to stipulate in what location they engage in each project or with whom they do each project. Little (1983) refers to the individual questions asked about the project list as 'dimensions'. In the past, Little has asked subjects to rank their projects on such dimensions as **importance, expectancy of success, stress, enjoyment**, amongst others.

Projects are rated on dimensions by subjects using a matrix format. The 10 projects are entered in brief form down the left hand column of the matrix and the questions or project dimensions are entered along the top row (see Appendix B.). Subjects can then simply match up each project with each dimension and enter their response into the appropriate space.

For appraising the systemic qualities of an individual's projects, a further matrix is necessary. Little (1983) assumed that project systems as a whole can be evaluated in structural terms by generalizing from the amount of conflict or facilitation each project promotes in every other. In order to assess this, he proposed the **cross-impact matrix**, 10 rows by 10 columns, where the 10 projects are lined up against each other and pair-wise permutative analysis of each project with every other can then be carried out. Each project is evaluated for the effect it *generates* on the other projects and the effect it *receives* from the other projects, so in total, 90 evaluations are made. The ratings are commonly made on a single scale which has at one end an anchor reflecting high

facilitation, at the opposite end an anchor reflecting high conflict, and in the middle an anchor reflecting a neutral relationship.

The procedure of assessing both conflict and facilitation on the same scale raises a particular concern. It is clearly being assumed by Little, and likewise by Emmons (1986), who uses a similar scale with the personal striving, that these processes are bipolar in nature. Of concern, however, is that the processes may not necessarily be strongly inversely related, at least with regard to components of well-being which are the topic interest of the present study. For instance, it is feasible that high conflict between projects will be associated with high levels of negative affect but high facilitation between projects might have only a weak negative association with negative affect. Yet, since the two conditions are at opposite ends of the same scale, subsequent averaging of the scale scores would force a linear relationship with negative affect which could not detect the different processes occurring. However, if the processes were sufficiently different from each other, they could possibly be detected in a multiple regression by a quadratic term for the single scale. This would pick up a change in slope, or relationship magnitude, with the dependent variable as scale values went from the minimum, reflecting mostly helping, to the maximum, reflecting mostly conflicting.

The PPM is not a fixed 'test' but rather a flexible methodology so the questions asked of subjects' projects can be altered or added to according to what the researcher wants to study (Little, 1989). The only restrictions to this flexibility are those of time and cognitive demands upon the subject. It was because of these restrictions that an alternative format for the cross-impact matrix was attempted in the present study. In order to reduce the number of evaluations made in the cross-impact matrix by half, instructions were given to subjects, just to consider the relationship between the particular project pair. Direction of project effects was not emphasized so presumably, subjects were only considering whether helping or conflict occurred in a particular project pair (see Appendix B for the format of this matrix and subject instructions).

The terms "nomothetic" and "idiographic" were introduced by Allport to draw attention to the distinction between research that is focused on general findings across individuals

and research that is focused on individual cases. Each kind of research has both advantages and disadvantages. In nomothetic research, in which group means are compared or correlations are computed across subjects, the purpose is to arrive at general principles of behaviour that can be applied to all individuals within the population sampled, or to make comparisons across individuals. However, this sort of research reveals nothing about processes within individuals for which one must turn to idiographic research.

Idiographic research has the advantage of providing information on the organisation of variables within an individual and clarifying psychological processes. However, the generality of findings remain unknown as the sample is only one individual in size.

Fortunately there is no need to choose between idiographic and nomothetic procedures for it is often possible to combine the two in one design. The personal projects methodology has this distinct advantage. Analysis of the project matrix can proceed at either or both of the two levels bringing a helpful flexibility and interpretations by comparison not possible using either of idiographic or nomothetic approaches alone.

For nomothetic analysis, each project dimension column is treated as a scale comprising 10 items. By calculating the mean column scores (e.g. importance of project to individual), it is possible to compare individuals in the sample with respect to their project systems as wholes. It is possible then to investigate the relationships between project variables or explore factor structures at the level of group data. Thus project dimension mean scores are being used in much the same way that conventional personality scales are used with the advantage of personal project dimension scales retaining greater individual ecological validity.

Idiographic analysis is possible within the personal projects framework because the dimensions share a common unit of analysis and are measured on equivalent scales. Also since multiple measures are taken in a single case, it is possible to examine project dimension relationships within a single case. As mentioned before, this is problematic in terms of not knowing how representative the results are. The personal project

methodology, however, can get around this problem by looking at the within-subject relationships for the group data as a whole. This enables the researcher to observe the processes within individuals which are common among individuals. The group intra-subject correlations can be obtained by eliminating inter-subject variance through converting each subject's scores to z-scores around the individual's own mean (Epstein, 1982).

Examination of corresponding correlation matrices for the intra- and intersubject data provides an excellent opportunity to judge the extent to which the two kinds of correlation produce similar and different results. According to Epstein (1982), intersubject correlations are too often interpreted as if they could elucidate processes within individuals when there is no logical basis for assuming that relationships within and between subjects are similar.

### *Psychometric Qualities*

The psychometric qualities of the personal project matrix have been investigated in only a handful of studies and have mostly concerned the test-retest reliabilities of the specific dimensions proposed by Little (1983; 1987) and Palys (1980). The findings of these studies are generally those of overall low to moderate reliability for the dimensions (Matheson, 1981; Palys, 1980; Roy, 1987) and Palys (1980) noted that particular indices had co-efficients ranging from extremely changeable to extremely stable. There are certainly problems in trying to estimate consistency in what is defined to be a dynamic system. There appear to be no studies estimating the stability of projects themselves although Emmons (1986) found that 82% of personal strivings (which are assumed to be more stable than projects) were present in similar form after one year.

Attempts to estimate validity of the personal project have comprised largely of correlations of the matrix dimensions with traditional personality tests. Little (1988a) has validated several project dimensions against the NEO-PI which is a multi-scale personality inventory, Paulhus' (1983) Spheres of Control measure, Scheier and Carver's (1985) Dispositional Optimism measure and Antonovsky's (1983) Sense of Coherence Scale.

A creative procedure by Omodei and Wearing (1990) provided preliminary evidence that personal projects are a valid representation of how people structure and experience their lives. By getting subjects to rate their ten projects on the various measures as well as their life as a whole on the various measures, they were able to observe how well 10 projects correspond to life as a whole. Firstly, they found no significant differences between mean ratings of the four study variables for the 10 projects (ratings averaged over the 10 projects) and mean ratings of the study variables for life as a whole. Secondly, the ratings for the projects (averaged across the 10) and the ratings for life as a whole, on the four study variables, all correlated at over .60, indicating moderate to high convergence. Thirdly, it was demonstrated that the ratings an individual gave to any one project was unrelated to the ratings he or she gave to remaining projects. This indicated that subjects were not evaluating their projects according to a 'top-down' approach, leading Omodei and Wearing (1990) to conclude that personal projects represent relatively independent sources of well-being in a person's life.

### CHAPTER THREE

#### PERSONAL PROJECTS RESEARCH

The preceding two chapters served as a general introduction and justification for the project as a unit of analysis. This chapter now identifies the role of personal projects in the present study.

It will be shown later in this chapter that theory and previous research have both indicated attributes of people's projects have consequences for components of their subjective well-being. The purpose of chapter three is to review this literature, selecting out the project attributes which appear to show the strongest associations with affective experience, with the intention of exploring more complex associations among them which may impact upon affect. It may seem curious to look for interaction effects among main effects as the former often help explain the absence of the latter. However, the advantages of this strategy are twofold in that the likelihood of complex associations among project attributes is entertained, as well as granting the opportunity to test for the replicability of the main effects identified by previous research.

#### *Research Employing Personal Projects*

Although the project was theoretically developed and operationalised by Little eight years ago, there has been surprisingly little research published on it since that time. However, a wealth of unpublished research has been produced by the Social Ecology Laboratory at Carleton University under the direction of Little. This unpublished research has been compiled in an annotated bibliography (Little, 1988b) and displays the versatility of the project methodology with applications of the project to many areas of human functioning. For instance, Barnes (1986) has examined the project dimensions associated with burnout in nursing. Using the project methodology, Burgess (1982) observed the impact of the wife/mother returning to university on her everyday life situation. Bowie-Reed (1984) observed how couples adapt to newly-married life by looking at the development of social relationships and mutual projects. Goodine (1986) compared the personal project systems of anorexics, bulimics, weight preoccupied women and controls. Loh (1981) applied personal projects in assessing the social

networks and degree of adaptation of Indochinese refugees. Mickelson (1984) investigated psychological precursors to health breakdown using personal projects. Yard (1980) made use of project system variables in predicting job satisfaction and performance effectiveness in the Canadian Police force.

In marked contrast to the varied applications of the unpublished research, the published research known to the writer has exclusively addressed the relationship between projects and components of subjective psychological well-being, namely, affect and life satisfaction. Palys and Little (1983) observed the effects of project systems upon life satisfaction. Ruehlman and Wolchik (1988) looked at the effects of project systems and project support and hindrance by important others on psychological distress and well-being. And most recently, Omodei and Wearing (1990) looked at how need satisfaction and involvement in projects contribute to subjective well-being. In addition to the personal project studies, other goal constructs have also been studied in relation to well-being (Emmons, 1986; 1991; Emmons & King, 1988; Zirkel & Cantor, 1990).

While the construct of primary interest to the present study is not global well-being, but affective experience, well-being studies provide the vehicle for the following discussion as they generally include separate measures of affect. In fact, global subjective well-being has been conceived of as largely an affective judgement (Omodei & Wearing, 1990).

Perhaps one of the reasons why the published studies using projects have chosen to concern themselves with the domain of well-being is that well-being theories have for quite some time closely associated goal-directed behaviour with affect. More specifically, many subjective well-being theories propose that fulfilment of needs, goals, and desires is important for the experience of happiness (Diener, 1984). Also, a number of theorists have emphasized the affective properties of goals. Pervin (1982) noted that affect is central to motivation and goal-directed behaviour, and plays a key role in the motivational properties of goals. Srull and Wyer (1985) found support for their supposition that movement toward a goal and the consequent consummation of that goal are accompanied by positive affect whereas interruption of goal-directed activity is

associated with negative affect. Most recently, Carver and Scheier (1990) theorised that the origins and functions of positive and negative affect can be explained (according to self-regulation theory) by differences between expected and experienced rates of progress towards or away from goals.

Personal projects, through emphasis on goal-directed activity, therefore constitute an approach to studying affective experience which conforms with much of the current theory on what determines or regulates affect. An added advantage in using projects is that the personal project methodology, in considering each subject's personal set of projects, places the subject's well-being in an ecologically valid context.

With regard to the operationalization of subjective well-being, previous studies have variously represented subjective well-being as positive affect, as negative affect, as a cognitive judgement or combinations of these three. This has proved somewhat confusing as researchers have been claiming they have found various effects upon well-being but not all researchers have measured well-being in the same way. The current consensus for the structure of well-being is that it contains all three components: positive affect, negative affect and life satisfaction (Diener, 1984). Positive and negative affect are thought to be relatively independent of each other in people's lives while life satisfaction is only moderately related to positive and negative affect.

Palys and Little's (1983) study was the first to appraise the effects of project systems upon well-being. They used individuals' current overall satisfaction with their lives as their measure of well-being, dichotomising it in terms of those feeling high satisfaction and those feeling low satisfaction. Although they did not measure affect, their study is important as it employed a wide range of project dimensions, some of which have subsequently been applied in relation to affect. Unfortunately, Palys and Little did not specify all of the project dimensions they studied, nor did they explain what the dimension labels meant. And as they only reported significant results it could not be ascertained which dimensions were **not** predictive of life satisfaction. However, their study does provide justification for the claimed effects of project variables upon well-being.

The discriminant function for the between-subjects analysis accounted for 58% of the variability in life satisfaction and correctly classified 79.4% of cases. The dichotomized groups differed considerably in terms of the types of project systems they possessed. The largest difference between the groups was characterised by the 'priority two' variable (mean absolute discrepancy between how visible projects were to others and how important they were in the long-term). The standardised discriminant function coefficient signified that larger discrepancies were associated with higher life satisfaction, smaller discrepancies with low life satisfaction. The other significant discriminators between groups, in decreasing order of magnitude, were: 'initiation', 'enjoyment', 'long-term importance', 'priority one' (which was the mean absolute discrepancy between visibility and short-term importance), 'minus signs' (or conflict), 'difficulty', 'group projects', and 'responsibility projects'. Examination of the univariate means showed high life satisfaction was associated with projects which were self-initiated, enjoyable, important in the short term, of low visibility / short-term importance discrepancy, non-conflicting, not difficult, done with groups, and involved little responsibility. These were independent effects and for low life satisfaction, were simply reversed. Palys and Little interpreted these results, in broad terms, as individuals low in life satisfaction concentrating on the size of the abyss between now and then, while individuals high in life satisfaction were focusing more on accomplishing in the shorter term.

Palys and Little extracted two main themes from their results. One of these concerned the way people perceive and utilize social resources while the other appertained to the differing time perspectives of the two life satisfaction groups. The social support theme has received further attention while the time-frame element of projects has since been largely unexplored.

### *Support and Hindrance in Projects*

The social support perspective raised by Palys and Little (1983) was pursued further by Ruhlman and Wolchik (1988). In a departure from Palys and Little's procedure, however, they took only the **four** most important projects, rather than ten, over the previous month. They examined the effects of interpersonal support and hindrance from

important others in people's projects on well-being and distress as measured by the Mental Health Inventory.

Subjects first listed the three most influential adults currently in their lives. They then rated the degree to which each of these three people supported or hindered each of their four projects using Ruehlman and Wolchik's (1987) support and hindrance inventory. Apart from support and hindrance, Ruehlman and Wolchik (1988) also assessed projects using all the dimensions used by Palys and Little (1983). Of these dimensions, a factor analysis extracted three project factors of: mastery, strain, and self-involvement. Psychological well-being and psychological distress were then regressed onto these three project factors with support and hindrance entered at the second step. Project factors accounted for 25% of the variance in well-being while only support from the most important person offered additional significant variance, of 4%. The project factors also explained significant variance in distress, accounting for 23%, while only hindrance from the most important person added significant variance, of 3%. These findings demonstrate that the project framework is a flexible one from which to ask such research questions as the effects of support and hindrance by significant others on well-being and distress. However, it appears that the role these constructs play in well-being and distress is, albeit significant, quite small. The project factors alone were a comparatively larger contributor to well-being and distress variance.

