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A Client Satisfaction Measure of Homecare Services for Older Adults

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Abstract

Client satisfaction can be used as an indicator for service quality. Without concrete feedback from clients, however, the usefulness of client satisfaction data for service improvement can be limited. This study described the development of a client satisfaction measure that can be used to provide concrete feedback for service providers. Based on a conceptual framework proposed in the literature, the Client Satisfaction: Home Care (CSAT-HC) uses a client-centered perspective to measure client satisfaction for homecare services for older adults. A survey of 200 older adults receiving homecare services provided by a social service agency in a large U.S. Midwest city was conducted to assess the psychometric properties of CSAT-HC. Results based on the 156 completed surveys show that CSAT-HC has good validity (correlation $r = .62$ with a popular client satisfaction measure) and test-retest reliability ($r = .75$). These results indicate that CSAT-HC is a valid and reliable client satisfaction measure; and therefore, providers of homecare services for older adults can use CSAT-HC to obtain client feedback for quality assurance or program evaluation purpose. Future research may use CSAT-HC to explore the potential influences of quality of homecare services on the well-being of older adult clients.

Keywords: instrument development, client satisfaction, importance weighting, home maker services, homecare services, social services

A CLIENT SATISFICATION MEASURE OF IN-HOME SERVICES FOR OLDER ADULTS

Introduction

Client or consumer satisfaction as a form of program evaluation has received a lot of attention in the field of social services (e.g., Eckert, 1994; Fraser & Wu, 2015; Kane, Bartlett, & Potthoff, 1995; Rossi, Freeman, & Lipsey, 2004; Royse, Thyer, Padgett, & Logan, 2010). Client satisfaction is generally considered a critical indicator of service quality or outcome (Fraser & Wu, 2015; Ingram & Chung, 1997; Royse et al., 2010). However, at least two issues can prevent service providers from receiving concrete feedback from client satisfaction survey results. The first is the use of client satisfaction measures that are generic, or not contextually specific. The second is the use of client satisfaction measures that have only information on various abstract domains or dimensions (Hsieh, 2006; Hsieh & Essex, 2006).

The issue related to generic measures is quite straightforward. Popular generic client satisfaction measures, such as the Client Satisfaction Questionnaire (CSQ-8, Nguyen, Attkisson & Stegner, 1983), although having good psychometric properties, cannot offer detailed information to service providers because they do not include information specific to the various service settings. It is difficult for service providers to devise service improvement strategies, based on client satisfaction survey results that offer no information specific to their service setting. The issue of abstract domains or dimensions has to do with the multidimensional nature of the concept of client satisfaction (Ruggeri & Greenfield, 1995). Specifically, clients can indicate overall satisfaction despite dissatisfaction with specific service domains or dimensions (and vice-versa). Overall satisfaction or dissatisfaction offers little information regarding satisfaction with specific service domains or dimensions (Hsieh, 2006). Although some client

satisfaction measures provide information on various domains or dimensions of the measures, the domains or dimensions are usually obtained through statistical analysis, such as (exploratory) factor analysis, and are often too abstract to make direct inferences for service provision. Users of these measures generally end up examining only overall satisfaction scores without the benefit of specific information for service improvement (Hsieh, 2006).

Founded in 1978, the Chinese American Service League (CASL) is now the largest, most comprehensive social service agency dedicated to serving the needs of Chinese Americans in the Midwest region of the United States. One of the vital services CASL provides is in-home (also known as homecare or homemaker) services for older adults. Many recipients of CASL's in-home services are older (Chinese) immigrants with limited English proficiency (C. Liu, personal communication, January 23, 2015). The quality of in-home services is critical to the well-being of these service recipients and their families (e.g., Kadowaki, Wister, & Chappell, 2015).

