Metabolic Control and Psychological Sense of Control in Women with Diabetes Mellitus: Alternative Considerations of the Relationship

RUNNING HEAD: Sense of Control

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ABSTRACT

**Purpose:** Identifying psychological strategies to buffer the adverse outcomes in people with diabetes mellitus (DM) remains a priority for many health professionals. While 'locus of control' has been repeatedly investigated to this end, research findings are contradictory. The development of more complex appraisals of psychological control, and the utilization of control inventories deriving from such analyses, presents a way forward from such contradictions. **Methods:** Employing such a measure, this study examines the relationship between metabolic control and psychological sense of control in 96 women with DM.

**Results:** Optimal metabolic control is significantly associated with overall sense of control, while poor metabolic control was significantly associated with experiences of loss of psychological control and feelings of inadequacy. Furthermore, poor metabolic control was significantly associated with reduced control in the specific domains of interpersonal relationships, bodily functions. **Conclusions:** Multidimensional control inventories enable a more complex appraisal of the relationship between metabolic control and psychological control, and in doing so, provide a way forward from problems arising from reliance on locus of control constructs. Interventions for DM management relying on aspects of psychological control need to target domains beyond traditional issues of self and bodily functions.

**Key words:** Diabetes education, diabetes mellitus, metabolic control, psychological sense of control, Shapiro Control Inventory.
Internationally, Diabetes mellitus (DM) remains a serious and chronic illness for approximately 2% of the world population. Globally, this is expected to rise to over 3% in the next decade, thereby posing an increasing burden on every society. Not surprisingly, identifying strategies to prevent adverse outcomes in those with DM remains a priority for many health professionals. While good metabolic control has repeatedly been shown to decrease the risk of onset and progression of diabetes-related complications the achievement of this is influenced by many factors. Along with self-care, psychological constructs feature prominently within this literature and have been investigated with respect to early detection of symptoms, treatment adherence and patient attribution of metabolic control status. This body of knowledge is largely consistent with the wider literature arguing an important interaction between psychological health and physical health and well being (for a review of these issues, see Shapiro & Astin, 1998). For example, sense of control has been associated with longevity (Rodin & Langer, 1977), psychological morbidity (Burgess, Morris, & Pettingale, 1988) and illness adaption (Ell, Nishimoto, Morvay, et al., 1989) in people with medical conditions.

The concept of “locus of control” (LOC) has been repeatedly and conspicuously investigated in this respect. Derived from social learning theory, and as applied to the issue of metabolic control, this concept proposes that people with DM can be characterized by the degree to which they believe diabetes-related health status can be attributed to personal effort (internal locus) versus environmental factors (external locus). Studies since the 1980s argue for a relationship between LOC, physiological control, and other management aspects of DM. Indeed, the LOC model presumes a relatively straight-forward relationship between control orientations, treatment behavior, and metabolic control: people with high internality are viewed as both more responsible in their treatment, and more able to make the behavioral changes necessary in managing DM (Hunt et al, 1998). In turn, increasing internal LOC by
means of psychotherapeutic sessions has been commonly employed as a means of improving personal management of DM. However the empirical literature underpinning this frequently applied model is inconsistent. Internal LOC has been negatively correlated, uncorrelated, and positively correlated with metabolic control. Similarly, external LOC has been positively and negatively correlated with metabolic control.

The sustained presence of contradictory findings has been partially resolved by a closer analysis of the behavioral referents implicated in “external” and “internal” loci. For example, division of internality into separate components of “self-blame” and “autonomy” results in autonomy alone being associated with glycemic control. Notwithstanding this and other refinements in the way LOC has been considered, the DM literature remains exposed to the criticisms leveled at all research analyzing psychological control merely at the level of various internality-externality dichotomies. These criticisms are substantial, and may go some way towards contributing to this inconsistent literature.

Key criticisms include the following. First, it is argued that people have complex and sophisticated understandings of control beyond the level of causal beliefs about action-outcome contingencies. For example, an individual’s beliefs about control can be distinguished from both experiences of control and objective control conditions. Although subtle, such distinctions are clinically important and represent, for example, the difference between “I can do it”, “I am making it happen”, and accurate recognition of actual control conditions. Second, LOC fails to make distinctions between agents of control (the individuals or groups who exert control), means of control (the pathways through which control is exerted), and the ends of control (the desired and undesired outcomes over which control is exerted). Third, it is argued that the application of control beliefs should be considered along a continuum from the situation-specific (e.g., control in relationships, work roles) to the general. For example, while control may be important in relationships or work,
the same control styles or preferences may not extend to all domains of life. Finally, an additional criticism has been leveled at health psychology paradigms which typically continue to assume that having “more” control is “better”, and that the “more” almost always implies more internality. It is argued that this bias stems from societal and cultural ideals held by dominant social groups, especially within North America.