### *Time-frame of Projects*

The time-frame of projects, and even goals for that matter, has not been extensively addressed in the goal concept literature. Palys and Little's (1983) study appears to be alone in attempting to link the time-frames of goals with well-being outcomes. Although they found significant differences between high and low satisfaction groups, their definition of time frame was problematic. They asked subjects to specify each of their projects as important to them in the short term or long term. The problem is that this confounds time-frame with importance. A project may be short term in nature but fairly unimportant, therefore deemed by the subject to be of little short term importance. The actual time-frame aspect of that project is then lost. An alternative definition, concerned exclusively with the time-span of a project would be one classifying projects in terms

of the length of time they take up from inception until termination. Precedent for this sort of definition is provided by Zaleski (1987) who studied the effects of self-set goals in different time ranges and found that as the time-frame of goals increased, so did the level of goal importance, effort, and satisfaction. He also noted that the perception of working toward more realistic goals has a direct immediate reward in terms of positive emotion, indicating that shorter, more visible goals may be associated with positive emotion. This makes sense in terms of feedback on progress. Because long term goals are so far away, progress toward them appears minimal while progress toward short term goals feels much quicker in comparison. The specific time-frames Zaleski used ranged from one week to the lifespan but for the sake of interpretation he grouped goals into short-range (up to a year) and long-range (greater than a year).

The time-frame of projects has thus been identified (using a problematic definition) as a correlate of well-being. Using an unconfounded definition, derived via Zaleski (1987), for this construct hopefully will clarify the relationship between project time-frames and well-being and also is of interest as a potential moderator of identified correlates of affective experience.

### *Conflict Between Projects*

Intriguingly, Palys and Little (1983) neglected to comment on the association conflict between projects showed with life satisfaction. Their failure to discuss conflict in the context of the other dimensions (despite it having a comparatively large SDFC of .37 and associating significantly with low life satisfaction) appears quite undue especially given the body of theory and research which has linked inner conflict with negative well-being outcomes (Chekola, 1975; Epstein, 1982; Rogers, 1961).

Recent research has demonstrated that the association Palys and Little found between conflict and life satisfaction was deserving of comment. Emmons and King (1988) investigated the effects of conflict between the goal construct of personal strivings on positive and negative affect. It should be recalled that strivings are very similar in nature to projects but differ overall in that they are more stable and generally phrased at a higher level of abstraction. Three studies were conducted, the first two relating striving

conflict to measures of affect, the third exploring the experience of conflict.

The results were somewhat perplexing regarding the relationship between conflict and affect. The first study (using the Bradburn Affect Balance Scale as an affect measure) reported a significant association between conflict and increased negative affect but conflict and positive affect were insignificantly negatively related. The second study, however, (using daily mood reports as an affect measure) reported reversed findings - conflict was significantly associated this time with decreased positive affect and insignificantly associated with increased negative affect. The third study showed subjects who had conflicting strivings tended to inhibit action on those strivings while at the same time spending more time thinking about them and experiencing more subsequent negative affect. Taken as a whole, these results indicate that conflict has deleterious effects on well-being overall, but the specific effects for positive and negative affect are uncertain.

#### *Need Satisfaction and Involvement in Projects*

A study which showed a conceptual shift from the work of Palys and Little (1983), yet retained their methodology in order to ask some different sorts of questions was that of Omodei and Wearing (1990). Using projects as their unit of analysis, they attempted to integrate two theories of subjective well-being - telic theory and auto-telic theory. They derived two constructs, need satisfaction and involvement, to represent each of the well-being approaches and evaluated the relative ability of each approach to account for variability in positive and negative affect.

In comparison with other goal concept studies, Omodei and Wearing conducted totally within-subjects analyses of their data. They defended this strategy on the grounds that the theoretical model they were proposing was concerned with processes within individuals which are assumed to be universal, an assumption which precludes the need for inter-individual variability assessment. For a within-subjects analysis, multiple measures have to be collected from multiple subjects. Consequently, need satisfaction, involvement, and affect were all evaluated by subjects for the degree to which *each* occurs in *each* project. This enabled multiple measures of the relationships between

these variables within a single case.

The construct representing telic theory, **need satisfaction**, was derived from the two approaches evident in telic theory: a need approach, in which end states are considered to reflect relatively few common needs and a goal approach, where end states are considered to reflect relatively numerous personally chosen goals. The needs approach is characterised in the theory of Maslow who proposed a universal hierarchy of needs that emerges in the same order in all persons. Individuals should experience well-being if they are fulfilling their needs at their particular levels although it is also possible that happiness might be higher for those at higher levels of the need hierarchy. The goals approach, on the other hand, could be characterised by the theory of Chekola (1975) who argued that happiness depends on the continuing fulfilment of a person's life plan, their total integrated set of goals. Because some goals may be in conflict with others though, Chekola's theory depends on two key related factors: harmonious integration of goals and fulfilment of those goals. Although the need and goal approaches have different foci, they are not entirely incompatible. As Murray (1938) observed, specific goals are chosen to meet universal needs and what people do in order to link their needs to goals is adopt extended plans of action (essentially projects).

The other construct, which Omodei and Wearing called **involvement**, represented auto-telic theory. Auto-telic theories assume the source of positive human experience is in the nature of activity itself rather than any end state to which such activity might be directed. Csikszentmihalyi (1975), an auto-telic theorist, illustrates this phenomenon with the example of a rockclimber who does not climb to reach the top (satisfying a goal). Instead he reaches the top in order to climb, that is, it is the activity of climbing which provides positive experience. Through extensive interviews with participants in activities which had no apparent extrinsic rewards such as rock-climbing and chess-playing, he identified two major aspects of intrinsically rewarding experience. The first is that action and awareness are experienced as merged together and the second is that attention is centred on the limited stimulus field excluding potentially distracting irrelevant stimuli. The merging of action and awareness is manifested in two ways - thoughts and actions seem to merge, and the sense of boundary between self and environment dissolves. The

centring of attention on a limited stimulus field is also manifested in two ways - obliviousness to the passage of time and no awareness of potentially distracting irrelevant stimuli. It is important to note Csikszentmihalyi's (1975) claim that it is not just optimal experiences that produce involvement but also everyday experiences like fixing a car, eating, or writing which are capable of producing involvement as well.

The results of Omodei and Wearing's study showed considerable support for both need satisfaction and involvement as sources of well-being. Need satisfaction and involvement together accounted for an impressive 63% of the total variance in positive affect and 16% of the total variance in negative affect. Of the two variables, need satisfaction provided the largest contribution with standardised path co-efficients of .47 with positive affect and -.23 with negative affect. In comparison, involvement displayed standardised path co-efficients of .39 with positive affect and -.21 with negative affect. A high covariation ( $r = .69$ ) was obtained between involvement and need satisfaction supporting the notion that the variables share a common source in the perceptions of opportunities for need satisfaction. Despite this high overlap, however, the effects of each variable on positive affect were noted to be substantial and statistically independent.

#### *Need Satisfaction as a Dependent Variable*

Omodei and Wearing's study found need satisfaction in projects to be a substantial source of well-being in projects. While the primary interest of the present study was in affective experience, the secondary interest of the present study is to pick up from this specific finding by further investigating the complexities of need satisfaction. The intention is to conceptualise need satisfaction in a slightly different way than did Omodei and Wearing, looking at it more as an **indication** of well-being than a **prerequisite** to well-being. The judgement of overall current need satisfaction is therefore considered to be a desirable end state all of its own, perhaps not unlike judgements of global life satisfaction. Particular attention will then be paid to the sorts of variables and conditions which contribute to need satisfaction in one's projects. Because need satisfaction is in project terms, its determinants can be studied using both within- or between-subjects analysis.

### *Recapitulation*

For the purpose of exploring interactive relationships among project attributes for affect, the literature has been reviewed in this chapter for the presence of project attributes which displayed fairly robust associations with positive or negative affect. Conflict between projects was identified as a source of both positive or negative affect, need satisfaction were noted to be associated strongly with positive affect, as was involvement, while project time-frame was more of an unknown quantity and was suggested more as a potential moderator. Support and hindrance by important others in projects were also shown to be significant factors. The inclination however, is to exclude support and hindrance from study as they are complex to assess and were only evaluated using four projects.

Under the auspices of aggregating the project attributes, conflict, time-frame, need satisfaction and involvement, to investigate interaction effects, several other objectives can be concurrently achieved. Firstly, the studies reviewed in this chapter (with the exception of Omodei and Wearing (1990)) have generally studied the effects of particular project attributes separately which means they have not attempted to control for possible confounds. Omodei and Wearing (1990) were an exception since need satisfaction and involvement were controlled for each other. The present study can ensure that confounding between the variables of study is not occurring as a by-product of the intended analysis strategy shall be statistical control. Secondly, much of the research reviewed in this chapter has not been subjected to replication, which is of vital importance in evaluating the consistency of findings. The present study addresses this problem by replicating, in part, the previous research which identified the variables of study in the first instance.

## CHAPTER FOUR

### PERSONAL PROJECTS AND AFFECT

Chapter four presents a rationale for evaluating affect using a self-report procedure derived from factor-analysis.

A variety of terms for human emotional experience exist in the psychological literature though their precise meanings are often obscure. 'Mood', 'emotion', and 'feelings' are frequently used interchangeably, yet it is never made very clear the degree to which these terms are synonymous or whether they actually impart subtle differences in emotional experience. To avoid some of this confusion of terminology, there has arisen from the psychological tradition, a generic term, 'affect', which essentially embraces each of the other terms and allows psychologists to study emotional experience using one expression.

The discussion in chapter three outlined some of the theory which has linked goal concepts to the experience of affect. For example, Carver and Scheier's (1990) control-process theory views affect as arising from and being regulated by a feedback system based on progress towards goals while Srull and Wyer (1985) proposed (and found) that movement toward a goal and the subsequent consummation of that goal are accompanied by positive affect and interruption of goal-directed activity is associated with negative affect. There is little difficulty in following on from such perspectives to conceptualise relationships between project attributes and affective experience. Once quantification of these relationships is attempted, however, difficulties with regard to the measurement of affective experience present themselves.

#### *Approaches to Affect Measurement*

A basic problem with measurement of affective experience is in deciding what the actual nature of the affect measure should be. Affective experience has previously been measured according to physiological changes (Thayer, 1989), objective ratings by observers according to facial or vocal emotional expression (Green & Cliff, 1975), and self-report inventories (Bradburn, 1969; Watson, Clark, & Tellegen, 1988). There are

arguments for and against each of these approaches and while it far exceeds the bounds of the present study to provide an adequate conceptual analysis of these arguments, some defence for the particular approach chosen is required.

For the purposes of the present study, affect measured by self-report is viewed as most appropriate. Since personal projects are an experiential methodology, inasmuch as they require subjects to express how the world appears to them, a congruent measure of affect is one in which subjects express to the researcher how their emotional world feels. Subjects do not express how they feel through physiological measurements or through observer ratings, their feelings are inferred, but they do express how they feel through self-report. There are other more practical reasons for choosing self-report as an affect measure as well. Self-report is a simple and brief procedure since subjects generally only have to endorse a list of general adjectives according to the frequency or intensity with which they have experienced them over a particular time-frame. Self-report is also an established procedure with research on the scales having demonstrated their capability to achieve consistent results over varied time-frames (Watson et al, 1988).

There are differing techniques for conducting self-report measurement and a particular choice should also be justified. While self-report measures generally contain a set of adjectives or verbs, to which people respond, the response formats may differ. Responses may be given on visual analog scales, on scales which sample frequency of experienced affect and on scales which sample the intensity of experience affect. The present study intends taking the safest, most well-trodden path which is that of the extent or frequency format.

### *Affect and Factor-analysis*

Human beings have generated an incredible number and variety of terms by which to describe their emotional experience. For example in Averill's (1975, cited in Morris, 1989) study of the structure of mood, he had subjects react to 558 different affect terms. Factor analysis attempts to uncover the existence of an underlying structure behind this myriad of terms we have at our disposal. Consequently, these terms are reduced down to more basic meaningful dimensions along which people differ.

Factor analyses have indicated that affective experience can be represented by an extremely small set of basic dimensions. Controversy arises however, on exactly how many of these dimensions exist and precisely how they should be labelled. The controversy seems to be between those of the view that there are at least 5 to 11 factors necessary for an adequate description of the affective experience (Borgatta, 1961, Izard, 1972, Nowlis, 1970, all cited in Morris, 1989) and those that propose there are only two or three dimensions which are generally seen as bipolar in nature (Daly, Lancee, & Polivy, 1983, Zevon & Tellegen, 1982 all cited in Morris, 1989).

In an excellent review of the literature on self-rated affect, Watson and Tellegen (1985) provided evidence that these seemingly disparate conclusions as to the structure of affect are less to do with 'nature' so much as methodological flaws and the aims and analytic strategies chosen by investigators. In their investigation, they re-analyzed many of the factor-analytic studies which had found multiple factors, this time using principal components analysis, and found consistent evidence across the studies for the existence of a basic two-dimensional structure of English-language affect.

Watson and Tellegen (1985) labelled the two dimensions they found as Positive and Negative Affect. According to them, positive affect reflects the extent to which one feels a zest for life while negative affect suggests being upset or unpleasantly aroused. These factors were described earlier by Zevon and Tellegen (1982) as descriptively bipolar but affectively unipolar dimensions to emphasize that only the high end of each factor represents a state of high affect while the lower end is best defined by terms reflecting a relative absence of affective involvement. By way of illustration, high positive affect is characterized by such terms as **excited, strong, elated, active, enthusiastic** while low positive affect is characterized by adjectives like **drowsy, dull, sluggish, sleepy**. High negative affect is characterized by **distressed, nervous, hostile, jittery, fearful**, while low negative affect is represented by such terms as **calm, placid, relaxed, at rest**.

