

Do as I Say: Customer Determinants of Adherence to a Weight Loss Regime

Lan Snell* and Lesley White, *Charles Sturt University*

Abstract

The examination of adherence in weight loss services is important given the global prevalence of obesity. This study examines the determinant role of three service factors (service quality, satisfaction, and involvement) and four psycho-social factors (self-efficacy, emotional intelligence, perceived ability, and role clarity) on customer adherence to a weight loss regime. A quantitative study employing a survey technique was used to investigate 19 research hypotheses. Customers from 40 pharmacies and weight loss centres from various states in Australia were involved in the study. Of the 2,050 surveys issued, a total of 771 responses were returned. Structural equation modelling was used to estimate, evaluate, and measure the model. The findings provide evidence which identifies antecedent service factors and psycho-social factors of adherence, and the nature of these relationships in determining adherence. This offers researchers a framework to examine a triple bottom line effect (individual, social, and economic) of such interactions in different service settings.

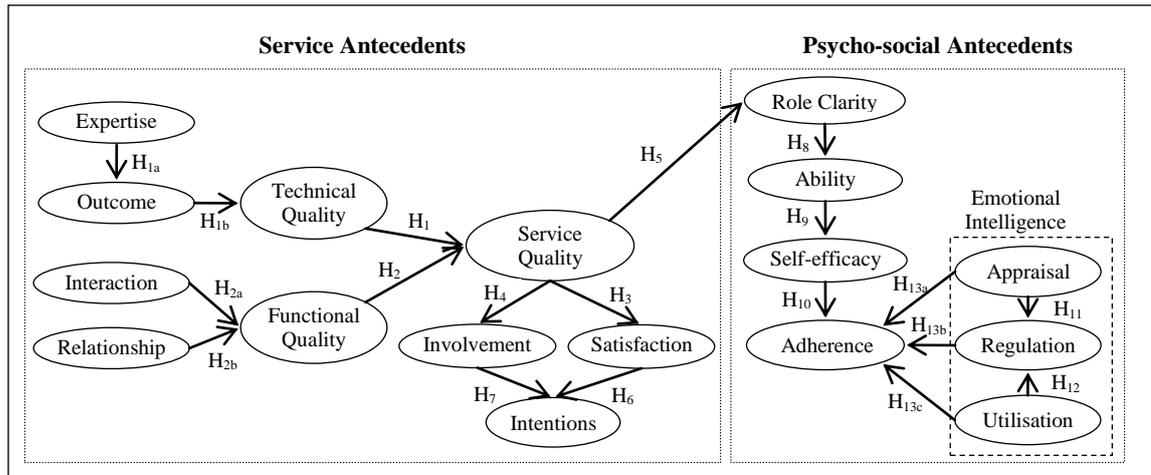
Introduction

Healthcare is one of the fastest growing sectors in the service economy (Andaleeb, 2001). Within this sector, overweight and obesity has emerged as a growing area of health care given its associated illnesses such as cancer, cardiovascular disease, and diabetes. The associated illnesses of high body mass are ranked as the third highest contributor to the total burden of disease and injury in Australia (Begg *et al.*, 2008). Australia is ranked as one of the most overweight developed nations, with 68% of adult men and 55% of adult women reported as overweight or obese in 2007-2008 (ABS, 2009). Although previous studies have established the link between service factors and customer attributes (Cronin and Taylor, 1992) and social cognitive factors such as self-efficacy and health outcomes (Bandura, 1997), no study has examined the joint influence of service factors and psycho-social factors in determining adherence behaviour. The following discussion presents the rationale for the proposed relationships between these constructs. First, a review of the literature is provided to support the conceptual framework. This is followed by a summary of the findings and discussion. The paper concludes by stating the limitations, managerial implications, and suggestions for future research.

Conceptual Model

The model posits perceived service quality as a third-order structure consistent with the literature (Dagger, Sweeney and Johnson, 2007). Perceived service quality is proposed to drive satisfaction and involvement which in turn, influences behavioural intentions. Perceived service quality is also proposed to influence role clarity which impacts perceived ability which in turn, shapes self-efficacy beliefs. Self-efficacy is posited to have a direct influence on adherence behaviour. The model also posits emotional intelligence as a predictor of adherence as shown in Figure 1.

Figure 1. Conceptual Model



Service Factors. The model hypothesises that both the technical and functional dimensions of service quality are positively associated with the customer's perception of overall service quality. This two-dimensional framework is based on previous studies that recognise the interactive and interdependent role of technical quality and functional quality on the formation of overall service quality (Gronroos, 1984). Qualitative data identified four sub-dimensions reflecting the two primary dimensions. These include expertise and outcome for technical quality, and interaction and relationship for functional quality. The significance of these sub-dimensions in shaping primary perceptions of quality is well supported in the literature (Dagger *et al.*, 2007). Thus, it is hypothesised that:

- H₁:** Technical quality is positively related to perceived service quality.
- H₂:** Functional quality is positively related to perceived service quality.
- H_{1a}:** Expertise is positively related to outcome.
- H_{1b}:** Outcome is positively related to technical quality.
- H_{2a}:** Interaction is positively related to functional quality.
- H_{2b}:** Relationship is positively related to functional quality.

