

Patient empowerment: bringing medical scheme beneficiaries living with diabetes to the centre of healthcare funding and delivery.

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Introduction

Internationally and in South Africa, there is an interest in bringing patient centred care to the centre of healthcare policy. Whether it be jurisdictions with national health insurance or voluntary health insurance. Improving the ability of people living with chronic conditions to manage their conditions, means that healthcare expenditure could be controlled, and quality of life gains are achieved in pursuance of both healthcare equity and equality. We use a patient experience survey to develop a patient empowerment construct, and we evaluate the impact of patient empowerment on treatment adherence.

Objectives

The objectives of the paper are to:

- develop a conceptual framework of patient empowerment processes and outcomes in managed care disease management interventions for medical scheme (health insurance plan) enrollees living with diabetes,
- create a patient empowerment construct out of responses from a patient experience survey and validate the construct,
- provide descriptive statistics on patient experience and patient empowerment scores,
- measure the causal impact of patient empowerment on treatment adherence by using a structural equation model.

Methods

A patient experience survey questionnaire was conducted on medical scheme beneficiaries living with diabetes in South Africa, in 2019. Of the total targeted population, 4 328 medical scheme beneficiaries responded to the survey. An assumption of a 95% confidence interval, with a 1.5% margin of error and a 50% likelihood of participation, yielded a minimum required sample size of 4 269 respondents. A weighted sampling scheme to deal with potential response bias.

In order to develop patient empowerment scales; research literature, for validating psychometric measurement scales for long-term diseases, were reviewed. The patient experience survey responses were used to replicate the constructs of these patient empowerment scales (see figure 1). Rotational factor reduction was applied to the patient experience variables, to obtain an optimal number of variables which explain each patient experience domains (see figure 2).

Methods (continued)

The study design sought to link observed responses pertaining to patient activation, patient self-management and patient self-efficacy, to patient empowerment (see figure 1). A second order confirmatory factor analysis was used to validate whether patient experience responses are associated with patient empowerment (see figure 3).

Internal validity was assessed through applying the Cronbach Alpha. Survey responses were scored to provide patient experience and patient empowerment scores. Structural equation models with weighted propensity score matching) were used to identify the average treatment effect of empowerment on treatment adherence (see figures 5 and 6). Analysis was conducted in SAS 9.4.