In short, despite its status as a construct of “extreme interest” (p.411) to psychology and health researchers, more recent control theorists now argue for the need to “deconstruct” locus of control and provide a closer analysis of patient sense of control and experience. Response to these issues is now also available following the development of more complex and multidimensional control inventories or measures such as the Shapiro Control Inventory (SCI). While conceptualized as the “third generation” in control measurement, these measures may provide a way forward in any reexamination of the currently inadequately understood relationship between psychological control and DM health status. Accordingly, the purpose of this study is to investigate the relationship between multiple “sense of control” variables as measured by the SCI, metabolic control and selected demographic and clinical variables in women with DM. The study also serves the purpose of investigating the acceptability and reliability of this multidimensional control inventory that has not previously used in this clinical population despite its repeated use with other medical populations.

Method

Participant Recruitment

This study was conducted as part of a self-contained investigation embedded within a larger research series investigating psychological control in women across a variety of clinical populations, and was undertaken at the Diabetes Centre in Christchurch, New Zealand. As part of the public health system, this Centre reviews patients with Type 1 DM on a regular basis and Type 2 DM upon request from health professionals in a catchment population of
402,000. The Centre employs DM physicians, nurse educators, dieticians, podiatrists, Maori health workers, a Pacific Island nurse, and a clinical psychologist. The cohort of participants whose case records were first considered included all DM women aged 17-50 years who had attended a physician’s appointment at the Centre at any time in 1998 and were being actively followed up by this service. The relevant attending Consultant Physician then screened this cohort to identify exclusion criteria not immediately evident from the generated database. This resulted in 27 cases being excluded for one or more of the following reasons:

1. The patient had a diagnosis of impaired glucose tolerance rather than diabetes mellitus.

2. Previously the patient had specifically instructed never to be approached for any research.

3. The patient had profound difficulties in other areas (e.g. significant intellectual disability, severe medical complications, no English language) rendering any approach for research inappropriate, discourteous, or perverse.

4. The patient had died in the intervening time between the last clinic review and the commencement of this study.

As the study consisted of a postal survey in conjunction with extensive file reviews, all potential participants were mailed a covering letter, questionnaire booklet, and a face sheet requesting other demographic data (height, weight, and type of DM treatment). Enclosed Consent and Information Sheets invited participation in a study investigating “Issues of Control in Daily Life”. All participants were informed of the full procedure required, and were asked to forward written consent in accordance with the requirements of the Canterbury Ethics Committee. Of the cohort of 215 people contacted in this manner, a further 16 cases were discounted due to exclusion criteria revealed at this stage of the recruitment process.

Reasons for subsequent exclusion included the following:
1. Inaccessibility due to unknown location of the addressee or travelling overseas (n=9);

2. File review identified participant as no longer on the Diabetes Centre caseload (n=5);

3. Insufficient English language to complete the questionnaire (n=1); 

4. Profound visual difficulties rendering participation impossible (n=1); and

5. Addressee did not consider herself to be have DM (n=1).

Two people returned the questionnaire stating that they did not wish to take part in the study, and these active “decliners” were included in the calculated rate of non-responders. In total, of 199 identified eligible participants, 96 returned the questionnaire and signed Consent Form, representing a return rate of 48%. The sample size exceeded the 60 cases needed for a power of .80 when alpha is set at .05, and a medium effect is expected. Non-responders did not differ significantly from responders on the variables of age, duration of diabetes diagnosis, frequency of complications, diabetes subtype, or glycated haemoglobin (HbA1c).