The model adopts a performance-only approach to service quality and satisfaction (Cronin and Taylor, 1992). Based on the literature linking service quality and outcome behaviours (Cronin and Taylor, 1992), it is posited that involvement is influenced by service quality perceptions. The extent to which customers are able to participate in the service is largely dependent on their understanding of what is required of them and previous studies have shown that role clarity is influenced by perceptions of service quality (Dellande, Gilley and Graham, 2004). The link between satisfaction and intentions is well established (Bagozzi, 1992). Previous studies also support the relationship between involvement and intentions (Bearden, Hardesty and Rose, 2001). Thus, it is hypothesised that:

- H₃:** Perceived service quality is positively related to satisfaction.
- H₄:** Perceived service quality is positively related to involvement.
- H₅:** Perceived service quality is positively related to role clarity.
- H₆:** Satisfaction is positively related to intentions.
- H₇:** Involvement is positively related to intentions.

Psycho-social Factors. It is hypothesised that increases in role clarity would increase the customer's ability to participate in the program (Dellande et al., 2004). The relationship between perceived ability and self-efficacy is supported by previous studies (Jayanti and Burns, 1998). The literature also provides evidence for the relationship between self-efficacy (SE) and health behaviours (Bandura, 1982). It is argued that customers with high SE are more likely to exhibit greater confidence in their judgements than those with low SE. Thus, on the basis of the literature, it is hypothesised that:

- H₈:** Role clarity is positively related to perceived ability.
- H₉:** Perceived ability is positively related to self-efficacy.
- H₁₀:** Self-efficacy is positively related to adherence.

This study conceptualises emotional intelligence (EI) as consisting of three adaptive abilities: appraisal and expression of emotion; regulation of emotion; and utilisation of emotion (Salovey and Mayer, 1990). Regulation of emotion was viewed as the central dimension given that an understanding and regulation of one's emotions as well as an understanding of others' emotions affect intra-personal well being and inter-personal relations. Based on this premise, it would be reasonable to expect that an individual would find it difficult to regulate their emotions without first having appraised them and/or utilised them (Petrides and Furnham, 2000). Thus, the model posits that both appraisal and expression of emotion, and utilisation of emotion, drive regulation of emotion. Finally, the model posits that all three EI dimensions are related to adherence (Brown and Schutte, 2006). Thus, it is hypothesised that:

- H₁₁:** Appraisal and expression of emotion is positively related to regulation of emotion.
- H₁₂:** Utilisation of emotion is positively related to regulation of emotion.
- H_{13a}:** Appraisal and expression of emotion is positively related to adherence.
- H_{13b}:** Regulation of emotion is positively related to adherence.
- H_{13c}:** Utilisation of emotion is positively related to adherence.

Methodology

The research sample was derived from a survey administered through 40 stores across Australia. Of the 2,050 surveys issued, a total of 771 responses (38%) were returned. This response rate represented a sufficient size to achieve a high level of statistical power (McQuitty, 2004). With the exception of the adherence scale (which was developed from the weight loss program for this study), the remaining scales were derived from existing scales and were first subjected to exploratory and then confirmatory factor analyses. Scale reliability for all 17 constructs was established by the obtained Cronbach alphas. A full measurement model consisting of 51 scale items was constructed to further assess the strength of these measures. The fit indices obtained indicated an adequate representation of the data ($\chi^2 = 2161.9$, $p = <.05$, $df = 1088$, $RMSEA = .04$, $IFI = .96$, $TLI = .95$, $CFI = .96$). Scale reliability was further examined using structural equation modelling. The average variance extracted for all constructs were near, or in the majority of cases, exceeded the acceptable criterion ($>.50$). Discriminant validity was also established through using Fornell and Larcker's (1981) stringent test.