Figure 1: Logic Model of Patient Empowerment Process

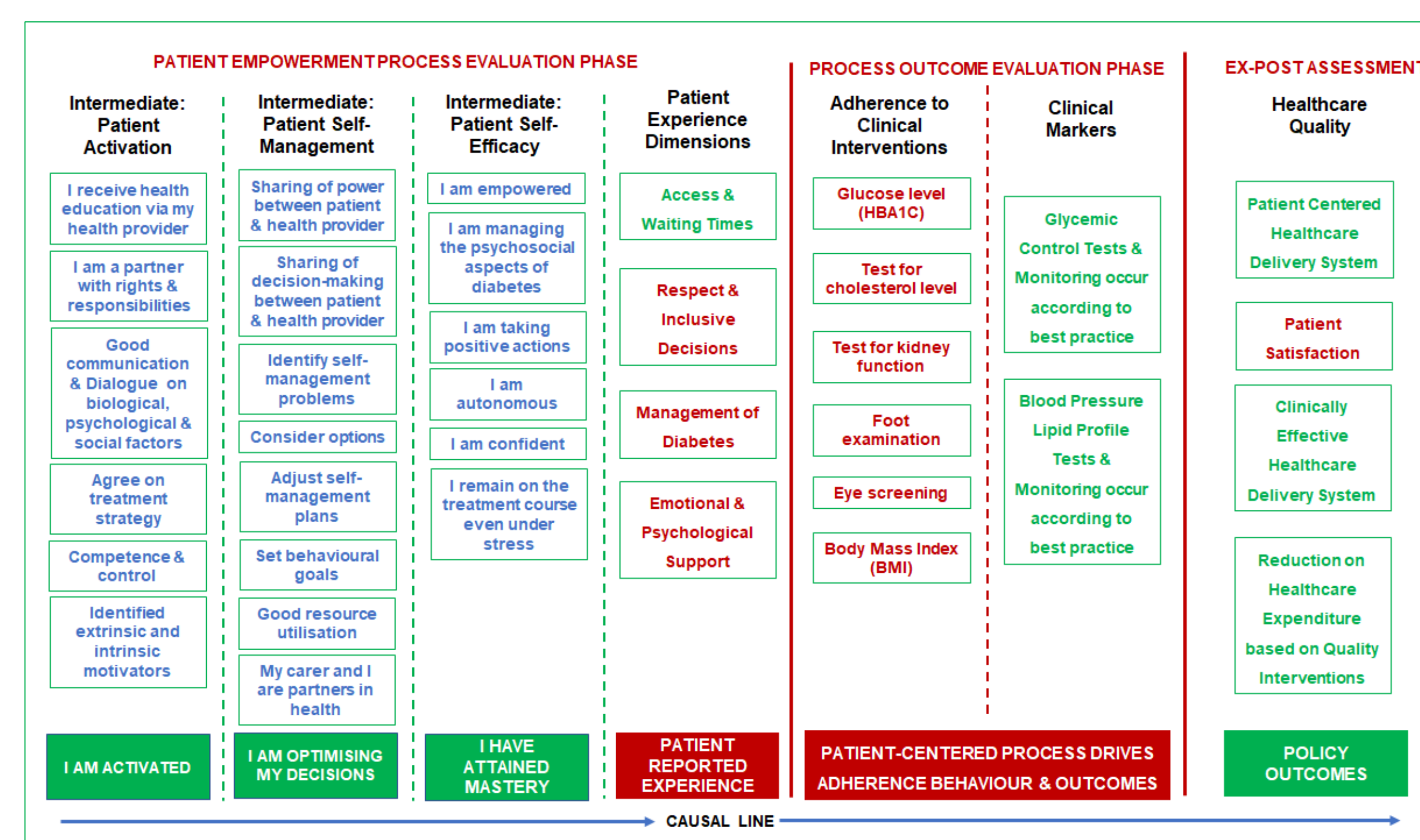