To ensure service quality, CASL's staff members conduct annual client satisfaction surveys with clients of in-home services. Over the past twenty years, the in-home services program has dramatically expanded from ten clients to over 700 clients and from two staff members to 360 staff members today. The client satisfaction survey questionnaire, however, was decades old and was not designed for the purpose of soliciting concrete feedback. For example, clients were asked to rate the home care aide's "performance" as "good," "fair," or "poor," without specifying any type(s) of performance. Due to the limitations of the client satisfaction survey questionnaire, it was difficult for CASL to use the survey results for service improvement for their in-home services. CASL, therefore, is in need of a new client satisfaction survey questionnaire that can provide concrete feedback for the in-home service program (C. Liu,

personal communication, January 23, 2015).

Unfortunately, limitations of generic client satisfaction measures mentioned earlier make them inadequate for CASL's purpose of obtaining service-specific information from clients. There are measures like Home Care Satisfaction Measure: Homemaker Service (HCSM-HM13, Geron, Smith, Tennstedt, Jette, Chassler, Kasten, 2000) designed specifically for in-home care settings. The major limitation with these measures, however, is that they cannot identify the concrete source(s) of satisfaction or dissatisfaction. The overall satisfaction scores obtained based on these measures, although informative, often cannot offer service providers concrete feedback on how to improve their services.

Through a policy and social engagement project sponsored by a local public university, a bilingual (English/Chinese) university faculty fellow worked with CASL to develop a client satisfaction survey measure (in both English and Chinese) that can obtain concrete client feedback for the in-home services. The client satisfaction measure can benefit not only CASL but also other providers of homecare services in need of concrete client feedback for service improvement. The client satisfaction measure can also benefit researchers who are interested in assessing quality of homecare services. This article summarized the development of the client satisfaction measure, Client Satisfaction: Home Care (CSAT-HC). The conceptual framework of CSAT-HC is described; the main steps constructing CSAT-HC are provided. Preliminary psychometric results of the CSAT-HC are also reported.

<div align="center">Literature Review</div>

Over a decade ago, Hsieh and Essex (2006) proposed a client-centered approach for constructing client satisfaction measures in social services. Measures developed based on the

approach have the capacity to obtain concrete client feedback for service improvement and maintenance (Hsieh, 2006). The approach proposed by Hsieh and Essex (2006) was based on an adaptation and application of the life satisfaction literature (Hsieh, 2006, 2009, 2012a, 2012b, 2014). As Hsieh (2006) pointed out, there are at least three apparent similarities between the conceptualization and measurement of client satisfaction and life satisfaction. First, both client satisfaction and life satisfaction are concepts involving subjective evaluations of objective conditions (e.g., Reid & Gundlach, 1983). Second, both client satisfaction and life satisfaction are concepts multidimensional in nature (Cummins, 1995, 1996; Diener, 1984; Ruggeri & Greenfield, 1995). Third, both client satisfaction and life satisfaction can be measured by either a single-item overall satisfaction or a composite of satisfactions with various domains or areas (Campbell, Converse, & Rogers, 1976; Nguyen et al., 1983). Given the similarities, the measurement approaches of life satisfaction can easily be adapted for client satisfaction (Hsieh & Essex, 2006). It should be noted that the approach proposed by Hsieh and Essex (2006) follows the so-called "bottom-up" measurement approach and differs significantly from the "top-down" measurement approach in the life satisfaction literature (Diener, 1984). The following is a short summary of the bottom-up (vs. top-down) measurement approach.

Bottom-up vs Top-down Approach

Measures of life satisfaction typically follow either the "bottom-up" or "top-down" measurement approach (e.g., Diener, 1984; Feist, Bodner, Jacobs, Miles, & Tan, 1995; Headey, Veenhoven, & Wearing, 1991; Scherpenzeel & Saris, 1996). The popular measure, the Satisfaction with Life Scale by Diener, Emmons, Larsen and Griffin (1985), for example, used the "top-down" approach. The Quality of Life Index by Campbell et al. (1976) followed the

"bottom-up" approach. Life satisfaction measures based on the bottom-up approach are

consistent with the "formative-indicator" model, and those based on the top-down approach are

consistent with the "reflective-indicator" model (Chin & Newsted, 1999; Cohen, Cohen, Teresi,