#### *Independence of Positive and Negative Affect*

Numerous PA and NA scales have been developed and studied in a variety of research areas. Generally, the findings from these studies have given credence to claims for

independence of the two dimensions (Bradburn, 1969; Watson et al, 1988; Zevon & Tellegen, 1982) and for the two mood factors to relate to different classes of variables. For instance, NA alone is related to self-reported stress and poor coping (Clark & Watson, 1986 cited in Watson, Clark & Tellegen, 1988), health complaints (Watson & Pennebaker, 1989), and frequency of unpleasant events (Warr, Barter, & Brownbridge, 1983). In contrast, PA alone is related to social activity and satisfaction (Beiser, 1974) and to the frequency of pleasant events (Clark & Watson, 1988).

Despite these findings, anomalous and inconsistent results have also been reported. For instance, while most studies have found that the NA and PA scales have low or insignificant correlations with each other, other studies have found them to be substantially related (Kamman, Christie, Irwin, & Dixon, 1979; Warr et al, 1983). Diener and Emmons (1984) explained these anomalous findings by suggesting that the relationship between PA and NA varies according to the time frame over which affect is sampled (e.g. an hour, a week, a year) and the intensity of affect experienced. More specifically, they found that positive and negative affect are only strongly negatively correlated over short time spans; the two are unlikely to occur together within the same person at the same time. For long time periods of weeks or more, the two types of affect become relatively independent. Also stronger inverse correlations occurred when people were feeling more strongly emotional so affect intensity can also explain the anomalous results in the literature.

An alternative and equally plausible explanation, however, has been raised by Watson, Clark and Tellegen (1988) who suggested that some scales are simply better, purer measures of the underlying factors than are others. Watson (1988) has since reported evidence supporting this idea as his study of six major combined PA-NA scales revealed that some PA-NA scales yielded consistently higher correlations between NA and PA than do others. Watson, Clark and Tellegen (1988) supported their own assertion in developing their 20-item measure of affect, the Positive And Negative Affect Schedule (PANAS), which was shown to be highly internally consistent and largely uncorrelated for time-frames ranging from the moment to the past year.

### *A Self-report Modification for Projects*

Most studies, in trying to identify correlates of affect, have correlated the aggregate or mean scores on these affect scales with scores on other variables. A modification of this approach, specifically designed for investigating the relationships between project attributes and affect, was employed by Omodei and Wearing (1990). Rather than assess affect experienced over time, they asked subjects to consider each project separately and indicate, using Diener and Emmons' (1984) affect scales, how much they experienced each of the emotions in the scales as a result of their involvement in that project. Consequently, they were able to analyze the relationships between project attributes and affect using totally within-subject analyses. However, of some concern with this procedure is the absence of a specified time-frame in making these judgements of affect in projects. Diener and Emmons (1984) warn against relying solely on the memory of subjects for reporting levels of affect over long time periods. In memory, positive and negative affect could be coded such that they are strongly inversely related because of people's implicit theories about how positive and negative affect go together. Diener and Emmons (1984) believe that the capacity for such memory distortions could become larger the longer the time period because of the greater likelihood of memory distortion and judgemental bias which goes with longer time periods. As the time frames of projects are indefinite, ranging from moments to decades, there is no controlling for the possibility of memory distortion or judgement bias. And the relationship reported between positive and negative affect by Omodei and Wearing (1990) shows that there may indeed be cause for concern. Whereas Diener and Emmons' (1984) affect scale normally produces positive and negative affect intercorrelations of  $-.32$  to  $-.48$  regardless of the time-frame (Watson, 1988), Omodei and Wearing (1990) reported a within-subject intercorrelation of  $-.60$  for positive and negative affect. A correlation this large between factors which are supposed to be independent raises concern that memory distortion and bias may be occurring.

The present study again intends to follow the well-trodden path in assessing affective experience. An established affect scale is preferred with affect assessed independently of projects according to a specified time-frame. While there is a possibility that Omodei

and Wearing's procedure of assessing affect in projects may be the more appropriate for investigating relationships within a project framework, it is first necessary to see whether these relationships can still be detected with a traditional self-report measure of affect.

## CHAPTER FIVE

### OBJECTIVES AND HYPOTHESES

Chapter five presents the research hypotheses to be tested in the present study. These are organised into two major groups, the first concerning the main effects of project attributes on affect and the interactive effects among project attributes, age and sex on affect. The second group of hypotheses concern the main and interactive effects of project attributes, age, and sex, on need satisfaction.

The review in chapter three presented the research linking projects to affect (under the umbrella of well-being) and in particular, noted main effects identified in this research. Variables from these studies, to which particular attention was drawn for the purposes of the present study, were: need satisfaction in projects, involvement in projects, conflict between projects, and time frame of projects. The present study attempts replication of these effects then advances to a more complex view of how projects influence affect by contemplating the possibility of project attributes and variability by age and sex jointly influencing affect. Having all these project attributes in one study, in order to observe interaction effects, also provides the opportunity to observe the individual contributions made by each of the project attributes with statistical controls in place. Other studies have looked at variables within this range separately so control of other variables has not been attempted by studies previous to the present one.

The following hypotheses propose relationships between project attributes, age, and sex on affect. Their rationale is based on previous research and theory on goal-affect processes and researcher intuition.

#### *Main Effect Hypotheses for Affect:*

1(a). That need satisfaction in projects will be positively associated with positive affect. This prediction is made on the basis of Omodei and Wearing (1990), who found that need satisfaction in projects was a significant source of positive affect in projects.

1(b). That involvement in projects will be positively associated with positive affect. As

with hypothesis 1(a), involvement was found to be a significant source of positive affect in projects by Omodei and Wearing (1990).

1(c). That conflict between projects will be associated with either increased negative affect and/or decreased positive affect. This hypothesis is based in the work of Emmons and King (1988) on the consequences of conflict between personal strivings for affect. In their first study they found that the presence of conflict was accompanied by a significant increase in negative affect but was unrelated to positive affect. The second study, on the other hand, which differed only in the affect measure employed, found that the presence of conflict was accompanied by a decrease in positive affect and was unrelated to negative affect. Clearly, conflict has negative consequences for the experience of affect but, as is reflected in the hypothesis, the nature of these consequences is not entirely clear.

1(d). That conflict will display a quadratic effect with positive or negative affect. This hypothesis arises from a concern raised in chapter two that the scale by which conflict is measured may be sampling two different processes in facilitation and conflict rather than a bipolar effect.

1(e). That projects of a short-term time-frame will be associated with increased positive affect. This hypothesis is based on the results of Palys and Little (1983) and Zaleski (1987). Palys and Little (1983) found that increased life satisfaction was experienced by subjects who had more projects of short term importance while Zaleski (1987) reported that a direct immediate reward of working toward more pressing and realistic goals was the experiencing of positive emotions.

#### ***Interaction Effect Hypotheses for Affect:***

The following hypotheses respectively predict relationships with either positive affect alone or negative affect alone. This is because previous research has found these two mood factors generally relate to different personality traits and to different types of behavioural and external variables (Clark & Watson, 1988; Costa & Macrae, 1980; Watson, 1988). In addition to the project attributes already presented, age and sex were

considered at this stage as further potential moderators of the relationship between project attributes and affect. Interactions of only a second-order are to be investigated as the lack of theory and past research on interactions in this area would render more complex interactions difficult to interpret.

2 (a). That there will be a stronger association between need satisfaction and positive affect in long term than in short term projects. According to Pervin (1982), goals can be long-range or short-range, the former being associated with greater cognitive development and tolerance for delay. Since so much more is invested by individuals in their long term projects than their short term ones, it is likely that when these projects are satisfying their needs that this has a much more pleasurable impact in terms of pay-off for their endeavours than when short term projects are satisfying needs.

2 (b). That conflict will be associated with decreased positive affect or increased negative affect in long term projects more than short term projects. Emmons and King (1988) found that goal strivings which were in conflict were significantly related to the experience of negative affect and that this was because people tended to ruminate over and inhibit action on these conflicted strivings. It is thought that this effect is likely to be stronger when occurring in long term projects because these projects are more likely to be those of greater importance to the individual (Zaleski, 1988), and have greater investment in terms of planning and resources. Also, prolonged rumination and inhibited action is likely to occur in long-term projects as opposed to short term projects where rumination and inhibited action are of a shorter time-span.

2 (c). That need satisfaction will be associated with higher positive affect or lower negative affect more when conflict between projects is low than when it is high. It seems quite reasonable, given Chekola's (1975) telic theory of subjective well-being, that a moderating relationship should exist between need satisfaction and conflict on affect. Chekola's life plan approach holds that happiness depends on two key related factors: harmonious integration of one's goals and fulfilment of these goals. Harmonious integration of one's goals can be construed as having goals which are non-conflicting while fulfilment of goals can be implied through need satisfaction (presuming goals are

chosen to meet universal needs, need satisfaction equates with goal fulfilment).

Having need satisfaction in one's goals has already been identified as a source of positive affect (Diener, Larsen, & Emmons, 1984; Omodei & Wearing, 1990) while having conflict between one's goals has been associated with increased negative affect or decreased positive affect (Emmons & King, 1988). It is therefore uncertain as to whether the hypothesized interaction will impact upon positive or negative affect.

2 (d). That involvement will be more strongly related to positive affect for older subjects than younger subjects. It seems credible that as people get older they develop more specific interests in life whether they be hobbies, work or play. They have sampled a larger amount of activities to find out what they enjoy doing most and have arrived at a more specified set than younger people who are still in the process of developing interests. These specific interests, done for their intrinsically rewarding reasons, are more likely to invoke the sort of involvement conceptualised by Csikszentmihalyi (1975) that results in positive affect. Younger people, on the other hand, are less likely to be specialising in activities at their age. They may still report similar levels of involvement but they are not engaging in projects for the same degree of intrinsic reward as are older people.

2 (e). That conflict will be more strongly related to decreased positive affect or increased negative affect in the younger subjects than the older subjects. It is likely that people experience conflicts in their lives at any stage of life. However, as people get older it seems reasonable that they should become more adept at accepting and coping with these conflicts and being able to function adequately around them. Therefore they are still likely to be aware of when their projects are in conflict but are less likely to suffer the negative affective consequences of this conflict.

2 (f). That conflict will act to decrease positive affect or increase negative affect more for females than males. It is expected that sex of subjects will moderate the relationship between conflict and negative affect. Perring, Oatley and Smith (1988) found that subjects who had high conflict among their personal goals reported more psychiatric

symptoms. They also found that this correlation was stronger for females than males. Dywan (1978), who used personal projects in studying life satisfaction differences among males and females, similarly found a sex difference for life satisfaction which was accounted for by a sex difference in the degree of conflict among personal projects. These results seem to indicate a consistent relationship between sex, conflict and aspects of well-being. It is expected, on the basis of these results, that greater negative affect or less positive affect will be experienced by females with conflicted projects.

In addition to the above hypothesized interactions, all other possible second order effects will be investigated with regard to affect. This practice is defended on the grounds that the relatively undeveloped state of theory and research surrounding projects poses a limitation to the extent to which hypothesizing interaction relationships is possible.

As well as identifying variables which have been associated with affect, chapter three also proposed for the investigation of determinants of need satisfaction in projects. It was maintained that though need satisfaction is, conceptually-speaking, not equivalent to the concept of life satisfaction, it is certainly similar in nature. Thus it is contended that need satisfaction could be used provisionally as a marker of psychological well-being as are positive and negative affect.

Taking such a position makes salient the work of Palys and Little (1983) who studied the effects of personal project systems on perceived life satisfaction. Also relevant is Omodei and Wearing's (1990) study which looked at the effects of need satisfaction in projects and Emmons (1986), who observed the effects of personal striving attributes on life satisfaction. Zaleski's (1987) study on the time-frames of goals and satisfaction is also applicable. Based on the results of these studies several hypotheses were formed to guide the analysis.

#### **Main Effect Hypotheses for Need Satisfaction:**

3 (a). It is expected that long term projects will be accompanied by higher need satisfaction than short term projects. Zaleski (1987) found that with increasing time ranges of goals effort increased, importance increased and satisfaction increased.

3 (b). It is expected that high involvement in projects will be correlated with high need satisfaction in projects. This hypothesis is based in the finding reported by Omodei and Wearing (1990) who noted a significant within-subject correlation of .69 between the two variables.

3 (c). It is expected that a high amount of conflict between projects will be correlated with decreased need satisfaction in projects. Palys and Little (1983) found that more conflictful cross-impact matrices were characteristic of subjects reporting low life satisfaction. And Emmons (1986) found that between-striving conflict was related to lower levels of perceived life satisfaction.

3(d). That conflict will show a quadratic effect for need satisfaction. This hypothesis is in keeping with hypothesis 1(d) which was concerned about the bipolar assumption of the conflict scale.

#### **Interaction Effect Hypotheses for Need Satisfaction:**

4 (a). It is expected that conflict will be more strongly negatively associated with need satisfaction for females than males. Dywan (1978) found that females tended to construe high satisfaction with life in terms of an absence of inter-project conflict while males construed it more in terms of the overall enjoyment level of their projects.

4 (b). It is expected that conflict will be more strongly associated with need satisfaction in long term projects than short term projects. A similar rationale as for hypothesis 2(b) is proposed which suggests that long term projects are of greater importance to people and have more energies invested in them. Therefore when these projects are in conflict, the emotional impact is likely to be greater than for short term projects.

## CHAPTER SIX

### METHOD

#### *Subjects*

Data were collected from 70 adults, of which 23 subjects were colleagues of the experimenter while 47 subjects were volunteers recruited either from 100-level Social Science lectures or from advertisements posted on undergraduate noticeboards. Subjects recruited through lectures were given a brief overview of the study at the lecture by the experimenter (see Appendix A.) and given the opportunity to ask questions about it. They also indicated a time and date they would be available to participate. Volunteers who were recruited through advertisements came along at the same advertised times as did the volunteers from lectures.