Figure 2: Scree Plot of Factor Reduction Analysis

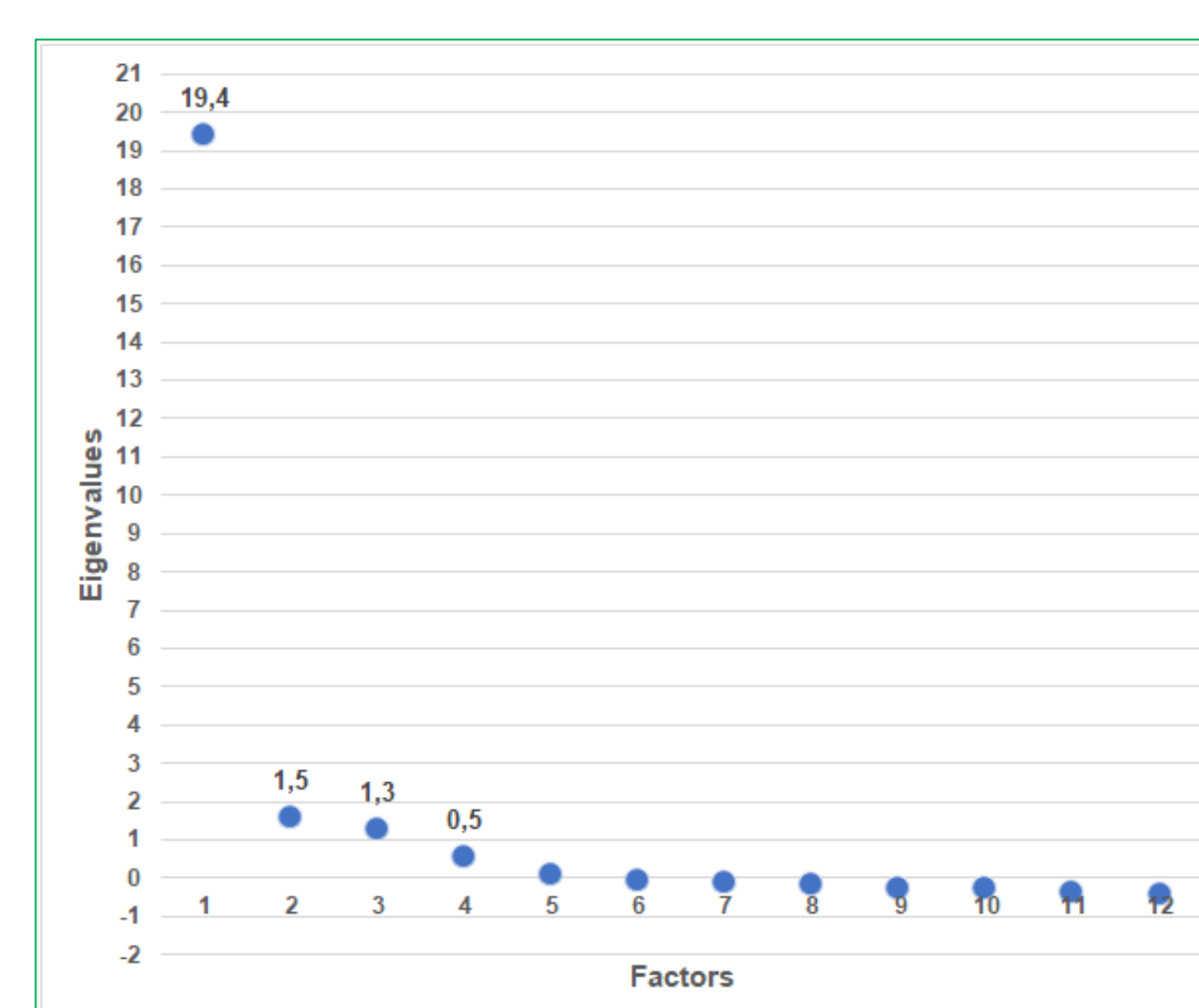
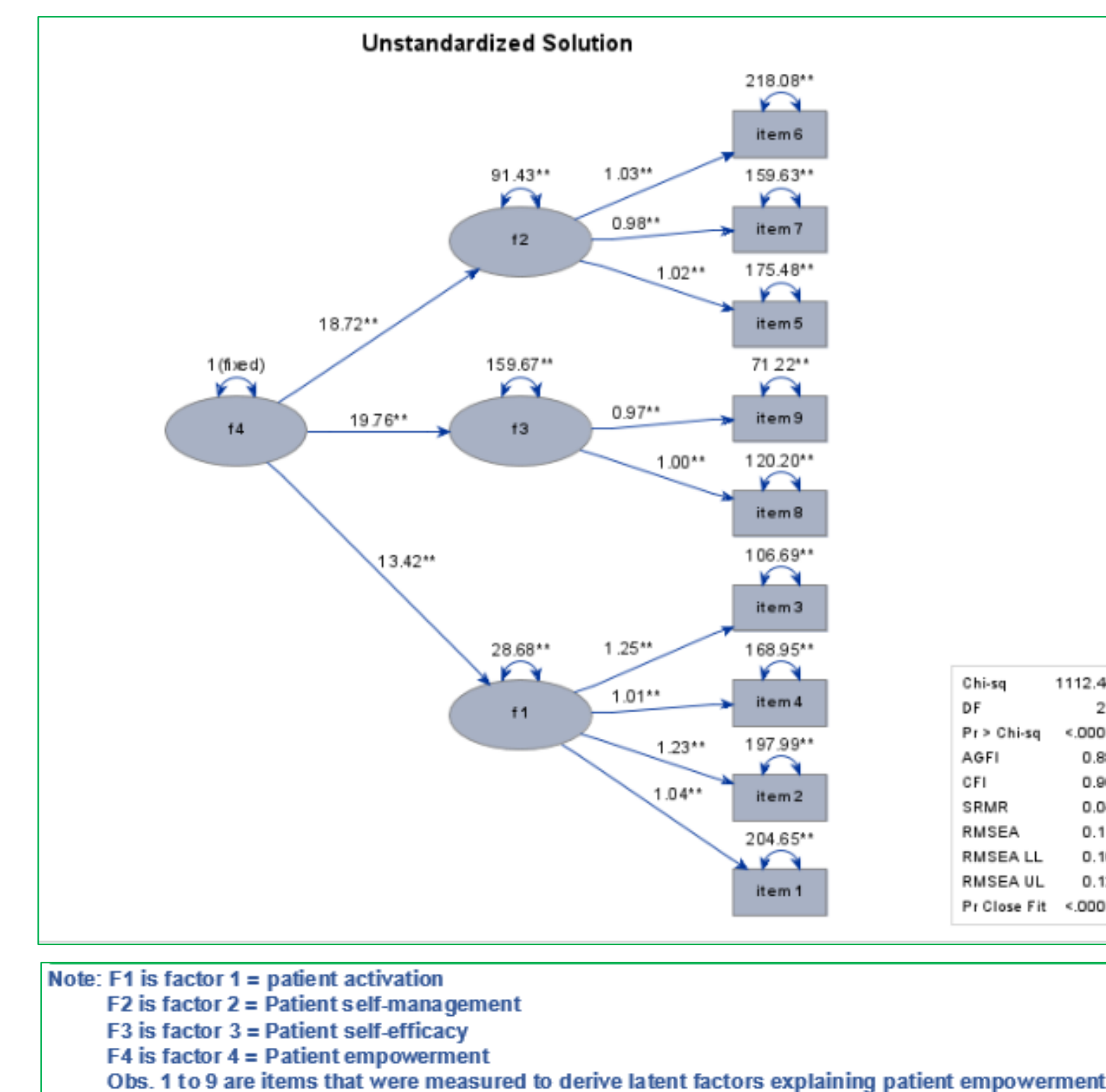