Marchi, & Velez, 1990; Hsieh, 2004). In a formative-indicator model, indicators are considered

to determine or cause the construct. In a reflective-indicator model, indicators are considered to

be determined by the construct (Bollen & Lennox, 1991; Cohen et al., 1990; Chin & Newsted,

1999). For measures that follow the reflective-indicator model, items in the measure should have

two major characteristics: 1) items should be interchangeable; and 2) items should have the same

or similar content or share a common theme. On the other hand, for measures that follow the

formative-indicator model, items in the measure do not need to be interchangeable. Items also do

not need to have the same or similar content nor share a common theme. Figure 1 illustrates the

differences.

[Insert Figure 1 approximately here]

Using Importance of Various Service Areas as a Client-centered Approach

A major characteristic of the measurement approach proposed by Hsieh and Essex (2006)

is that it takes into account the client's perceived importance of various service areas. As

previous studies suggested, incorporating the client's perceived importance of various service

areas into a client satisfaction measure not only can avoid making the assumption that all service

areas are equally important to the clients but also can reflect the differences in perceived

importance of various service areas between individual clients (Hsieh, 2006, 2009, 2012a,

2012b, 2014).

Conceptual justification of incorporating perceived importance of various service areas

into the measure of client satisfaction parallels with incorporating perceived importance of various life domains into life satisfaction measures (Hsieh, 2006, 2012a, 2012b, 2014; Hsieh & Essex, 2006;). Researchers in the life satisfaction literature (e.g., Campbell et al., 1976; Inglehart, 1978) have long noted the possibility of unequally weighted individual life domains in the overall picture of life satisfaction. Different terms have been used to describe this concept, including "domain importance" by Campbell et al. in 1976; "value priority" by Inglehart in 1978; and "psychological centrality" by Ryff and Essex in 1992. Hsieh (2004, 2015) provided a conceptual framework for incorporating importance weighting in a formative-indicator model in the context of life satisfaction research.

Given that existing evidence support that measures developed based on the approach proposed by Hsieh and Essex (2006) are client-centered and can provide concrete feedback, a client satisfaction measure developed based on the approach of Hsieh and Essex (2006) for homecare services for older adults can be helpful to service providers like CASL. CSAT-HC was therefore developed, using the approach by Hsieh and Essex (2006).

Development and Construction of the CSAT-HC

Following the measurement approach proposed by Hsieh and Essex (2006), the conceptual model for CSAT-HC is depicted in Figure 2. According to this conceptual model, CSAT-HC defines and conceptualizes client satisfaction as the client's view of service quality that stems from satisfaction or dissatisfaction with specific service areas of homecare services that are important to him/her. By applying this bottom-up approach, or formative-indicator model, to measure client satisfaction, the overall client satisfaction is determined by the indicators, satisfaction with various service components or areas, in this case. It is, therefore,

possible to construct a client satisfaction measure, using satisfaction items, or indicators, with service areas that are concrete and specific to the service setting (Hsieh & Essex, 2006).

[Insert Figure 2 approximately here]

CSAT-HC incorporates clients' perceived importance of service areas as a weighting mechanism, linking satisfaction with various service areas to overall satisfaction. Capturing individual client's differences in perceived importance of various service areas makes CSAT-HC a client-centered measure. Perceived importance of various service areas is captured in two ways: importance rating and importance ranking. Asking respondents to rate the importance of each individual service area (importance rating) provides a straight-forward approach to measuring importance of various service areas. However, importance rating can be limited because it does not allow direct comparisons across service areas. That is, if both service areas receive the same importance rating, there is no choice but to assume that they are of equal importance. CSAT-HC asks respondents to rank and place the different service areas into a hierarchy, based on perceived importance of the service areas. Importance ranking has an advantage over importance rating: ranking not only shows the importance of each service area but also provides direct comparisons of importance across service areas. However, importance ranking is a more complex task than importance rating, especially when the number of items to be ranked is large. Given that CSAT-HC is designed for frail older adults, both importance rating and importance ranking are included, in case respondents have difficulty completing the ranking.