**Measures**

**Demographic and Clinical Variables**

The following demographic and clinical information was gathered from the Diabetes Centre file of all eligible participants: date of birth, type of diabetes, presence and type of diabetes-related medical complications, length of diagnosis, and type of treatment received. DM was categorized as Type 1 (insulin dependent), Type 2 (non-insulin dependent), or “unclear”, the latter representing a subgroup whose typing could not be established confidently by the attending physician. Overt medical complications were recorded as belonging to one of the following categories: neuropathy, retinopathy, nephropathy, macrovascular complications, or specified “other”. In New Zealand, glycated haemoglobin (HbA1c) is considered the current gold standard test for assessing the metabolic control of
glucose in patients with established DM (Braatvedt, 1999). Following Fairburn,\textsuperscript{35} Peverel et al,\textsuperscript{36} and Striegel-Moore et al\textsuperscript{37}, this measure was adopted as an indicator of diabetic control, and was measured at the clinic visit nearest the completion of the questionnaire booklet. By adopting the guidelines of the Canadian Diabetes Association (Meltzer et al, 1998), HbA\textsubscript{1c} was classified into three categories (\(\leq 7 = \text{optimal}; 7.6-8.5 = \text{suboptimal}; >8.5 = \text{poor}\)). Type of treatment currently prescribed in the file was recorded as belonging to one of the following four groups: diet alone, tablets alone, insulin alone, or tablets and insulin. Length of diagnosis was taken from written histories documented by specialist physicians working within the service.

**Sense of Control**

Multidimensional aspects of psychological control were assessed by the Shapiro Control Inventory (SCI).\textsuperscript{33,38} The SCI is a nine-scale, 187-item inventory developed to "categorize, refine, and articulate a person's state of consciousness regarding control" (p. 7).\textsuperscript{33} Scores derived from this measure reflect three components described as follows:

1. As the first and most general component, *Sense of Control* "measures a person's view that s/he has control, as well as the belief that s/he can gain control if desired."\textsuperscript{33} The overall score (Scale 1) gives the clinician the broadest view of the subject’s sense of control, and may be analyzed further with respect to its constituent parts: positive sense of control (Scale 2) assesses belief in ability to attain future control, ability to utilize positive modes of control, and current level of self-control; negative sense of control (Scale 3) assesses sense of loss of control in areas previously experienced as controlled, aspects of inadequate of self-control or environmental control, and feelings of helplessness and passivity. *Sense of control* may also be examined with respect to domains in which such control is experienced - either as an overall score (Scale 4) or by each of seven specific domains (body,
mind, relationships, self, career, environment, or impulse control. In this way, it can be examined to what extent loss of control in one domain is also experienced in another.

2. **Mode of Control** assesses the means by which an individual attempts to attain and maintain a sense of control. Distinctions are made across the two dimensions of assertive-yielding and positive-negative, thus yielding four scales. Positive-assertive (Scale 5) measures perceived ability to use an active, altering mode of control, and includes descriptors such as ‘decisive’, ‘leading’, and ‘communicating needs’. Positive-yielding (Scale 6) measures sense of control through means of letting go of active control. Descriptors include ‘patient’ and ‘accepting’. Negative-assertive (Scale 7) measures too much active control (‘manipulating’, ‘dogmatic’) while negative-yielding (Scale 8) measures aspects of too little control, with descriptors such as “indecisive” and ‘manipulated’.

3. **Motivation for Control** (Scale 9) measures desire for psychological control, both over oneself, others, and the environment. Components of desire include perceived importance of being in control, efforts to achieve control, and fear of losing control.

In addition to these main scales, a further analysis is available to determine **Agency of Control** which assesses the source from which one’s sense of control emanates (self/ and/or others). Of all SCI component scores, it is this aspect alone that is most closely affiliated with LOC (p.4).  

Studies undertaken to determine reliability reveal a high level of internal consistency (.70-.89) and test-retest consistency (.67-.93) over a 5-week period. Twelve studies presented by the author attest to criterion and construct validity, and these conclusions are supported by recent independent reviews. The SCI has been used to investigate issues within and across a wide range of psychiatric and medical populations, however never with DM.
Data analysis

The relationship between HbA1c status (dependent variable), SCI scores (independent variable), and descriptive demographic and clinical variables (potential covariates) was investigated using one-way ANCOVA. Where a significant relationship between metabolic status and SCI scores was observed, this was further explored using Fishers LSD. The reliability of individual SCI subscales was assessed by means of an analysis of internal consistency. One participant was excluded from the analysis due to an excess of 15% of missing data. All statistical analyses were completed using SPSS.41
Results

Profile of Participants

Demographic and clinical characteristics of the sample are summarized in Table 1. As expected based on referral practices adopted by the Centre, 74% of participants were classified as Type 1 DM, 17% as Type 2, and a further 12% as unclear. Most (94%) Type 1 participants were treated with insulin alone, while the remainder was treated with a combination of insulin and oral agents. Among the Type 2 participants, the most common treatment was oral agents (73%) with a small number managing with diet alone or insulin (13% respectively). The 10 within the uncertain diagnostic group all received insulin, with seven of these also requiring oral agents.