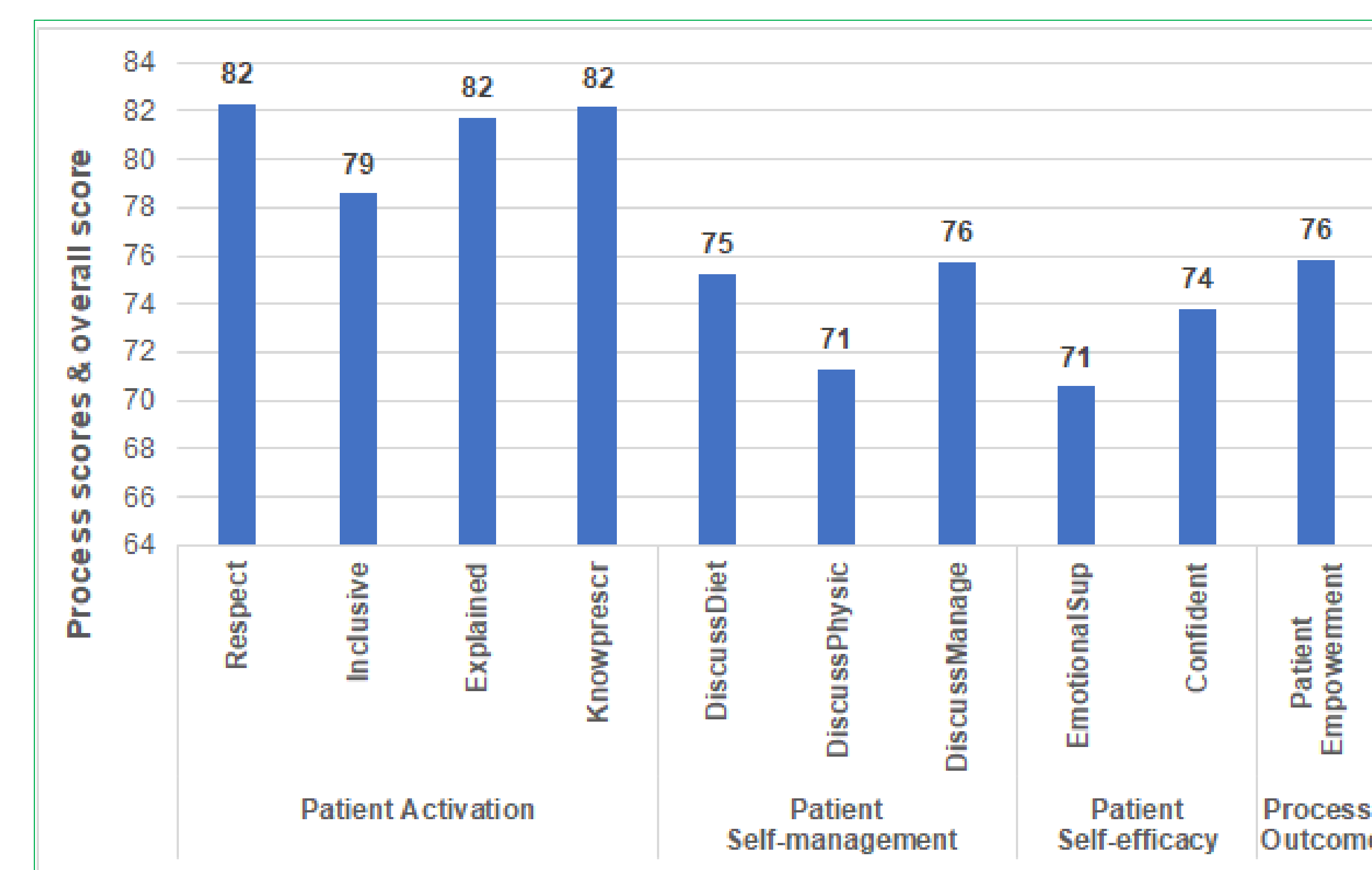
Figure 3: Second Order Confirmatory Factor Analysis