The construction of CSAT-HC involved the steps outlined by Hsieh and Essex (2006) as follows:

1. *Identify major areas of services provided by in-home services.* From a review of the literature

on in-home services for older adults (e.g., Francis & Netten, 2004; Geron et al., 2000; Jones,

Netten, Francis, & Bebbington, 2007; Kadowaki et al., 2015; Piercy, 2000; Piercy & Dunkley,

2004; Ryburn, Wells, & Foreman, 2009), six major areas of service provision were identified:

homecare aide's attitude at work, personal care services, homemaker services, homecare aide's

dependability, the way client and homecare aide communicate, and homecare aide's job skills.

Feedback was solicited on the list of these six major service areas from CASL's staff members

(including service coordinator, supervisors and homecare aides) through a series of meetings and

discussions. There was consensus among the service providers that the list of six service areas

was considered to be concrete enough for the service providers and clear enough for clients to

recognize and distinguish between service areas.

2. *Construct a Likert-type satisfaction rating item for each of the service areas.* A Likert-type

satisfaction rating item for each of the six major service areas was constructed (see Appendix A,

S1-S6). The statement used for the Likert-type satisfaction rating was: please use a number from

1 to 7 to indicate your satisfaction where 7 means "Completely satisfied" and 1 means

"Completely dissatisfied." If you are neither completely satisfied nor completely dissatisfied,

you would put yourself somewhere from 2 to 6; for example, 4 means neutral, or just as satisfied

as dissatisfied.

3. *Construct a Likert-type importance rating item for each of the service areas.* A Likert-type

importance rating item for each of the six major service areas was constructed (see Appendix B,

I1-I6). The statement used for the Likert-type important rating was: please use a number to

indicate the importance of the service areas from 1 through 5, where 5 means "Extremely

important" and 1 means "Not at all important."

4. *Construct a mechanism to obtain an importance hierarchy for the service areas.* Respondents

are asked to rank the importance of the six major service areas (see Appendix C, R1-R6). The

statement used to obtain an importance hierarchy was: please rank, in the order of importance,

the service areas listed below. Write the letter in the space to show its importance rank for each

service area. For example, if you think "homecare aide's dependability" is the most important

service area, write D in the blank space labeled "most important."

      Given that a very high portion of the clients of CASL's in-home services are Chinese

immigrants, the (English version) CSAT-HC was translated into Chinese. First, a bilingual

graduate student intern at CASL, along with the author, translated CSAT-HC. Careful

consideration was given regarding level of education of the targeted population. After the first

translation was complete, the document was revised and edited with input from CASL's

bilingual staff of the in-home services. The author then incorporated the final revisions into a

computer document in Chinese that accurately reflects the original English version. After CSAT-

HC was constructed, a survey was conducted to assess validity and reliability of this new

measure.

<div align="center">Method</div>

Sample and Procedure

      To test the psychometric properties of CSAT-HC, a survey with a group of clients of the

in-home services was conducted by CASL. A total of 200 active clients were randomly selected

to participate in the survey. Survey questionnaires were mailed in December of 2015 to the

residences of the selected clients with self-addressed, stamped envelopes included, which is the

same way that CASL conducts its annual client satisfaction survey. The cover letter for the

survey indicated to the clients that 1) survey participation was voluntary and would not affect

their relationship with the agency; and 2) consent to participate was implied once a client

completed and returned the survey. Of the 200 surveys mailed, a total of 186 (93%) were

returned. Half of the 200 selected clients were again randomly selected to complete the survey a

second time for the purpose of examining test-retest reliability of CSAT-HC. The second round

of the surveys were mailed five days after the first round. Of the 100 surveys mailed for the

second round, 89 (89%) were returned. After excluding returned surveys that were incomplete, a

total of 156 first-round surveys were with complete data, and a total of 81 second-round surveys

were with complete data.