INSERT TABLE 1 ABOUT HERE

Of the participants studied, 30% were affected by medical complications directly attributable to DM. Almost all of these complications occurred in the Type 1 subgroup. As expected from the known epidemiology of DM, Type 1 participants were significantly younger (F = 8.3 [2, 93], p < .001), reported a lower body mass index (F = 6.8 [2, 89], p < .01), and experienced longer duration of illness (F = 10.1 [2, 93], p < .001) than other diagnostic subgroups. However, as HbA1c was not significantly associated with DM-subtype (F [2, 92] = .48, P = .62), all subsequent analyses were conducted based on the data pooled from all participants. The only three demographic/clinical variables significantly associated with HbA1c status or SCI scores (age, body mass index, presence of complications) were included as covariates in all subsequent statistical analyses.

INSERT TABLE 2 ABOUT HERE

Relationship between psychological sense of control and HbA1c

A significant relationship was found between HbA1c status and overall sense of control, negative sense of control, and overall domain sense of control (see Table 2). Participants with
optimal HbA1c status had significantly higher levels of overall sense of control than those with either suboptimal or poor HbA1c status. Conversely, participants with poor HbA1c status reported significantly greater levels of negative sense of control (Scale 3) than either those with optimal or suboptimal HbA1c status. As HbA1c status groups could also be distinguished by domain-specific sense of control (Scale 4), and gaining control in one domain may be offset by fear of or loss of control in another domain, a further analysis investigated the relationship between metabolic control and the seven specific domains embedded within this scale (see Table 3). ANCOVA indicated a significant difference between HbA1c status and the domains of body, relationships and career. That is, optimal HbA1c status was significantly associated with heightened sense of control in all three specific domains.

**INSERT TABLE 3 ABOUT HERE**

**Reliability**

Reliability by means of internal consistency was calculated for all nine subscales of the SCI to enable a direct comparison with all available alpha coefficients published in the test manual (Shapiro, 1994). With the exception of Scale 8, all other subscales produced similar or better reliability coefficients than those of the test developer (see Table 4).

**INSERT TABLE 4 ABOUT HERE**

**Discussion**

Despite the long history of studies investigating the relationship between metabolic control and psychological constructs of control in people with DM, contradictory results are evident within the literature. While previous studies have predominantly focussed on LOC, this study seeks elucidation of existing contradictions by employing a more complex multi-dimensional “third generation” measure of psychological control. This study is limited in its generalizability by including only female active attendees to a Diabetes Centre. Active attendees may be biased either toward those with an elevated interest in their well-being and
DM management or towards those with more pressing medical concerns. Alternatively, seeking regular clinic attention may be a means by which attendees achieve or maintain a greater level of perceived control over their health. Nevertheless, it is active attendees who are invariably the recipients of the very educational programs that incorporate and target psychological control constructs in helping people improve DM health status. Similarly, while the response rate was low, it is similar to that expected in studies of this nature in New Zealand using a mail questionnaire (Welch, Collings, & Howden-Chapman, 2000). Although it is almost impossible to determine the control issues for non-responders, we could determine that respondents and non-respondents did not differ with respect to age, HbA1C, and aspects of DM history. In this sense at least, our sample matches the clinical population from which it derives. A final caution includes the use of a ‘one-off’ HbA1C. Measurement of HbA1C at multiple points of time may be a more reliable indicator of control. However, we make the point that clinician advice-giving, and recommendations for DM education and/or interventions can be, and are, formed from single readings.