The subjects were 27 males and 43 females ranging in age from 17 to 49 ( $M = 23.6$ ,  $SD = 7.08$ ). 78 % of these subjects were of age 25 or less. All were either graduates of tertiary education or currently enrolled in tertiary education.

#### *Procedure*

Subjects assembled at tutorial rooms in the Psychology Building at their chosen times. This approach meant that sometimes subjects filled out their questionnaires individually and sometimes in groups of up to six in number. As the subjects arrived the researcher checked off their names for purposes of sending results of the study back to them. The study was explained to those who had only seen the advertisements.

Subjects were given the questionnaire with accompanying answer booklet and were told to ask any questions if they were having trouble. Subjects typically spent approximately 45 minutes on the questionnaires and generally needed little assistance. Two subjects elected to withdraw from the study while partway through the questionnaire and their questionnaires were destroyed.

#### *Questionnaire*

The questionnaire (see Appendix B.) consisted of two questions pertaining to sex and

age, the PANAS scale, project elicitation instructions and a need satisfaction scale, involvement scale, and conflict matrix relating to the projects elicited.

### *1. Affect Measure*

The affect scale used was the PANAS (Positive and Negative Affect Schedule) developed as a brief measure of positive and negative affect by Watson, Clark and Tellegen (1988). It is a 20-item scale, 10 items of which contribute to PA and 10 to NA, each of which is scored on a 5 point rating scale. The scale can be used with short-term instructions (e.g. right now, today) or long-term instructions (e.g. past year, general). In the present study subjects rated the extent to which they had experienced each of the moods **over the last week** from 1 (slightly or not at all) to 5 (extremely).

Watson et al (1988) provide evidence demonstrating the reliability, validity, and relative independence of their measures of Positive Affect and Negative Affect irrespective of the subject population studied or the time frame and response format used. They have found alpha reliabilities ranging from .86 to .90 for positive affect and from .84 to .87 for negative affect for 7 different time-frame instructions ranging from "at the present moment" to "how you generally feel".

Factorial validity of the scale was demonstrated by the correlation of the first two varimax factors in the PANAS scale and the first two varimax factors from Zevon and Tellegen's (1982) data set which used 60 mood descriptors. The expected convergent correlations ranged from .89 to .95 while the expected discriminant correlations ranged from -.02 to -.18. Factorial validity of the items was also demonstrated with all of the descriptors showing strong primary loadings (.50 and above) on the appropriate factors. Factorial validity was shown by Watson et al (1988) to be undiminished even with the use of response formats other than the extent-type rating scale.

The PANAS was externally validated against the Hopkins Symptom Checklist, the Beck Depression Inventory and the State-Trait Anxiety Inventory State Anxiety Scale. The NA scale of the PANAS correlated strongly (.51 to .74) with each of these measures while the PA scale showed modest (-.19 to -.36) negative correlations.

## ***2. Project elicitation.***

Projects were introduced to subjects as referring to activities and concerns that occur in people's lives. It was explained to them that we are engaged in many of these projects at any given time and in several different ways. Engagement in projects was defined according to Little's (1983) four stages of project development: Inception, Planning, Action and Termination. Subjects were therefore told they could be engaged in a project by just thinking about it, by planning it, actually carrying it out or even completing it. Specific illustrative examples of each type of engagement in projects were given.

The procedure adopted differed slightly from that of Little (1983) at this stage. Rather than ask subjects to list projects they were currently engaged in, it was considered more appropriate to have them generate a list of projects they had been engaged in over the last week (in accordance with the time frame of the PANAS scale) and which were most typical of their lives at present. Of this list they chose the 10 projects which they had spent the most time on over the last week. These 10 projects were copied down in brief form into Table 2 on page 2 in the Answer Booklet by the subjects. The Answer Booklet had a section cut out of page 1 so that the same 10 projects could be used for each set of ratings on subsequent pages (see Appendix B).

Subjects had very little trouble with project elicitation and examination of their project lists revealed they were consistently making choices consistent with the definition of projects.

## ***3. Project Evaluation***

### ***Need Satisfaction***

The Need Satisfaction scale used was adapted from that used by Omodei and Wearing (1990). They derived their scale from a pool of 24 needs each assessed as a single item phrase. Four of these needs were of their own suggestion (creativity, self-esteem, personal control, purpose and meaning) while the others were the 20 of Murray's (1938) needs that Jackson (1984) selected for inclusion in his personality inventory the Personality Research Form (PRF). To get their final scale they included only those items which correlated at 0.2 or more with either positive or negative affect. They adopted this

procedure to detect for rejection those items for which the attempt to operationalize the need with a single phrase might have been unsuccessful. Nine of the Murray-based items were discarded in this manner resulting in a 15-item need satisfaction scale.

Prior to the present study, the need satisfaction scale as used by Omodei and Wearing (1990) was piloted. Subsequent interviews with pilot subjects revealed the necessity for simplifying the phrasing of the items in order to make them easier for subjects to understand. Changes were also made to selected items in order to reduce artifact, which was potentially present in the form of affect terms in the need satisfaction items. Firstly, the labels of each of the need items were omitted and the statements were changed to project-specific questions. eg.

**Succorance:** Gives you a sense of being cared for, protected or supported.

was changed to:

How much does this project give you a sense of being **cared for, protected or supported?**

This change made the item shorter as well as removing a word that many subjects would not understand which was a problem with several of the other items e.g. cognitive structure, impulsivity, sentience.

Items 6 and 11, which were thought to contain affect terms (thereby artifact) were changed from:

**Affiliation:** Enables you to you to be warm and friendly.

to:

How much does this project allow you to be in **close contact with people you like?**

**Play:** Allows you to do things "just for fun", to be light-hearted and easygoing.

to:

How much does this project allow you to do things "**just for fun**"?

Subjects responded to the need satisfaction items by rating each of their ten projects on each of the 15 needs. Judgements of need satisfaction were made on a 7 point scale with

1 being "fails to satisfy this need" and 7 being "fully satisfies this need". The option was also given that if subjects felt a particular need was unrelated to the project they could put "not applicable" as a response. This was treated as the lowest point on an 8 point scale since a need which is unrelated to a project can not be satisfied by that project.

Scores on all of the 15 items were averaged in order to provide an overall index of need satisfaction.

### *Involvement*

The four involvement items used were identical to those used by Omodei and Wearing (1990). They developed these items to assess each of the four components of the flow experience identified by Csikszentmihalyi (1975). Piloting of this scale divulged no problems with these items so they were employed unchanged.

All ten projects were rated on each of the involvement items using a seven point scale with 1 being "rarely true of this project" and 7 being "always true of this project". "Not applicable" was again an option. Scores on these 4 items were averaged in order to provide a measure of involvement.

### *Time-frame of projects*

A single item measure was used for subjects to distinguish their short-term projects from long-term. As judged by the subject, projects which had a total time-span of less than a year were designated short-term while projects with a total time-span of over a year were designated long-term. These particular time-frames were chosen according to those used by Zaleski (1987; 1988).

### *Conflict*

In order to assess the amount of conflict existing between projects, subjects filled out a project conflict matrix (see Appendix B). The matrix was 10 columns x 10 rows, the outside rows and columns of which were labelled with the subjects' 10 project names in abbreviated form. Subjects compared every project with every other project asking themselves "does this project conflict with, help, or have no effect on this other

project?". The rating was made on a scale ranging from 1 (greatly helps this project) through 4 (has no effect on this project) to 7 (greatly conflicts with this project). This procedure was similar to that used by Little (1983) and Emmons and King (1988) with the exception that the conflict matrix was halved (see chapter 2, p.12).

For each project a total conflict score was obtained by summing its ratings over the other 9 projects.

### *Order of questionnaire*

The affect items were presented first to prevent their contamination through subjects pondering over the possible effects of need satisfaction and involvement items. Project elicitation was then carried out. The subjects then rated their projects in order of need satisfaction, involvement and then time-frame. All ten projects were rated on an entire project variable before the next project variable was considered.

Finally, subjects filled out the conflict matrix by comparing each project with every other project. This was also done by working down the columns. The questionnaire used with the particular formats for each of the above variables is given in Appendix B.

### *Data Analysis Procedures*

Before the analyses began, the data were checked to ensure the assumptions of multiple regression were met. The cases to IV ratio after deletion of missing values was adequate at approximately 8:1. Examination of residual scatterplots revealed no unusual distributions indicating assumptions of normality, linearity, and homoscedasticity were adequately met. Although negative affect met the normality assumption, it was notably positively skewed so a log transformation was attempted. However, the untransformed results and transformed results were essentially the same so negative affect was left untransformed. Age was also positively skewed as the majority of subjects were age from 18 to 22 but there were a number of subjects in their 30's and 40's. This indicated careful interpretation of relationships involving age emerging from the analysis.

The variables of sex and time-frame, which were dichotomous, were dummy coded for

entry into the regression analyses. Males were coded 0 and females were coded 1, while for time-frame, short term projects were coded 0 and long term projects coded 1.

The data-analysis proceeds in two distinct stages. The first stage considers the effects of the predictor set upon affect. Two hierarchical multiple regressions are carried out for positive and negative affect respectively. Main effects are tested at the first step of each regression while interaction effects, modelled as cross-product terms, are tested at the second step. Deviation scores are used to combat multicollinearity (Jaccard, Turrisi, & Wan, 1990).

A quadratic term for conflict is also entered into the second step of each regression in order to test hypothesis 1(d). Where significant interactions emerge, additional analyses are run to assess them for spuriousness. This procedure is conducted according to the recommendations of Lubinski and Humphreys (1990). They have noted that product and quadratic terms may share substantial amounts of variance. If a quadratic  $X^2$  or  $Y^2$  trend better characterizes the relationship between the predictors and the dependent variable then the significant product term  $X \times Y$  could have resulted from simply being highly correlated with one of the quadratic trends. So any significant interaction effects will be assessed simultaneously with quadratic terms to check they are not better accounted for by the quadratic terms.

The second stage addresses the effects of the predictor set on need satisfaction in projects. Because the dependent variable this time is in project terms, both between- and within-subjects analyses are now possible. Firstly, a hierarchical between-subjects multiple regression is conducted which tests main effects at the first step and interaction effects, modelled in the same manner as in the affect analyses, at the second step.

Secondly, the same data are subjected to within-subjects analysis, that is, the strengths of processes within individuals which are common to individuals are now being indicated rather than patterns between individuals. Within-subjects analyses of need satisfaction are possible because multiple measures (10 projects) have been obtained from each subject. In order to assess the group within-subjects relationships for the 70

subjects in the present study, inter-individual variance was removed from the scores. This was accomplished by converting each subject's set of 10 scores on each variable to standard scores around the subject's mean score for that variable (Omodei & Wearing, 1990). After listwise deletion of cases containing missing data, these standard scores were then pooled to provide a single pool of 672 project ratings for input into the relevant regression analyses. A sample size of 672 is accordingly assumed in the probability estimation. An identical regression strategy to the between-subject analysis of need satisfaction is pursued.

### *Ethical Issues*

All volunteers read and signed a subject consent form (see Appendix C.) which explained their rights to confidentiality, voluntary participation and withdrawal from the study at any stage. Subjects recruited through lectures signed this form after they had formally volunteered for the study. Subjects who volunteered after seeing signs posted about the study had the study explained to them as they arrived and were given the same consent form to sign. All subjects participated on the condition that they would personally be mailed feedback of the overall results of the study (see Appendix D.).

## CHAPTER SEVEN

### RESULTS

Two groups of regression analyses were conducted. The first was a between-subjects analysis concerned with the main and interaction effects of project variables, age and sex on affect. The second group comprised both a between-subjects and within-subjects analysis of the determinants of need satisfaction in projects.

The affect scores for analysis were obtained by calculating total scores for positive and negative affect on the PANAS. The project scores for analysis were obtained by calculating the mean scores across projects across the scale items. Cases containing missing data were deleted listwise from the analysis which reduced the number of cases from 70 to 60 in the worst instance. Sex was adequately distributed in the sample with 39% males and 61% females. Time-frame was also evenly distributed with 59.5% of projects as short-term and 40.5% of projects long-term. Internal consistency was examined for each of the measures for which this was appropriate. These values, along with means and standard deviations are recorded in Table 6.1 The internal reliabilities of the two PANAS scales were high and in the same range as reported by Watson, Clark and Tellegen (1988). The involvement scale, which also yielded a high reliability, was judged to be the only project scale for which internal reliability was appropriate. This result, which is almost identical to that found by Omodei and Wearing (1990), is further evidence that involvement as operationalized by these four items is a single construct. As was argued by Omodei and Wearing (1990), the various needs do not constitute a unitary construct so internal consistency reliability was not appropriate for this variable. Internal consistency reliability was not appropriate for conflict either as there is no reason to expect that a project should impact in a consistent way upon all the other projects.

Simple correlations were first computed to examine the bivariate relationships among the variables (see Table 6.2). A two-tailed alpha of .05 was adopted as a criterion of statistical significance in this and all subsequent analyses. However, *p* values less than .1 were still indicated as these would have been significant for a one-tailed test.

**Table 6.1.** Mean scale scores, standard deviations, and alpha coefficients (where applicable) of need satisfaction, involvement, conflict, age, positive affect, negative affect (N=60).

Variable	Mean	SD	alpha
Need Satisfaction (15 items)	3.79	0.73	NA
Involvement (4 items)	3.98	0.84	.79
Conflict	4.03	0.45	NA
Age	23.75	7.30	NA
Positive Affect (10 items)	33.27	6.58	.84
Negative Affect (10 items)	18.82	6.47	.83

**Table 6.2** Simple correlations among need satisfaction (need), conflict (conf), involvement (inv), time-frame (time), age, sex, positive affect (PA), and negative affect (NA) (N = 60).