CASL's in-home services program staff received the returned survey questionnaires and

entered the data in the same way with annual client satisfaction survey. A de-identified copy of

the survey data was used for the analysis in this study. The project was approved by University

of Illinois at Chicago's institutional review board.

Instruments

Included in the survey questionnaire were the newly developed CSAT-HC (with six

satisfaction questions as shown in Appendix A, six importance questions as shown in Appendix

B, and six rank items as shown in Appendix C). For the purpose of assessing validity of CSAT-

HC, the popular client satisfaction measure CSQ-8 (Nguyen et al., 1983) was also included in the

questionnaire.

Analysis

The purpose of the analysis was to assess validity and reliability of CSAT-HC. Given

CSAT-HC had both satisfaction and importance data, calculation of total CSAT-HC scores

might not be straightforward. Following the scoring method proposed by Hsieh and Essex

(2006), total (weighted) scores of CSAT-HC were calculated with both importance rating (TI)

and importance ranking (TR). More specifically, an individual's weighted total satisfaction score

using importance rating (TI) was constructed as:

$$TI = \sum(S_i I_i)/\sum I_i \qquad\qquad (1)$$

where S_i is the satisfaction rating in service area i and I_i is the importance rating of service area

i.

An individual's weighted total satisfaction score using importance ranking (TR) was constructed

as:

$$TR = \sum(S_i R_i)/\sum R_i \qquad\qquad (2)$$

where S_i is the satisfaction rating in service area i and R_i is the reverse importance rank of

service area i.

Validity of CSAT-HC was assessed, using concurrent validity by calculating its

correlation (i.e., validity coefficient) with an existing client satisfaction measure: CSQ-8

(Nguyen et al., 1983). Given the formative-indicator measurement model that CSAT-HC is

based on, the conventional reliability approach of internal consistency, or reliability coefficient,

is not appropriate (e.g., Bollen & Lennox, 1991; Chin & Newsted, 1999). Instead, reliability of

CSAT-HC was assessed through correlation, using the test-retest method. Descriptive analysis

was used to present client satisfaction ratings and perceived importance of various service areas.

<div align="center">Results</div>

Sample Description

Among the 156 survey respondents, most were female (67%). The mean age of the study

participants was 79.64 (*SD* = 7.47), ranging from 61 to 97. The average length of time for

receiving in-home services among these respondents was 78.15 (*SD* = 51.41) months, ranging

from 0 to 207 months, and the median length of time was 73 months.

Validity

Although the CSAT-HC appeared to have face validity, its concurrent validity was

further assessed, by calculating its correlation (i.e., validity coefficient) with CSQ-8 (Nguyen et

al., 1983). The results indicated that CSAT-HC was significantly correlated with CSQ-8

(Nguyen et al., 1983), the popular client satisfaction measure. The correlation between

importance rating weighted CSAT-HC score (TI) and CSQ-8 (Nguyen et al., 1983) was $r =$ .62

($n = 156$), and the correlation between importance ranking weighted CSAT-HC score (TR) and

CSQ-8 (Nguyen et al., 1983) was $r =$ .623 ($n = 156$). These results showed that the validity

coefficient based on CSAT-HC scores calculated using rating of importance of service areas was

similar to using ranking of importance of service areas.

Reliability

A total of 81 completed second surveys were received. The test-retest reliability for

CSAT-HC, using TI, was $r =$ .748 ($n = 81$), and, using TR, was $r =$ .753 ($n = 81$). These results

showed that reliability of CSAT-HC based on rating of importance of service areas was similar

to using ranking of importance service areas.

Client Satisfaction by Service Area

The left-hand column of Table 1 shows client satisfaction ratings by various service

areas. On a seven-point scale with 7 being completely satisfied, all the service areas had mean

ratings above 6.5, an indication of high satisfaction with all service areas. A closer examination

of the results found that clients were most satisfied with homecare aide's dependability and were

not as highly satisfied with homemaker services or the way they and their homecare aide

communicated.