Results

Figure 2 shows that three variables from each factor were used to explain each patient experience domain. Figure 3 shows the results of the second-order factor analysis. The model fit for the second order confirmatory analysis was partially acceptable (CFI = 0.929; NFI = 0.927; NNFI=0.909; while RMSEA = 0.12). That said, there is an associated between observed variables describing patient experience and the outcome of patient empowerment. The patient empowerment domains are patient activation, patient self-management, and patient self-efficacy (see figure 3). The patient self-efficacy domain is the worst performing domain, and that is due to the emotional support variable (see figure 4).

Figure 4: Patient Empowerment Process Scores



Results (continued)

Figure 6 shows that there was a balanced likelihood of respondents belonging to the treatment relative to the untreated group. This means that the structural model equation has dealt with bias unobserved characteristics as shown in the causal diagram (see figure 5). Table 1 reports that the average treatment effect of patient empowerment. If respondents feel empowered, they are 1.4 times more likely to adhere to treatment requirements (see table 1).

Figure 6: Balanced Likelihood of being in Treatment Group

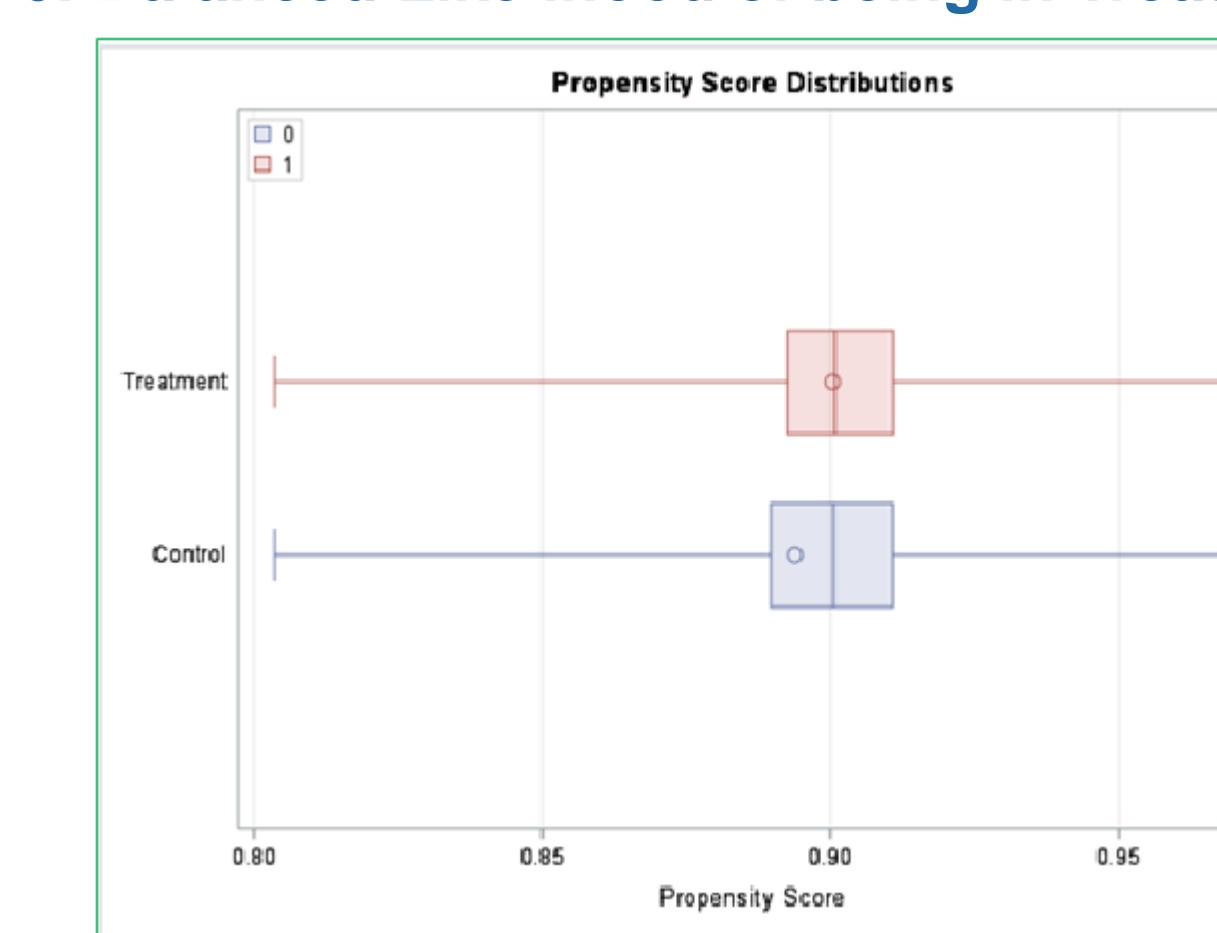


Table 1: Results from Structural Equation Model

Analysis of Causal Effect						
Parameter	Treatment Level	Estimate	Robust Std error	Wald 95% Confidence Limits	Z	Pr > Z
POM	1	3,1156	0,0125	3,0911 3,1401	248,93	< .0001
POM	0	2,7055	0,0473	2,6129 2,7982	57,24	< .0001
ATE		0,4101	0,0489	0,3143 0,5059	8,39	< .0001

Key Findings & Study Implications

There is a positive association between patient experience and patient empowerment. Health plan enrollees living with diabetes who are empowered, are more likely to adhere to treatment requirements. So improving the patient psychosocial behaviour and self-efficacy will result in savings and improve managed competition. This is because more health plan enrollees will be empowered and drive cost effectiveness at the centre of healthcare purchasing.

Allowing beneficiaries living with diabetes to act on decisions arising from a collaborative partnership with healthcare providers, requires a shift from "acute care models" to a patient-centered approach that gives some empowerment to beneficiaries.

Figure 5: Directed Acyclic Graph with Causal Effects