	Need	Conf	Inv	Time	Age	Sex	PA	NA
Need	1.000							
Conf	-.081	1.000						
Inv	.687***	.079	1.000					
Time	.098	-.089	.218	1.000				
Age	-.133	.177	.080	-.059	1.000			
Sex	.171	.239	.144	-.057	-.146	1.000		
PA	.353**	.039	.257*	-.133	-.006	-.080	1.000	
NA	-.022	.036	.006	.088	-.148	.081	-.238	1.000

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

Positive affect was correlated moderately with need satisfaction and to a lesser degree with involvement but was not significantly correlated with any of the other variables. Negative affect was not significantly correlated with any of the variables in the predictor set. Negative and positive affect displayed an insignificant negative correlation with each other indicating their independence over the one-week time-frame.

Intercorrelations among the predictor set were examined revealing a substantial significant correlation between need satisfaction and involvement. Such a high correlation among two independent variables signalled the possibility of redundancy occurring between these two variables in their contribution to positive affect, given they both correlate significantly with positive affect. The only other intercorrelation to approach significance was that between sex and conflict ( $r = .239, p = .066$ ).

#### *Determinants of Positive and Negative Affect*

Two hierarchical multiple regressions were conducted to examine the relationships between the variable set and positive and negative affect respectively. For each regression, the variables: conflict, need satisfaction, involvement, time frame, age and sex; were all forced in at the first step while the interaction terms formed from these variables were entered at the second step. As shown in Table 6.3, the results of the first step showed the variables together were marginally unrelated to positive affect ( $p = .074$ ) with need satisfaction the only variable really contributing in any way ( $p = .0517$ ). Relating back to the hypotheses relevant to this part of the analysis: hypotheses 1(a), 1(b), 1(c), 1(e); only hypothesis 1(a) received any support, though the support was only marginal. As indicated in Table 6.3, the model was also unrelated to negative affect so the other possible outcome predicted by hypothesis 1(c) was not supported either.

Thus, of the main effects, need satisfaction was the only project attribute to relate, albeit marginally, to positive affect while none of the project attributes were related to negative affect.

**Table 6.3** Multiple Regressions of Negative Affect and Positive Affect on Age, Sex, Time-frame, Involvement, Need Satisfaction, and Conflict (N=60)

Variable	PA		NA	
	BETA	t	BETA	t
Age	-0.02	-0.14	-0.16	-1.09
Sex	-0.19	-1.40	0.07	0.51
Time-frame (Time)	-0.19	-1.46	0.09	0.66
Involvement (Inv)	0.07	0.40	0.04	0.22
Need Satisfaction (Need)	0.36	1.99*	-0.08	-0.40
Conflict (Conf)	0.09	0.70	0.04	0.25
	Adjusted R <sup>2</sup> = 0.097 F = 2.06*		Adjusted R <sup>2</sup> = -0.066 F = 0.38	
Inv X Conf	0.32	1.11	-0.05	-0.15
Age X Conf	-0.53	-2.47**	-0.05	-0.15
Age X Inv	0.33	2.12**	0.05	0.27
Age X Need	-0.13	-0.73	-0.03	-0.14
Age X Time	0.36	0.77	0.46	0.82
Sex X Conf	-1.62	-3.16****	0.76	1.17
Sex X Time	0.13	0.25	-0.22	-0.32
Sex X Inv	0.93	1.27	-0.96	-1.05
Sex X Need	-0.28	-0.39	0.58	0.64
Age X Sex	2.48	3.47****	-0.91	-1.01
Inv X Time	0.85	0.77	-1.71	-1.23
Need X Inv	-0.09	-0.57	0.07	0.34
Need X Conf	-0.38	-1.41	0.40	1.19
Time X Conf	-0.09	-0.24	0.18	0.37
Time X Need	0.19	0.30	0.39	0.48
	Adjusted R <sup>2</sup> = 0.298 F = 2.19*		Adjusted R <sup>2</sup> = -0.146 F = 0.64	

Notes. PA: Positive Affect; NA: Negative Affect  
\*  $p < .10$  \*\*  $p < .05$  \*\*\*  $p < .01$  \*\*\*\*  $p < .005$ .

Table 3 shows that two of the hypothesized interaction terms, 2(d) age x involvement, and 2(e) age x conflict, emerged as expected, while hypothesis 2(f) sex x conflict, emerged as significant for positive affect, not the predicted negative affect. Hypotheses 2(a), 2(b), and 2(c) were not supported by the results. Exploratory analysis also picked up an unpredicted interaction between age and sex for positive affect. Altogether, the interaction terms accounted for an extra 20% of the variance in positive affect. There were no significant interaction effects for negative affect. Subsequent analysis found that none of the quadratic terms better characterized the higher-order relation between the predictor set and positive affect so they were omitted from the analysis.

The nature of each significant interaction was then ascertained by regressing positive affect on one of the variables from the interaction term, at dichotomized levels of the other. For variables which were not already dichotomized, a median split was used to determine the dichotomy. Since need satisfaction had a borderline effect for positive affect this was partialled out each time by entering it concurrently into the regression equations. The un-standardised regression coefficients and y-intercepts which ensued were the basis for interaction interpretation.

For the age x conflict interaction it was found that as conflict increased, the older subjects (22 and above) experienced increasing positive affect ( $B = 3.2$ ) while younger subjects (21 and under) experienced decreasing levels of positive affect ( $B = -1.17$ ). The age x involvement interaction was of the nature that as involvement in projects increased, the younger subjects experienced decreasing positive affect ( $B = -.71$ ) while the older subjects tended to experience increasing levels of positive affect ( $B = .70$ ). The sex x conflict interaction was of the nature that as conflict increased, males tended to report increasingly higher levels of positive affect ( $B = 3.87$ ) while females reported slightly reducing levels of positive affect ( $B = -.23$ ). It was found for the sex x age interaction that with increasing age, males tended to report decreasing positive affect ( $B = -.27$ ) while females reported increasing positive affect ( $B = .32$ ).

In summary, a complete absence of relationships was revealed between the project variables, age and sex and negative affect while positive affect was marginally related

to need satisfaction and significantly predicted by the interactions of age by conflict, age by involvement, sex by conflict and age by sex. None of the significant interactions were project X project interactions.

*Between-Subjects Analysis of Need Satisfaction in Projects.*

A hierarchical multiple regression was conducted to investigate the main and interaction effects of age, sex, time-frame, conflict, and involvement on need satisfaction. The main effects were all forced in at the first step while the interaction block of terms was entered in at the second step. As shown in Table 6.4, the block of main effects accounted for a significant 49% of the variance in need satisfaction, although nearly all of this explained variance was due to the effect of involvement. None of the other variables in the predictor set contributed significantly to need satisfaction.

The interaction block proved to explain an insignificant additional amount of variance in need satisfaction. This indicated that none of the interaction terms contained were significant. The closest was sex by conflict but  $p = .087$ . The possibility of a quadratic effect for conflict on need satisfaction was also investigated but as it did not account for significant additional variance or change the results shown, it was excluded from the final analysis.

In summary, it was shown in the between-subjects analysis of the determinants of need satisfaction that need satisfaction was higher for those subjects who were very involved in their projects, supporting hypothesis 3(b), but was unrelated to the remainder of the predictor set, failing to support hypotheses 3(a) and 3(c). The interaction block was insignificant overall, failing to support hypothesis 4(b) although a possible sex x conflict interaction, in support of hypothesis 4(a) was indicated.

**Table 6.4** Multiple Regression of Need Satisfaction in Projects on Age, Sex, Time-frame, Involvement and Conflict (N = 60).

Need Satisfaction		
Variable	Beta	t
Age	-0.16	-1.64
Sex	0.08	0.82
Time-frame (Time)	-0.07	-0.73
Conflict (Conf)	-0.14	-1.44
Involvement (Inv)	0.71	7.36**
Adjusted R <sup>2</sup> = 0.487		
F = 12.39**		
Age X Sex	0.05	0.08
Age X Inv	-0.09	-0.72
Age X Conf	-0.10	-0.71
Age X Time	0.18	0.57
Sex X Inv	0.12	0.27
Sex X Conf	-0.68	-1.75*
Sex X Time	-0.40	-0.95
Inv X Conf	-0.01	-0.12
Inv X Time	0.68	1.03
Time X Conf	0.06	0.20
Adjusted R <sup>2</sup> = 0.467		
F = 4.51		
* $p < .10$ ** $p < .0001$		

### *Within-subjects Analysis of Need Satisfaction in Projects*

The same relationships analyzed in the preceding section were then re-analyzed using within-subjects data. This was possible because the dependent variable, need satisfaction, was also measured in project terms and because the between-subject variance had been statistically removed using z-scores. It should be noted that the unit of analysis was now the project, not the mean value of ten projects as for the between-subjects analysis, with a consequent increase in sample size to 672.

The subsequent multiple regression analysis, displayed in Table 6.5, depicts conflict, involvement, time frame, age, and sex jointly accounting for 42% of the variance in need satisfaction. At the individual variable level, involvement again accounted for a substantial amount of the variance in need satisfaction but, in contrast to the previous analysis, conflict and time frame this time figured as significant contributors. Higher need satisfaction in a project was experienced if it was long-term or unconflicted, or by those who were more involved in their project. The magnitudes of the regression coefficients in the between- and within-subjects analyses were examined to determine whether similar relationships were actually occurring in both analyses but at different levels of significance because of the change in sample size. The same relationships appeared to be occurring for conflict and need satisfaction and involvement and need satisfaction but the two co-efficients for time-frame were of different size and direction. The within-subject analysis demonstrated that long-term projects were associated with increased need satisfaction as compared with slightly decreased need satisfaction in the between-subjects analysis.

The interaction block was entered in next with main effects controlled. The variance added by the interaction block was initially insignificant but when the quadratic term for conflict was tested concurrently, as it had been in the previous analyses, this brought the block to significance as shown in Table 6.5. The hypothesized interaction of sex x conflict emerged as significant and subsequent sub-group analyses showed that this with increasing conflict males experienced fairly constant need satisfaction ( $B = .004$ ) while females experienced slightly decreased need satisfaction ( $B = -.14$ ). This interaction was of a similar nature as that found in the between-subjects analysis although this time as

conflict increased, males reported a fairly constant, rather than rising, level of need satisfaction.

In order to ascertain the nature of the quadratic term for conflict which brought the interaction block to significance, conflict was trichotomized by taking median values which divided the sample into three and the means were plotted against need satisfaction. The trend displayed in this plot was for relatively little change in need satisfaction from high levels of helping in projects to where projects showed little effect upon each other. However, from this point, as conflict increased need satisfaction showed a decreasing trend.

In summary, the within-subjects analysis of need satisfaction produced results not too discrepant from the between-subjects analysis. High involvement in projects was again strongly related to need satisfaction, supporting hypothesis 3(b). In contrast though, to the between-subjects analysis, conflict was significantly related to need satisfaction, supporting hypothesis 3(c), and the time-frame of projects was this time related to need satisfaction, supporting hypothesis 3(a). Of the latter two results, however, only conflict showed a different strength of relationship with need satisfaction, displaying a coefficient of higher magnitude and different direction than in the between-subjects analysis. In addition, a sex x conflict interaction emerged, supporting hypothesis 4(a) which showed females were experiencing lower need satisfaction than males when their projects were in conflict. Hypothesis 4(b) was unsupported by the results. Finally, a significant quadratic function for conflict also emerged, supporting hypothesis 3(d), and showing that need satisfaction was relatively unaffected when projects were helping each other but markedly declined when projects were in conflict.

**Table 6.5** Multiple Regression of Need Satisfaction in Projects on Age, Sex, Time-frame, Conflict, and Involvement using Within-Subjects Data (N = 672).

Need Satisfaction		
Variables	Beta	t
Age	-0.01	-0.29
Sex	-0.00	-0.07
Time-frame (Time)	0.12	3.59 <sup>***</sup>
Conflict (Conf)	-0.08	-2.84 <sup>**</sup>
Involvement (Inv)	0.62	20.85 <sup>***</sup>
Adjusted R <sup>2</sup> = 0.424 F = 99.87 <sup>***</sup>		
Age X Sex	0.02	0.19
Age X Conf	-0.03	-0.48
Age X Inv	0.05	0.80
Age X Time	-0.08	-1.09
Sex X Inv	-0.03	-0.28
Sex X Conf	-0.23	-2.20 <sup>*</sup>
Sex X Time	0.01	0.12
Inv X Conf	-0.03	-0.99
Inv X Time	0.03	0.78
Time X Conf	0.06	1.61
Conf <sup>2</sup>	-0.07	-2.45 <sup>*</sup>
Adjusted R <sup>2</sup> = 0.431 F = 32.84 <sup>***</sup>		

Note. <sup>\*</sup>p < .05 <sup>\*\*</sup>p < .005 <sup>\*\*\*</sup>p < .0005

## CHAPTER EIGHT

### DISCUSSION

The purpose of the present study was to extend research already performed on project attributes and aspects of well-being by considering interactive relationships among project attributes and age and sex, which may impact on affect and project need satisfaction.

Taken as a whole, the results of these investigations provide evidence that affect and need satisfaction are influenced by interactive relationships involving project attributes, but only when these interactions are with age and sex. No project X project interactions eventuated from the analysis. In the first part of the study, which investigated the determinants of affect, it was found that positive affect was marginally enhanced when projects were high in need satisfaction but was unrelated to any of the other predictors. Upon consideration of second order effects, however, the influences on positive affect were much more varied. Interaction effects of age and conflict, sex and conflict, age and involvement, and age and sex were found for positive affect. Interestingly, no significant main or interaction effects were found for negative affect.

In the second part of the study, which focused on the determinants of need satisfaction in projects, two analyses were conducted. The first analysis investigated the determinants of need satisfaction in projects using between-subjects data and found the only association was a strong one between involvement in projects and need satisfaction. No significant second order effects were detected.

The second analysis followed the same procedure but used within-subjects data to study the same questions. Involvement was again the major contributor to need satisfaction although this time additional effects emerged. Conflict had a significant negative effect on need satisfaction and longer-term projects were associated with higher need satisfaction.