Perceived Importance of Various Service Areas

The middle column and the right-hand column of Table 1 show clients' perceived

importance of each service area. Based on mean rating, the most important service area was

homecare aide's dependability, followed, in order, by homecare aide's attitude at work,

homecare aide's job skills, the way client and homecare aide communicate, homemaker services,

and personal care services provided by the homecare aide. However, the order of importance was

a little bit different, based on mean importance ranking. Homecare aide's dependability, and

homecare aide's attitude at work remained the two most important service areas, followed, in

order, by homemaker services, the way client and homecare aide communicate, homecare aide's

job skills and personal care services provided by the homecare aide.

[Insert Table 1 approximately here]

Discussion

For the purpose of ensuring quality of its homecare services for older adults, the largest

social service agency dedicated to serving the needs of Chinese Americans in the Midwest

region of the United States collaborated with a local public university to update its client

satisfaction questionnaire. As a result, CSAT-HC was developed. By asking the clients to rate

their satisfaction with all major service areas of the homecare services, CSAT-HC can provide

concrete data that pinpoint specific areas of client satisfaction or dissatisfaction. Based on the

sources of satisfaction and dissatisfaction, service providers can identify the strengths and

weaknesses of their service provision. In addition, CSAT-HC asks the clients to provide data on perceived importance of various service areas. By not imposing the assumption that all service areas are equally important to all clients (Hsieh, 2006, 2009, 201a, 2012b), CSAT-HC incorporates perceived importance of various service areas to accounts for individual client's differences. CSAT-HC is, therefore, client-centered.

Results from this study show that CSAT-HC has reasonable psychometric properties. According to Shultz, Whitney, and Zickar (2014), most validity coefficients for assessing concurrent validity do not reach .5. Concurrent validity, measured by the validity coefficient with CSQ-8 (Nguyen et al., 1983), for CSAT-HC was over .6, exceeding the minimum level of a large effect size (.05) considered by Cohen (1988). The test-re-test reliability of CSAT-HC is also above the commonly accepted level of .7 (Shultz et al., 2014).

CSAT-HC is a product of collaboration between a community social service agency and a public university. Although CSAT-HC was developed and designed for CASL, other social service providers can use CSAT-HC to collect client satisfaction data in a homecare setting as well. Given that CSAT-HC has reasonable psychometric properties and is available in both English version and Chinese version, providers and provider agencies of in-home services can utilize this measure to collect client satisfaction data. Data collected using CSAT-HC can provide concrete feedback to help service providers improve their homecare services. In particular, service providers can use CSAT-HC to identify and maintain the service areas with high client satisfaction and make improvements on the sources of dissatisfaction.

The ability to provide concrete feedback is critical for service providers, given that a major issue related client satisfaction studies is that study results mostly indicate high

satisfaction (e.g., Royse et al., 2010). Generic client satisfaction measures, such as CSQ-8

(Nguyen et al., 1983), are not informative in identifying specific sources of satisfaction. CSAT-

HC, on the other hand, can pinpoint the source of client satisfaction or dissatisfaction in a

homecare setting. For example, results of this study, consistent with the client satisfaction study

literature (Royse et al., 2010), showed that on average respondents were quite satisfied with the

homecare services they received. Based on CSAT-HC, the most highly satisfied service area was

homecare aide's dependability. Homecare aide's dependability was also perceived as most

important service area by the respondents. Given the results, service provider agency could

encourage homecare aides to continue to maintain their dependability. In contrast, the two not as

highly satisfied service areas, homemaker services and the way the client and homecare aide

communicate, might have room for improvement. Neither homemaker services nor the way the

client and homecare aide communicate was perceived as the most important service area among

the respondents. In terms of order of importance, homemaker services was third (of six) based on

mean importance ranking, but fifth (of six) based on mean importance rating. The way the client

and homecare aide communicate was fourth (of six) based on either mean importance ranking or

mean importance rating. Given the relatively similar importance, service provider agency could

work on improving both areas at the same time should resources allow or could select to work on

either one area should resources be limited.