It is clear that the relationship between psychological control constructs and optimal metabolic control remains complex. This data demonstrated that a heightened overall sense of control is advantageously associated with DM control, while a sense of passivity and helplessness (Scale 3) is detrimental. This general finding agrees with results across diverse medical conditions indicating that positive control experiences are affiliated with better illness control and illness adjustment (see 38,43 for recent reviews). However, by using a multidimensional measure of psychological control, this study extends existing knowledge in several ways. First, some targets of such control more important than others, and it appears that these targets are more diverse than those typically traversed in the DM literature. Conventional wisdom within diabetes education curricular emphasis behavioral control over domains of self and bodily routines and functions as critically important, and this study
confirms the importance of this focus. However, the finding of such a strong relationship between DM control the domain of interpersonal relationships suggests the need to widen the scope of enquiry. A number of interpretations could be offered regarding this finding. Presumably a state of poor DM control may detrimentally affect one’s ability to feel effective in relationships. Alternatively, interpersonal difficulties may contribute to lack of vigilance or regard for tight DM management. Whatever the case, it is known that interpersonal relationships and interpersonal difficulties are powerfully associated with many other health states (Bornstein, 1998; Lewis, 1998) and this stands alongside renewed interest in interpersonally focussed psychotherapies (Klerman & Weissman, 1993). Should the findings in this study be replicated, it suggests that such interpersonally focussed interventions may also have utility in the field of DM.

Second, while traditional disease adaptation programs may emphasize an active or internally-orientated control style, in this study the characteristic cognitive and/or behavioral control styles in responding to control-related issues are unrelated to HBA1c. That is, assertive styles do not seem to afford any benefit over yielding styles. This finding provokes a need to rethink the commonly ascribed view that those with poor HBA1c are passive and fail to take action.

Third, it appears that all DM participants were preoccupied by control issues (desire for control means range from 4.7 to 4.8 on a 6-point scale) irrespective of Hba1c status. Those with poor Hba1c status are neither lacking in desire for or interest in psychological control techniques or outcomes, nor overly reliant on any specific style of achieving control. Rather, it is the perceived overall sense of control and perceived success in specific domains of functioning that is important.

This study suggests advantages in using an inventory such as the SCI instead of traditional reliance on the LOC construct. Namely, it has been possible to demonstrate a more
complex appraisal of the relationship between metabolic control and psychological control. The existence of such subtleties concur with Hunt et al., who found, in utilizing a radically different research paradigm (ethnography), that patients generate diverse models about factors involved in illness management, and that biomedical and behavioral explanations form only part of such explanations. Further illumination of such subtleties may assist in reconciling what is currently a conflicted literature and, for this reason, future studies investigating psychological control in DM should be encouraged to employ such measures. Further studies could also be directed towards investigating the relationship between psychological control issues and other known speculated risk factors of poor metabolic control, and finally, to see if the relationships revealed in this study also hold true for men with DM. However the reliability of Scale 9 was unacceptably low, and this calls into question the psychometric properties of the scale. In this sense, further research in general is needed to investigate the robustness of an instrument that seemingly holds much promise.
References


Table 1: Demographic and clinical characteristics of the sample studies. Data expressed as mean (sd) unless otherwise indicated.

<table>
<thead>
<tr>
<th></th>
<th>Type 1 n = 71</th>
<th>Type 2 n = 15</th>
<th>Unclear n = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td>31.1 (10.4)</td>
<td>41.4 (4.6)</td>
<td>44.0 (5.3)</td>
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<tr>
<td>Duration of diabetes</td>
<td>13.5 (8.7)</td>
<td>3.6 (3.8)</td>
<td>6.6 (4.5)</td>
</tr>
<tr>
<td>Body Mass Index (kg/m²)</td>
<td>26.3 (5.0)</td>
<td>31.4 (5.6)</td>
<td>31.8 (9.9)</td>
</tr>
<tr>
<td>HbA₁c (%)</td>
<td>8.8 (1.9)</td>
<td>8.3 (2.0)</td>
<td>8.6 (1.8)</td>
</tr>
<tr>
<td>Number with complications</td>
<td>27</td>
<td>1</td>
<td>1</td>
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</tbody>
</table>
Table 2: Comparison of SCI subscales by HbA1c groups using post hoc test with LED correction where ANCOVA indicated significance.