At the second order level, the sex by conflict interaction was again significant as was

a quadratic function for conflict. Notably, no project X project interactions were found for need satisfaction either.

As the results just reviewed are to be compared and discussed with reference to the results of previous studies, some consideration of the relative statistical power of the present analysis is warranted. Power was estimated post hoc as .65 for a correlation of .3, using a two-tailed alpha of .05 (Cohen, 1977). As the computation of power is largely determined by sample size, some comment on the present study's ability to detect relationships of a similar magnitude to others can be made by referring to the sample sizes of previous studies. Omodei and Wearing (1990) used a sample size of 39 in their study while Emmons and King (1988) used 40 and 48 in their two studies. In each of the samples the subjects were predominantly undergraduates so (assuming similar variability for each variable) the present study, with a sample of 60 (predominantly undergraduates as well), presumably should have been able to detect relationships of similar magnitude with as much, if not greater, reliability.

The following discussion attempts to relate these results to theoretical and empirical issues outlined in Chapters one to five. Methodological issues pertinent to these findings are discussed concurrently, where appropriate.

#### *Determinants of Affect: Main Effects*

The first block of hypotheses was concerned with the main effects of the project attributes on affect. The simple correlations produced in this analysis gave some early indications that main effects for project variables and affect were likely to be scarce. The only simple correlations with affect to reach significance were for involvement and need satisfaction, respectively, with positive affect. These simple correlations also indicated that the only confounding likely to occur was between involvement and need satisfaction as no other project attributes were correlated with each other. This suggestion was confirmed in the results of the multivariate analysis, where the effect of involvement on positive affect appeared to have been partialled out by need satisfaction. None of the other partial correlations changed markedly from their original simple correlations.

Hypothesis 1(a) predicted that need satisfaction in projects would be positively related to positive affect. The results provided partial support for this hypothesis because the magnitude of the relationship ( $B = .36$ ) was not a great deal smaller than the .47 reported by Omodei and Wearing (1990) and did occur in the direction expected. However the present study found the effect was of only borderline significance, despite both studies use of two-tailed tests for significance.

The differing results attained by the present study arguably can, to an extent, be explained by attempts to improve on the methodology and validity of Omodei and Wearing's study. Firstly, alterations were made to the need satisfaction scale (see chapter six) in an attempt to promote simplicity for subjects and, more importantly, to reduce artifact in the scale. It had been noted that several of the need satisfaction items had affect-like adjectives in them, for example:

*Affiliation: allows you to be warm and friendly.*

In a sense, an item like this is partly predicting itself when correlated with an affect measure, since "warm" and "friendly" have frequently been used in previous affect scales. "Warmhearted" has been used as a marker of low negative affect (Hendrick & Lilly, 1970; Zevon and Tellegen, 1982) while "friendly" has been mostly used as an indicator of high positive affect (McNair, Lorr, & Droppleman, 1971; Watson, Clark & Tellegen, 1984). This attempt to reduce artifact may have been successful thereby attenuating the relationship found by Omodei and Wearing (1990).

Secondly, the present study opted for a measure of affect, independent of projects, using an affect scale with documented reliability and validity for the one week time-frame studied. For the express purpose of conducting within-subjects analysis, Omodei and Wearing (1990) modified Diener and Emmon's (1984) affect scale to measure affect in projects. While this scale, under normal circumstances, has high convergent validity with other affect scales (Watson 1988), the relationship between Omodei and Wearing's (1990) modification and the PANAS is unknown. As such, a criticism of this method is that the reliability and validity were unknown. A related criticism, already raised in

chapter four, of this method is that projects have vastly differing time-frames and as these time-frames increase, the capacity for memory distortion and judgement bias for recalled affect also increases.

The finding that need satisfaction did not strongly relate to positive affect when a recognised and psychometrically sound affect scale was used in orthodox manner, could, at face value, be construed as grounds to refute Omodei and Wearing's finding. However, more careful consideration is warranted over what the present study's findings mean, in context. It would seem a reasonable test of the authenticity of Omodei and Wearing's method for sampling project-affect relationships to see whether these relationships are still apparent when subjects' affect ratings are not prompted by the projects, that is, affect is assessed independently of projects. Such a test could not expect as sizeable a magnitude of relationship since affect measured by the PANAS scale is more likely to provide an underestimation of the relationship between need satisfaction and affect. This is because there is a likelihood of additional individual action and circumstances impacting on affect which are not covered specifically by the ten projects listed by the subject.

When the present study's findings are viewed in this light, there is some congruence with the findings of Omodei and Wearing. Need satisfaction was found in the present study to be associated with increased positive affect (independent of projects) with a magnitude not much smaller than that reported by Omodei and Wearing. Given that many other factors could have been influencing affect, other than the ten projects, need satisfaction then surprisingly showed a relatively strong association with positive affect. That the relationship reported by Omodei and Wearing is roughly replicable even when affect is measured independently of projects is an indication that there may be merit in assessing affect within projects. In fact, in the context of personal project research, it is probably preferable as it partials out affect unrelated to the projects under scrutiny. However, before this method is widely adopted, careful examination of its reliability and validity should be carried out.

Thirdly, because affect was measured using the PANAS scale, which assigns only tw

scores to every subject (for positive and negative affect), the use of a within-subjects design as employed by Omodei and Wearing (1990) was precluded. The possibility could not be overlooked then, that different processes may have been elicited by the between-subjects analysis used in the present study. The reason why level of analysis may account for differing results hinges on the nature of the variability upon which each level concentrates. Within-subjects analysis, as was employed by Omodei and Wearing, concentrates entirely on within-subject variability. This approach assumes that the particular processes being studied are universal or common to all individuals. The measurement of between-subject variability is, in this case, superfluous as it is assumed irrelevant. Between-subject analysis, on the other hand, searches for similar patterns among individuals but assumes that interindividual variability can occur at the same time. Put simply, within-subjects analysis considers only within-subject variability while between-subject analysis considers both within- and between-subject variability. By comparing the results from both types of analyses, which differ only in terms of between-subject variability, broad comment can then be made on the importance of between-subject variability for the dimensions studied. For instance, if identical results are reported by a between-subject analysis and a within-subject analysis then it is likely that the between-subject variability is negligible and universal processes can be assumed. However, if there are vast differences between the between- and within-subject analyses then it is likely that subjects individually differ too much on the dimensions studied for universal processes to be assumed.

The present study found that, despite being of marginal significance, need satisfaction was related to positive affect at only a slightly lesser magnitude than that reported by Omodei and Wearing (1990). Considering that the differences in the affect measurement procedure and changes made to the need satisfaction scale should have acted to attenuate any effects, this result seems to show that comparable relationship magnitudes were obtained in either study. It appears that the between-subjects variability, which was the principal difference between the two studies, is actually negligible and therefore, universal processes can be assumed for need satisfaction. That is, the relationship between need satisfaction in projects and positive affect is one which is common to all individuals. In this case, the more appropriate level of analysis for studying the effects

of need satisfaction on positive affect is along the lines of Omodei and Wearing since between-subject variability does not need to be considered.

Presuming that the need satisfaction scale used in the present study was an adequate operationalisation of the construct, the finding that need satisfaction in projects is not related to negative affect and only marginally related to positive affect has implications for telic theories of subjective well-being. Telic theories maintain that happiness is gained when some state, such as a goal or need is reached. For example, Wilson (1960) posited that happiness is gained when needs are satisfied and conversely, the persistence of unfulfilled needs causes unhappiness. The results of the present study concur with Omodei and Wearing (1990) in offering only marginal support for this theory. Satisfied needs were associated with the experience of positive affect, but unfulfilled needs did not result in the experience of negative affect.

Hypothesis 1(b), that involvement in projects would be accompanied by an increase in positive affect was not supported by the results. The association was a positive one, as predicted, but not large enough to reach significance and of much smaller magnitude ( $B = .07$ ) than the .39 reported by Omodei and Wearing (1990). Again, the differing affect measures used may account for these discrepant results. Whereas Omodei and Wearing repeatedly prompted ratings of involvement and affect with projects, the present study only prompted involvement with projects, forcing it to show a relationship with general experienced affect. While need satisfaction was capable of maintaining a relationship under these conditions, involvement was not, which raises the possibility that it does not play as large a part in enhancing general positive affect as was thought.

Alternatively, the different levels of analysis could also account for the discrepancy. Finding a different nature of relationship at a between-subjects level of analysis might indicate that intersubject variability is playing a significant part in the way involvement associates with positive affect. Individuals may differ sizably in their capacity for involvement which would serve to obscure any common processes in a between-subjects analysis, explaining the low relationship magnitude found by the present study. The investigation of interindividual differences in the capacity for involvement has been

suggested as a fruitful approach by Csikszentmihalyi (1982) and has found some support from hypothesis 2(d) which found a between-subject interaction effect for involvement with age.

Implications are noted this time for the auto-telic theory of subjective well-being which locates subjective well-being in behavioural movement toward a goal rather than in achieving a goal. The involvement items used in the present study were essentially an operationalization of Csikszentmihalyi's (1975) auto-telic theory of flow (Omodei and Wearing, 1990). Their failure to account for any significant variance in actual experienced positive affect may not be sufficient evidence to refute the theory but certainly provides little in the way of support for the important role claimed for involvement. It is quite likely that some experience of positive affect emanates from activities that are performed well but it is more likely that this relationship is limited to a smaller range of human activity, such as sport or play.

Hypothesis 1(c) was less rigid than the preceding two in predicting either of decreased positive affect or increased negative affect when projects were in conflict. The results, however, were not supportive of either of these associations. In fact, the association with positive affect, although insignificant, was in the opposite direction to that predicted. Several studies (Emmons, 1986; Emmons & King, 1988; and Perring et al, 1988) have demonstrated the negative consequences of conflict between projects on affect, so it was surprising that the present study found no such association. Certainly one possible reason why conflict was not influential in the present study was its lack of variability. Most subjects perceived their projects as having little effect on each other and accordingly responded in the middle of the scale. This, in itself, is an unusual finding given the high representation in the sample by first and second year students. Other studies (Fisher, Murray, & Frazer, 1985; Fisher, 1988) have noted that students in a life transition, experience a high number of conflictual issues associated with leaving home along with very high levels of psychiatric symptoms.

Perhaps contributing to the lack of the variability in the conflict variable was the placement of the conflict matrix at the end of the questionnaire. The questionnaire, as

a whole, was quite long (45 minutes) and fairly cognitively taxing, so restrictions of range in the conflict variable may have occurred through fatigue, and/or haste. This could be improved in future studies by giving subjects a break from the questionnaire or possibly even by eliciting less projects.

The conflict scale was also singled out for study in order to test hypothesis 1(d) that facilitation and conflict, though assessed on the same scale are not bipolar processes. In order to investigate this possibility, a quadratic function for conflict was entered into each of the four multiple regressions. It was not significant for positive or negative affect providing no cause for suspecting unipolarity of facilitation and conflict.

The issues of affect measurement and level of analysis raised earlier were not relevant for conflict as the studies which previously investigated conflict used orthodox self-report affect measures and between-subjects analyses. However, given the unexpected lack of result for conflict, future research might well concentrate on within-subjects analysis of project conflict as a more fruitful line of research.

Hypothesis 1(e) proposed that positive affect would be higher for short-term projects than long-term projects. The results for this hypothesis show that, even though the effect was insignificant, the relationship was in the direction expected. This finding makes some sense alongside that of Zaleski (1987) who noted that subjects seemed to experience positive emotions as a direct immediate reward when working on more pressing and realistic goals. It may be that because long term goals are so far in the future that progress towards them feels slow and they do not provide the more immediate rewards experienced in working toward more imminent goals.

#### *Determinants of Affect: Interaction Effects*

No studies, to the writer's knowledge, have studied interactions among attributes of goal concepts such as the project. Consequently the theory behind such associations is not as substantial as that behind main effects of goal concepts on affect. The following discussion attempts to link the results of the present study to some of the existing theory

and prior research.

Hypothesis 2(a) held that the impact of need satisfaction on positive affect would be greater in long term projects than short term projects. The results offered no support for this hypothesis in finding that the product of need satisfaction and time-frame was not significant. According to this result, it did not matter whether the time-frame of projects was long term or short term, need satisfaction exhibited a marginal effect on positive affect regardless. However, this is not to say, necessarily, that project time-frames are unimportant in the relationship between need satisfaction and positive affect. It may be that the time-frames used were too broad, obliterating potential differences, or it may be that the relationship which exists was just too small to be picked up by a sample of this size.

Hypothesis 2(b) had suggested that conflict would be associated with higher negative affect or lower positive affect in long term projects than short term projects. Empirical support was not found for this hypothesis in the present study. It appeared that the relationship between conflict and positive or negative affect was unaffected by the different time-frames of projects. Again, comments made for the previous hypothesis with regard to the role of time-frame in the interaction may be relevant. The relationship may exist but was not adequately picked up by the particular time-frames used.

Hypothesis 2(c) proposed that need satisfaction enhances positive affect under conditions of low conflict relative to conditions of high conflict. This hypothesis had been formed according to the central assertion of Chekola's (1975) telic theory of subjective well-being. Chekola had proposed that happiness depends on the continuing fulfilment of one's life plan, the total integrated set of a person's goals. Because goals may conflict with each other, the life plan approach asserts that happiness depends on two major related factors: harmonious integration of those goals and fulfilment of these goals. Hypothesis 2(c) was an attempt to explore this proposition in that the degree of conflict should reflect harmonious integration and satisfaction of needs should reflect at least partial fulfilment of goals. The proposition as it was tested in the present study was not supported by the results. As the interaction term for conflict and need satisfaction was

unable to explain significant variance in negative affect, it appeared also that when goals were not harmoniously integrated and not being fulfilled, this did not result in the experience of negative affect.