Results

Model fit was established given the obtained indices ($\chi^2=3466.4$, RMSEA=.05, IFI=.92, TLI=.91, CFI=.92). An examination of the structural path estimates indicated that with the exception of two constructs (appraisal/expression of emotion and utilisation of emotion), all parameter estimates were significant and in the hypothesised direction. Technical quality was found to drive service quality perceptions ($\beta=.90$) as predicted in H₁. Expertise was found to have a large effect on outcome perceptions ($\beta=.95$) which in turn, was found to influence technical quality ($\beta=.95$), thus supporting H_{1a} and H_{1b}. Although functional quality was found to have a small effect ($\beta=.05$) on service quality, this result supports H₂. At the functional quality sub-dimensional level, interaction had a large effect ($\beta=.69$) on functional quality, while relationship had a medium effect on functional quality ($\beta=.26$), thus supporting H_{2a} and H_{2b}. Overall service quality was found to influence satisfaction ($\beta=.94$), involvement ($\beta=.52$), and role clarity ($\beta=.39$). Albeit varying size of impact, both satisfaction and involvement influenced behavioural intentions ($\beta=0.39$ and $\beta=0.10$, respectively). These results thus support H₃ – H₇.

Turning to the psycho-social constructs, role clarity had a significant effect on perceived ability ($\beta=0.62$). Perceived ability, in turn, influenced self-efficacy ($\beta=0.32$) which in turn, had a significant impact on customer adherence ($\beta=0.38$) thus supporting H₈ – H₁₀. Both appraisal and expression of emotion ($\beta=0.39$) and utilisation of emotion ($\beta=0.53$) were found to influence regulation of emotion (H₁₁ and H₁₂). Regulation of emotion, in turn, was found to influence customer adherence ($\beta=0.32$) thus supporting H_{13b}. While regulation of emotion was found to have an effect on adherence, appraisal of emotion and utilisation of emotion were found to have no direct influence on customer adherence, hence H_{13a} and H_{13c} were unsupported.

Discussion, Limitations, and Guidelines

The simultaneous examination of mainstream service constructs and psychological constructs makes an original contribution to theory by considering the organisational and health outcomes of these respective factors, as well as their joint impact on customer adherence. The framework developed from this study allows researchers to examine these outcomes at a macro service level or psycho-social level, as well as at more specific sub levels depending on the nature of the research. Practical implications from this research can be drawn from a management, customer, and an economic perspective. For example, the findings could assist service providers in the allocation of limited resources to improve service delivery processes which could result in significant benefits to the organisation. Customers could directly benefit from service delivery improvements by gaining a clearer understanding of their role in the service process which could increase their ability to participate in the service. Direct and indirect flow-on effects to the economy could also be realised as a consequence.

In terms of limitations, the findings are suggestive rather than conclusive given the use of a single quantitative study. The cross-sectional design of the research means that causal inferences cannot be made. The limitations from using a single service industry (health care) are also acknowledged. Notwithstanding, the findings could be of relevance to other high involvement services (e.g., financial services) as lack of compliance in these services could lead to adverse outcomes. Replication of the model in other contexts would increase confidence in the research model. Dyadic or triadic investigations and further studies within Australia and or other countries could also increase the generalisability of the model.

References

- Andaleeb, S. S. 2001. Service quality perceptions and patient satisfaction: A study of hospitals in a developing country. *Social Science and Medicine* 52(9), 1359-1370.
- Australian Bureau of Statistics. 2009. 4364.0 National Health Survey: Summary of Results, 2007-08. Retrieved 12.05.11, from <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4364.0Media%20Release12007-08?opendocument&tabname=Summary&prodno=4364.0&issue=2007-08&num=&view=>
- Bagozzi, R. P. 1992. The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly* 55(2), 178-204.
- Bandura, A. 1982. Self-efficacy mechanism in human agency. *American Psychologist* 37(2), 122-147.
- Bandura, A. 1997. *Self-efficacy: The Exercise of Control*. New York: Freeman.
- Brown, R. F., Schutte, N. S. 2006. Direct and indirect relationships between emotional intelligence and subjective fatigue in university students. *Journal of Psychosomatic Research* 60(6), 585-593.
- Cronin, J. J., Taylor, S. A. 1992. Measuring service quality: A reexamination and extension. *Journal of Marketing* 56(3), 55.
- Dagger, T. S., Sweeney, J. C., Johnson, L. W. 2007. A hierarchical model of health service quality: Scale development and investigation of an integrated model. *Journal of Service Research* 10(2), 123-142.
- Dellande, S., Gilly, M. C., Graham, J. L. 2004. Gaining compliance and losing weight: The role of the service provider in health care services. *Journal of Marketing* 68(3), pp.78-91.
- Fornell, C., Larcker, D. 1981. Evaluating structural equation models with unobserved variables and measurement error. *Journal of Marketing Research* 18(1), 39-50.
- Gronroos, C. 1984. A service quality model and its marketing implications. *European Journal of Marketing* 18(4), pp.36-45.
- Jayanti, R. K., Burns, A. C. 1998. The antecedents of preventive health care behavior: An empirical study. *Journal of the Academy of Marketing Science*, 26(1), 6-15.
- Salovey, P., Grewal, D. 2005. The science of emotional intelligence. *Current Directions in Psychological Science* 14(6), pp.281-285.