<table>
<thead>
<tr>
<th>Mean (sd) Subscale Score</th>
<th>Glycated Haemoglobin Category</th>
<th>Statistic</th>
<th>Contrasts</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Optimal Control (a)</td>
<td>Suboptimal Control (b)</td>
<td>Poor Control (c)</td>
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<td><strong>Sense of control</strong></td>
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<td></td>
</tr>
<tr>
<td>Scale 1 Overall sense of control</td>
<td>5.7 (.78)</td>
<td>5.1 (.80)</td>
<td>4.9 (.87)</td>
</tr>
<tr>
<td>Scale 2 Positive sense of control</td>
<td>5.6 (1.2)</td>
<td>5.1 (.99)</td>
<td>5.0 (.91)</td>
</tr>
<tr>
<td>Scale 3 Negative sense of control</td>
<td>2.4 (.89)</td>
<td>2.9 (.76)</td>
<td>3.3 (1.1)</td>
</tr>
<tr>
<td>Scale 4 Overall domain sense of control</td>
<td>5.2 (.64)</td>
<td>4.7 (.70)</td>
<td>4.5 (.75)</td>
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<tr>
<td><strong>Mode of Control</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale 5 Positive assertive mode of control</td>
<td>2.8 (.50)</td>
<td>2.5 (.60)</td>
<td>2.6 (.49)</td>
</tr>
<tr>
<td>Scale 6 Positive yielding mode of control</td>
<td>2.9 (.47)</td>
<td>2.5 (.52)</td>
<td>2.6 (.47)</td>
</tr>
<tr>
<td>Scale 7 Negative assertive mode of control</td>
<td>1.8 (.56)</td>
<td>1.7 (.50)</td>
<td>1.8 (.54)</td>
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<tr>
<td>Scale 8 Negative yielding mode of control</td>
<td>1.9 (.57)</td>
<td>1.6 (.54)</td>
<td>1.8 (.50)</td>
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<td><strong>Motivation for Control</strong></td>
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<tr>
<td>Scale 9 Desire for control</td>
<td>4.7 (.83)</td>
<td>4.7 (.87)</td>
<td>4.8 (.62)</td>
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<tr>
<td><strong>Agency of Control</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>5.6 (1.8)</td>
<td>5.4 (1.2)</td>
<td>5.2 (1.4)</td>
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<tr>
<td>Others</td>
<td>2.8 (.74)</td>
<td>2.7 (1.1)</td>
<td>2.7 (.96)</td>
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* p< .05
** p< .01
Table 3: Comparison of SCI domains of control by HbA1c groups using post hoc test (LSD) where ANCOVA indicated significance.

<table>
<thead>
<tr>
<th>Mean (sd) Domain Score</th>
<th>Glycated Haemoglobin Category</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Optimal Control (a)</td>
<td>Suboptimal Control (b)</td>
</tr>
<tr>
<td>Body</td>
<td>4.2 (1.2)</td>
<td>4.2 (1.2)</td>
</tr>
<tr>
<td>Mind</td>
<td>4.9 (.97)</td>
<td>4.4 (1.0)</td>
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<tr>
<td>Relationship</td>
<td>5.5 (.80)</td>
<td>5.0 (.77)</td>
</tr>
<tr>
<td>Self</td>
<td>4.6 (1.4)</td>
<td>4.4 (1.4)</td>
</tr>
<tr>
<td>Career</td>
<td>5.5 (.67)</td>
<td>4.8 (1.1)</td>
</tr>
<tr>
<td>Environment</td>
<td>5.5 (.87)</td>
<td>4.8 (1.2)</td>
</tr>
<tr>
<td>Other (Impulse Control)</td>
<td>5.8 (.30)</td>
<td>5.5 (.58)</td>
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</table>

* p<.05  
** p<.01
Table 4. Reliability coefficients for the nine Shapiro Control Inventory (SCI) Scales

<table>
<thead>
<tr>
<th>SCI Scales</th>
<th>Alpha Internal Item Consistency</th>
<th>Shapiro (1994)</th>
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<tbody>
<tr>
<td><strong>Sense of Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Overall sense of control</td>
<td>.92</td>
<td>.89</td>
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<tr>
<td>2. Positive sense of control</td>
<td>.92</td>
<td>.89</td>
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<tr>
<td>3. Negative sense of control</td>
<td>.78</td>
<td>.70</td>
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<tr>
<td>4. Overall domain sense of control</td>
<td>.91</td>
<td>.75</td>
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<tr>
<td><strong>Mode of control</strong></td>
<td></td>
<td></td>
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<tr>
<td>5. Positive assertive mode</td>
<td>.87</td>
<td>.88</td>
</tr>
<tr>
<td>6. Positive yielding mode</td>
<td>.84</td>
<td>.77</td>
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<tr>
<td>7. Negative assertive mode</td>
<td>.79</td>
<td>.82</td>
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<tr>
<td>8. Negative yielding mode</td>
<td>.50</td>
<td>.70</td>
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<td><strong>Motivation for control</strong></td>
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<tr>
<td>9. Desire for control</td>
<td>.78</td>
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