The results for hypotheses 2(a), 2(b), and 2(c) were part of a noticeable overall absence of project by project interactions for affect. These three hypothesized interactions were not able to account for significant variance in positive or negative affect and neither were the remaining three exploratory project by project hypotheses. The absence of significant interactions among project attributes contributes preliminary evidence suggesting that the effects exerted by project attributes may actually be independent of each other. If this is so, researchers may be better placed to concentrate on discovering the independent dimensions of projects which reflect differences in experienced affect. Obviously, before such an approach is blindly pursued, a requisite first step is for more research to be conducted on other interactive relationships. The present study has begun by only sampling a small number of project attributes and considering only second order effects. These were modelled as linear interactions only, which is a restricted effect but more complex modelling was hindered by a lack of theory. It might be that project attributes interact at a much more complex level than what has been tested in the present study.

Hypothesis 2(d) held that involvement in projects would be more strongly associated with positive affect for older subjects than younger subjects. This relationship was borne out by the results and could be explained by older people concentrating their energies more in projects which have been selected for their specific intrinsically rewarding value. Therefore, their experience of involvement provides a greater source of positive affect than younger people's experience of involvement. Younger people, presumably, are continually trying out new ideas and still establishing interests while older people, who have been through this process, have a much clearer concept of what sort of activities are enjoyable and challenging for them and therefore tend to concentrate more closely on these.

In addition to the expected trend, the younger group showed an unexpected decrease in

positive affect as their involvement increased. Or, alternatively, they experienced highest positive affect when their involvement was low. This is an unusual result and contradictory to Csikszentmihalyi's (1975) theory of optimal experience. One possible interpretation of this result could be that the younger subjects, bearing in mind they are students, would have a high proportion of academic projects which, although requiring high levels of involvement-like activity such as absorption and concentration, do not provide great intrinsic reward. Younger students are more likely to be engaged in their studies for extrinsic rewards, such as a job and money, while older students are more likely overall to be engaged in these particular projects for intrinsic rewards, like knowledge acquisition or to better themselves. So, for younger students, the involvement experience is less likely to result in positive affect as described by Csikszentmihalyi and is even likely to be at the cost of engagement in more pleasurable projects, another possible reason for reduced positive affect. For older students, the involvement experience for the same sorts of projects is more likely to result in positive affect.

In the complete absence of a main effect for involvement, the finding of a significant interaction including involvement reveals the advantages of adopting an interaction approach. Rather than assuming from the first stage of the analysis that involvement has no effect at all on positive affect, further analysis demonstrated that an effect does occur but only when the age of subjects is taken into consideration. It would be wise, however, to attach a little caution to the interactions involving age. The age distribution was heavily skewed by high numbers of young subjects and it is unknown how well this finding generalises to the population.

Hypothesis 2(e) stated that conflict would associate with increased negative affect or decreased positive affect more strongly for younger subjects than older subjects. The relevant interaction term was found to explain a significant amount of variance in positive affect which supported the hypothesis. In younger subjects, positive affect did decrease as conflict between their projects increased. Older subjects, on the other hand, showed an unexpected increase in positive affect with increasing conflict between their projects. The same interaction term was found not to be significant for negative affect implying that conflict, for younger people, tended to result in the loss of pleasurable

engagement rather than the experience of aversive mood states. One interpretation of this result is that younger subjects have not yet learned how to adapt to and cope with conflicting activities in their lives and therefore suffer the affective consequences. The older subjects, on the other hand, with the benefit of experience, have learned how to adapt to conflicts and can balance their lives around them. This of course does not account entirely for the increase in positive affect shown by older subjects.

Alternatively, this finding could feasibly be tied in with the age by involvement interaction just discussed. Younger subjects are likely to be engaged in a high proportion of academic projects which, in themselves, presumably evoke involvement-like behaviour but not necessarily optimal experience. The fact that such academic responsibilities often conflict with more pleasurable activities like going to the pub or playing sport, and generally have to be done at the expense of these activities, means that opportunities for pleasurable engagement may be reduced. Older subjects, on the other hand, are more likely to be engaged in academic projects because these are intrinsically rewarding for them. So despite the fact that these may conflict with other activities they enjoy, they are still achieving pleasurable engagement.

Because the age by conflict interaction produced such a striking finding, there is again the possibility that it may have been an aberration produced by the present study's particular sample. Future research in this area could attempt replication of this result using a sample with a more evenly distributed age sample.

Hypothesis 2(f) held that conflict would have a more costly impact, in terms of lowered positive affect or heightened negative affect, for females than males. The results for this hypothesis were supported in that females did show decreased positive affect when conflict between their projects increased. The differential consequences of conflict for males and females is compatible with the findings of Perring et al (1988), who found a stronger correlation between psychiatric symptoms and conflicted goals for females than males. Interestingly though, the consequence of high conflict again was reduced positive affect and not high negative affect. This finding concurs more with that of Dywan (1978), who found that women appeared to construe life satisfaction in terms of

an absence of conflict between their projects.

With such negative effects shown for females, the question arises as to just how conflict was experienced for males. When a subgroup analysis was carried out for the above interaction, it showed that males actually seem to thrive on conflict between their projects. Positive affect increased accordingly with increasing levels of conflict between males' projects. While cautious interpretation is to be advised, in the face of little preceding research or theory, one account of this result may be that young males (2/3 of the sample were under 25) are taking a more hedonistic approach to life than females. They are aware of their conflicting projects, but are little concerned about this, instead pursuing the more rewarding activities like sport or socialising. Because their engagement is subsequently more pleasurable overall, they experience greater resulting positive affect, unmitigated by any concern or worry over conflicts. There is some support for this scenario from Dywan (1978), who found males tended to construe life satisfaction in terms of the overall enjoyment level of their projects.

It is interesting to note that despite the absence of project by project interactions, there were several interactions involving project attributes and age and sex. It seems that even if project attributes might be treated as independent of each other, demographic characteristics should not be treated independently of project attributes. Again, it should be emphasized that these results should be subjected to replication as some of the relationships detected by the present study may have been a function of the particular sample.

It was indicated in Chapter five that the data were going to be analyzed not only to test the interaction hypotheses, but also to check for the existence of any other second-order effects. This exploratory 'peek' revealed an additional significant interaction, age by sex, which impacted on positive affect. Older women experienced higher positive affect than younger women while older males experienced lower positive affect than younger males. This finding is not easily interpretable and should be subjected to replication to confirm its consistency before concentrating on it further.

### *Determinants of Need Satisfaction: Main Effects*

The second set of hypotheses addressed potential factors influencing the degree to which needs were being satisfied in projects. Need satisfaction was viewed as an additional index of well-being, due to its resemblance in nature to life satisfaction, one of the three components of subjective well-being (Diener, 1984). As the opportunity existed for both between- and within-subject analyses of need satisfaction, each of the need satisfaction hypotheses was investigated in both modes. This was in accord with the procedure adopted by Palys and Little (1983) who analyzed the effects of project attributes on life satisfaction both normatively and idiographically and also to heed the warning of Epstein (1982) who cautioned against the assumption that between-subject processes are the same as those within-subjects.

Hypothesis 3(a) proposed that long term projects would be associated with higher need satisfaction than would short term projects. The results of the between-subjects analysis did not support this hypothesis. The coefficient was not in the predicted direction and was of low magnitude ( $B = -.07$ ). This finding does not coincide with the findings of Zaleski (1987) who reported that satisfaction increased as the time-frame of goals increased. The within-subjects analysis, on the other hand, did provide support for the hypothesis in finding that any project which was long term in nature was generally accompanied by significantly higher levels of need satisfaction. The different sample size used for the within-subject analysis did not account entirely for this finding either, as the relationship magnitude was slightly larger ( $B = .12$ ) and in a different direction than in the first analysis. So when between-subjects variability was excluded from the analysis, the expected effect for time-frame did emerge, though was not terribly large. Still, since the two categories used for time-frames (short term equals less than a year in size and long term equals greater than a year in size) were essentially very broad discriminators, a main effect of even this size is prominent.

The reason why long term projects relate to higher need satisfaction probably stems from the different natures of projects in different time-frames. Long term goals characteristically have a much higher investment in terms of planning (Pervin, 1982), effort, and importance (Zaleski, 1987). Hence, these sorts of projects have probably been

planned and pursued by an individual precisely because they offer the opportunity of satisfying a range of needs to the greatest extent. Also, as noted by Zaleski (1987), students' short term projects tend to be mostly academic in nature, for example, choices of major or completing assignments. Such projects are more likely means to an ends in satisfying more important long term needs such as getting a degree or a job, rather than greatly satisfying needs by themselves.

Hypothesis 3(b) held that involvement would be positively associated with need satisfaction. This was found to be the case in both the between- and within-subject analyses with involvement on each occasion being by far the largest contributor to need satisfaction in both cases. Since the relationship magnitudes were quite similar in both analyses, it is unlikely that much of the variability was between-subjects. Thus, this particular relationship seems to be one which is common to all subjects.

The present study's finding replicated the magnitude of relationship reported between need satisfaction and involvement by Omodei and Wearing (1990). Their explanation of why this association occurs appears a reasonable one. They suggested that the perception of opportunities to satisfy needs leads to purposeful action intended to satisfy these needs. The experience of involvement can occur when the specific actions are engaged in. In particular, the balance between perceived demands and perceived skills in an activity, predicted by Csikszentmihalyi (1975) to be the primary source of involvement, may be the sort of behaviour optimally effective in meeting needs.

Hypothesis 3(c) proposed that conflict in projects would be associated with lower need satisfaction. The between-subjects analysis showed no support for this hypothesis, finding that conflict was related to need satisfaction in the predicted direction but not significantly so. Turning to the within-subjects analysis, however, the results superficially appeared to have supported the hypothesis with a significant negative effect for conflict on need satisfaction. However, magnitude of the relationship ( $B = -.14$ ) showed that it was essentially similar to that reported in the between-subjects analysis ( $B = -.08$ ). This appears to be an instance where the different degrees of freedom for the two analyses were influencing the significance of a relationship. It is concluded that

even though conflict was found to have a significant negative effect on need satisfaction, the effect was actually minimal in size.

Hypothesis 3(d), was a repetition of hypothesis 1(d) but for need satisfaction rather than affect. It proposed that facilitation and conflict would not manifest themselves as unipolar scale anchors. This hypothesis was not supported in the between-subjects analysis but the within-subjects analysis did produce a significant quadratic function for conflict on need satisfaction. The shape of the quadratic indicated that need satisfaction remained fairly constant regardless of the degree of helping among projects but with increasing conflict, decreased accordingly. This result seems to indicate that having projects which help each other has no impact on need satisfaction but having projects which conflict with each other has deleterious implications for need satisfaction.

The quadratic effect, although only present in the within-subjects analysis of need satisfaction, is still clear evidence that this scale should be used with caution. By simply averaging the values on this scale, information on either helping or conflicting can be lost. It is recommended in future that separate scales, one for helping and one for conflict be used with the conflict matrix.

#### *Determinants of Need Satisfaction: Interaction Effects*

Hypothesis 4(a) proposed that sex would moderate the relationship between conflict and need satisfaction in the same way as had been proposed for positive affect, that is, as conflict increased, females would experience less need satisfaction than males. The between-subjects analysis did not detect a significant interaction of the nature predicted but the within-subjects analysis produced a significant interaction in support of the hypothesis. This was an interesting result as it indicates that there were processes common to all female subjects which were different to those common to all male subjects. However, not too much weight ought to be placed on significance in this case as subgroup analyses of both the within- and between-subjects data showed that the interaction effect was more pronounced in the between-subjects analysis despite failing to reach significance.

Hypothesis 4(b) predicted that with increasing conflict, there would be a more deleterious effect on need satisfaction in short term projects than long term projects. This hypothesis was not supported by the results as the interaction term did not account for significant variance. Since this was the fourth hypothesis failing to find an effect for the time-frame of projects on need satisfaction or affect, some doubt is to be raised about its value as a predictor. On the face of the evidence it appears that the time-frame of a project is fairly irrelevant to any facet of affective experience. It was not involved in any main effect relationships with affect and did not emerge as significant in any of the interactions, predicted or otherwise.

The only significant relationship to emerge for time-frame was a main effect of small magnitude with need satisfaction when within-subjects analysis was used. This result may be a reflection that it is satisfaction, and not affect, which is influenced most by project time-frame. It is perfectly feasible that this might occur. Need satisfaction was considered similar to life satisfaction which has been found to be relatively independent of affect in studies of subjective well-being (Diener, 1984). This independence from affective experience makes it possible that need satisfaction might relate to variables which are not related to affect.

Another possible conclusion from these results could be that the time-frame classification of projects was just too broad to detect genuine effects. Future research might benefit from employing more comprehensive classification schemes. For instance, in the present study, a project with the total time-span of a day would have been classified the same as a project of six months duration, a lack of distinction which quite likely obscures important information. Future research may also contemplate the possibility that perceived time rather than chronological time is the more relevant dimension. It is possible that the time-frames of projects are more meaningful in the context of other projects' time-frames. For instance, 'completing my thesis' is a project which the present study considered long term, however, this may be perceived as relatively short term in relation to the related project of 'becoming a clinical psychologist'. Future research could assess this dimension by having subjects rank order their projects from short term to long term.

### *The Relationship Between Positive and Negative Affect.*

The discussion in Chapter 4 described the research concerning the dimensions of affect. It was noted there that studies have come to differing conclusions as to the degree of relationship between negative and positive affect over time. The present study was able to make a contribution to this disagreement as one of the interesting outcomes of the present study was the consistent evidence for the independence of the two dimensions.

Firstly, the simple correlations showed that positive and negative affect as measured by the PANAS were insignificantly negatively correlated ( $r = -.24$ ) over the one week time-frame. This result adequately approaches the  $-.22$  correlation reported for the same time period by Watson, Clark and Tellegen (1988).

Secondly, the present study consistently found significant relationships between project variables and positive affect but none for negative affect. This result parallels findings from other recent research (Diener & Emmons, 1984; Warr et al, 1983) showing that positive and negative affect are relatively independent of each other. While this finding may partly be explained by its uneven distribution, the complete absence of an effect for negative affect is a concerning finding as it implies that the project attributes studied could not in any way explain more unpleasant states of emotional arousal. Further research with these attributes might contemplate focusing more closely on positive affect, which seems very sensitive to attributes of projects, and less on negative affect.

### *Summary and Conclusions*

The present study set out, in the first instance, to replicate previous research on project relationships with affect and, additionally, proposed these relationships would occur at a more complex level, that is, jointly influencing affect. The finding for a general absence of main effects was somewhat disappointing after previous research had presented such encouraging results for the relationships between project attributes and affect. In the case of conflict and time-frame, the methodologies employed were not so far removed from those used in the other studies so the subsequent failure of the present study to replicate these effects was of some concern. In the case of need satisfaction and involvement, however, discrepant results could, to an extent, be accounted for by the

different analysis strategy and affect measure used by Omodei and Wearing (1990). It was conceded that the procedures adopted by Omodei and Wearing, providing their affect measure bears up to psychometric scrutiny, may be preferable in the context of project research.

The decision to probe for more complex relationships among project attributes proved worthwhile. While there were no clear main effects for affect, there emerged a range of significant interaction effects. Disappointingly again though, these interactions were not characterised by more complex relationships among project variables as had been anticipated, but with age and sex. These results indicated that, though project dimensions might hereto be considered as independent of each other, it would not be wise to consider project attributes independently of age and sex as this would potentially result in the loss of important information.

Although conflict, need satisfaction, involvement, age, and sex were found to relate in some way to the experience of positive affect, time-frame was notably unrelated to positive or negative affect. This was attributed possibly to a genuine absence of association, but more likely to the use of broad time-frames which may have served to obscure potential affective differences. It is advised that further research on the time-frames of projects should utilise less global and possibly more subjective distinctions in relating these to affective experience.

In the second instance, the present study addressed the determinants of need satisfaction in projects. It was found that the largest determinant clearly was involvement while slightly higher need satisfaction was also experienced when projects were long term and when they were low in conflict. The emergence of another sex by conflict interaction demonstrated that conflict between projects seems to have consistently more pessimistic implications for females than males.

Combining between- and within- subject analyses in one study demonstrated the potential benefits of using a different level of analysis as time-frame was detected as having a different effect in the within-subject analysis, as was the quadratic function for

conflict. Unfortunately, a limitation of having both analyses together is that while the relative importance of between subject variability may be assumed when the two modes of analysis produce the same result, interpretation is difficult, if not impossible, when the analyses produce different results.

As a cross-sectional correlational design was employed by the present study, it should be noted that the relationships detected could not be considered causal. Though it has certainly been convenient to discuss relationships in these terms and the overall assumption of the present study was that project attributes were impacting on affect, the possibility could not be ruled out that subjects' affective state may have been driving their ratings of project attributes.

It is concluded that while projects might be a useful conceptual unit for explaining need satisfaction and affective experience, empirically, they did not match expectations. Not only were the anticipated main effects for affect absent, but this absence could not be accounted for by the presence of project by project interactions. Additionally, there seems little point in focusing on the whole range of affective experience with projects when variability in positive affect seems to be the lone consequence of project attributes. Neither was the utility of projects greatly improved in relating to need satisfaction. With the obvious exception of involvement, the magnitude of association of project attributes to need satisfaction was slight in all cases.

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**APPENDICES**

## **APPENDIX A: Introduction to Subjects.**

### Introduction to Subjects.

My name is Jonathan Ballantyne and I am studying for my Master's degree in Psychology.

I am just about to begin a research study in the area of personality psychology for which I require student volunteers.

The area I am interested in is a relatively recent development in personality psychology. Previously, researchers have tended to look at personality in terms of traits e.g. how much locus of control a person has or how extroverted they are. The approach I am taking is quite different from this. Rather than looking at traits I will be focusing on the personal projects people are currently working towards. Projects are activities or concerns you are engaged in to achieve some particular goal. Examples of projects could be: trying to finish your 20% assignment, going to a movie, meeting more people, becoming a world-class athlete, getting a degree etc.

My particular interest is in how the state of your projects can affect your mood. Previous research has found a strong relationship but no-one is very sure how they are related. I believe this study can clarify some of these issues and at the same time provide more insight into our experience of mood.

The study is in the form of a questionnaire. I have trialed the questionnaire on several friends and colleagues and it took them between 30 to 45 minutes to complete. I therefore expect this to be amount of time I would be requiring from you.

Other studies which have used personal projects report that subjects find the tasks meaningful and interesting. For those of you who are willing to volunteer I undertake to return by mail to each of you the overall findings of the study

I will leave a consent form with the list of days and times the study will be running circulating around the class. If you are interested, please read the consent form, then over the page there is space for your preference of time, your postal address and signature.

Does anybody have any questions they would like to ask about the study?

Thankyou for your time.

**APPENDIX B: Questionnaire Used in the Present Study.**

Thankyou very much for agreeing to participate in this study. I am interested in finding out how our current concerns and activities can influence the types and intensity of moods that we feel. This questionnaire enables me to find out firstly, what sorts of moods you have been experiencing recently and secondly, your perceptions of the activities and concerns you have been engaged in. This is not a test and there are no right or wrong answers. You do not have to put your name on the questionnaire and all your responses will be kept strictly confidential.

Please answer these two questions below before you begin the questionnaire.

1. Are you Male or Female ? (please circle one)

2. How old are you? \_\_\_\_\_

### Mood Scale

This mood scale consists of a number of words that describe different feelings and emotions. We would like you to rate each of the words from 1 to 5 using the scale below. Indicate to what extent you have felt this way over the last week.

1	2	3	4	5
+-----+-----+-----+-----+				
very slightly or not at all	a little	moderately	quite a bit	extremely
_____	interested	_____	irritable	_____
_____	distressed	_____	alert	_____
_____	excited	_____	ashamed	_____
_____	upset	_____	inspired	_____
_____	strong	_____	nervous	_____
_____	guilty	_____	determined	_____
_____	scared	_____	attentive	_____
_____	hostile	_____	jittery	_____
_____	enthusiastic	_____	active	_____
_____	proud	_____	afraid	_____

### Activities Questionnaire

We are interested in studying the different kinds of activities and concerns that occur in people's lives. We call these **personal projects**. All of us are engaged in a number of personal projects at any given time. You can be engaged in a project in several different ways - just by thinking about it, by planning it, actually carrying it out, or even completing it.

Here are some examples of personal projects:

thinking or planning projects -

- planning my Christmas holiday around the South Island.
- thinking about spending more time with my family.
- wondering which major to take next year.
- wondering whether to move out of my flat or not.
- deciding on a birthday present for my brother.

activity projects-

- trying to meet more new people.
- losing 10 kilos.
- completing my 45.201 assignment.
- getting more physically fit.
- finding a part-time job.
- setting time aside for my spiritual life.

Please begin by writing down as many personal projects as you can on the following page, that you were engaged in **over the last week**. As you can see from the list above, your projects do not necessarily have to be formal or important ones - we would prefer you to give us more of the activities or concerns that are typical of your life at present. Your projects can also be in any time frame - from a few minutes to a life-time.

Please go ahead and write down as many as you can in the next ten minutes.



### Satisfying Needs

We are first interested in finding out whether the projects you are engaged in are satisfying certain psychological needs. There are 15 of these psychological needs which are all listed below. Please write down your answers to these questions using Table 1 in the Answer Booklet. Columns **1** to **15** in this table relate to the 15 questions.

For each of the questions please rate the 10 projects using **any number from 1 to 7** (with **1** meaning "fails to satisfy this need" and **7** meaning "fully satisfies this need"). You may use **NA** (Not Applicable) if you feel that a particular need is not related in any way to a project.

1. How much does this project give you a sense of having **created** something *new*? eg. a new relationship, a new idea, or a new object.
2. How much does this project increase your sense of **self esteem**?
3. When engaged in this project, how much **control** do you feel over how things will turn out?
4. How much does this project give you a sense of **purpose or meaning** to your life?
5. How much of a sense of **achievement** or **self-improvement** does this project give you?
6. How much does this project allow you to be in **close contact with people you like**?
7. How much does this project provide you with **new and different experiences**?
8. How much does this project give you a sense of **certainty**, of **knowing exactly what to think and do**?
9. How much does this project bring you to the **attention of others**?
10. How much does this project allow you to be **impulsive, uninhibited** or **spontaneous**?
11. How much does this project allow you to do things "**just for fun**"?
12. How much does this project give you a chance to be aware of **smells, sights, sounds, tastes, or the way things feel**?
13. How much does this project bring you to the **approval of others** or allow you to make a **good impression**?
14. How much does this project give you a sense of being **cared for, protected** or **supported**?
15. How much does this project satisfy an **intellectual curiosity**, giving **new ideas** or **new understandings**?

### Involvement

We are also interested in how involved or absorbed you become in your projects while you are engaged in them. The following four statements all show different ways of being "involved" in a project. As an example, you might think the first statement is very true of a project such as playing my guitar more often because in this activity, both listening and playing seem to flow together.

The scale is still from 1-7 but this time 1 will show "rarely true of this project" and 7 will show "always true of this project". (you can still use NA). In columns 16 to 19 of Table 1 please rate each of your projects on the following statements:

16. While involved in this project, your thoughts and actions seem to flow together.
17. You feel a sense of harmony or union with the activities of this project.
18. You become deeply engrossed in the project.
19. You get so absorbed in the project that you lose all sense of time.

### Time-orientation

Finally, we are interested in the time frame with which you perceive each project. In column 20 of Table 1 please classify each of your projects according to the following question:

20. What is the total time-span of this project?
  - use 0 if less than a year
  - use 1 if longer than a year

### Project Relationships

Finally, we are interested in the relationships your projects have with each other. Please turn to Table 2 in the Answer Booklet and read the instructions at the top of the page before filling out this table.

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**ANSWER BOOKLET**

**Contents: Table 1 & Table 2.**

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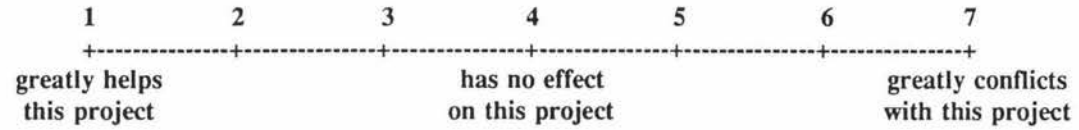
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**Table 2. Project Relationships**

We are interested in how much your projects conflict with each other, help each other, or whether they have no effect on each other. Work down the columns of the table below - this means that in working down the first line you will be considering the relationships between each of your projects and project number 1. Use the scale below to enter the number which you think best sums up the situation.

For example, for the first box in the table you might decide that Project 2 - "getting more physically fit" actually conflicts quite a lot with Project 1 - "completing my assignment" because you do not have the time for both. Therefore you might assign this a "6".



Project List		1									
1		1	2								
2			2	3							
3				3	4						
4					4	5					
5						5	6				
6							6	7			
7								7	8		
8									8	9	
9										9	
10											10

**APPENDIX C: Consent Form****Research Project on Personal Projects and Experience of Mood.****CONSENT FORM****What would I have to do?**

Participants will be asked to complete one questionnaire providing information about your recent experience of mood and your perceptions of activities and concerns you have been engaged in. Completing this form normally takes no longer than 45 minutes.

**What can I expect from the researchers?**

All participants:

- \* have the right to refuse to answer any particular question, and withdraw from the study at any time.
- \* provide information on the understanding that it is confidential to the researchers. All questionnaires are identified only by code number, and are seen only by the researchers. It will not be possible to identify individuals in any published reports.
- \* will receive a summary of the research findings after the information has been analysed.

**The details of the study have been adequately explained to me, and I wish to participate under the conditions set above. (Sign and date over the page).**

## APPENDIX D: Feedback to Subjects.

### FEEDBACK TO SUBJECTS: Personal Projects, Affect and Need Satisfaction

Jonathan Ballantyne  
Psychology Department  
Massey University  
Palmerston North

Dear subject,

Thankyou for agreeing to participate in the study I conducted in August of last year. This letter represents feedback on the results of my study which was promised to you as a condition of your participation.

To refresh your memory, I asked you to provide me with 10 activities or concerns, which I called **personal projects**. Previous research has shown that these are a useful way of representing people's everyday lives and that certain attributes of these projects seem to influence experience of negative moods, such as 'distress', 'afraid', 'guilty', or positive types of mood, such as 'excited', 'enthusiastic', 'inspired'. The attributes of projects which I studied were:

1. Need satisfaction: How much each project satisfies a range of psychological needs such as - self esteem, being cared for, having control over things, having fun.
2. Involvement: The degree to which you get highly absorbed in your projects.
3. Time-frame: Whether your projects are long term or short term.
4. Conflict: the degree to which your projects help each other or conflict with each other.

I hypothesized that each of these project attributes would relate to the your ratings of mood experienced over the last week. More specifically, I thought that high need satisfaction, high involvement, and engagement in longer term projects would be related to high positive types of mood while conflict between projects would be related to either less positive mood or high negative types of mood.

Of these relationships, only the one between need satisfaction and positive moods was evident. It was found that high need satisfaction in projects led to reports of high positive mood.

In addition, I had also proposed a series of more complex relationships between these project attributes, age and sex, and mood. Of these relationships, I found that with greater involvement in projects, older people tended to experience more positive mood while younger people tended to experience lowered positive mood. At higher levels of conflict, older people experienced higher positive mood while younger people experienced lower positive mood. As conflict increased, males tended to experience higher positive mood than females.

Also of interest was that while project attributes seem to influence positive mood to a large extent, negative mood was not in any way related to project attributes.

In addition, I also investigated the sorts of attributes which determine need satisfaction in projects. Here I found that need satisfaction was higher when people were more involved in their projects and when their projects were long term, and was lower when there was conflict between their projects. It was also found that as conflict between projects increased, females experienced lower need satisfaction than males.

Regards,

Jonathan Ballantyne.