For the current study, both importance rating and importance ranking were included in

the construction of CSAT-HC (see step 3 and step 4 of "Construction of CSAT-HC" earlier and

Appendix B and Appendix C). However, it is not necessary for future users of CSAT-HC to

include both. Future users of CSAT-HC should include either importance rating or importance

ranking, not both. Even though importance ranking is preferable because of precision,

importance rating is a much more straight-forward task for the frail older adults to complete.

Whether to use importance rating or importance ranking is a decision that service providers or

provider agencies can decide on their own, based on their assessment of their clients, without

compromising the purpose or features of CSAT-HC.

One cautionary note regarding the use of CSAT-HC has to do with the way total CSAT-

HC scores should be calculated. It is recommended that total scores of CSAT-HC be calculated

based on weighting (either TI or TR described in "Analysis" earlier). Calculating total scores by

summing the products of satisfaction rating scores and importance rating or ranking scores

without any adjustment, otherwise known as multiplicative scores, should be discouraged due to

conceptual ambiguity (e.g., Hsieh, 2003, 2013; Trauer & Mackinnon, 2001). The issue of

conceptual ambiguity can easily be illustrated with a hypothetical example. Assume that a client,

client A, rates low satisfaction with all six service areas of CSAT-HC (ratings of 1), but rates

high importance for all six service areas (ratings of 5). Another client, client B, rates reasonable

satisfaction with all six service areas (ratings of 5), but low importance for all six service areas

(ratings of 1). Using multiplicative scores, both client A and client B will receive the same score

of 30 ($1\times5+1\times5+1\times5+1\times5+1\times5+1\times5 = 5\times1+5\times1+5\times1+5\times1+5\times1+5\times1$). Obviously, client A and

client B do not have the same client satisfaction level, and the use of multiplicative scores can

produce misleading results. Using the recommended scoring method of TI (for rating), on the

other hand, can clearly distinguish the difference in client satisfaction between client A and

client B because client A would have a score of 1 (dividing the multiplicative score of 30 by the

sum of importance ratings of 30), and client B would have a score of 5 (dividing the

multiplicative score of 30 by the sum of importance ratings of 6).

Similarly, TR is recommended if importance ranking is used. Note that the actual ranks should be reversed for the purpose of weighting. That is, for the service area that is ranked number one or first (most important of the six), the value (reverse rank) used for weighting should be six (6) to reflect more weight than other less important service areas. With six items ranked, reverse ranks can easily be obtained by using seven (7) minus the actual (importance) ranks.

Conclusion

CSAT-HC was developed to overcome major limitations of prior client satisfaction measures. Results from this study indicate that CSAT-HC has good validity and reliability. Therefore, CSAT-HC is a valid and reliable client satisfaction measure that can be used to collect concrete client feedback for social service providers to improve their homecare services. Social service providers in the homecare service setting can take advantage CSAT-HC and use it as part of process evaluation or quality assurance process (Rossi et al., 2004). Evaluators and researchers of homecare services can also use CSAT-HC to obtain client satisfaction data for the purposes of evaluating and researching quality of homecare services. Consistent with previous research (Hsieh, 2006), results of this study support that client satisfaction measures developed based on the approach proposed by Hsieh and Essex (2006) can assist social workers gathering concrete feedback that is also client-centered for service improvement and maintenance. Evaluators, researchers, and social service providers in other service settings can follow the steps outlined by Hsieh and Essex (2006) to develop client satisfaction measures that can be conceptually and psychometrically sound for their own service settings. Future research may use

CSAT-HC to explore the potential influences of quality of homecare services on the well-being of older adult clients.

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Table 1

Means and Standard Deviations of Satisfaction Rating, Importance Rating and Importance Hierarchy of Service Areas

	Satisfaction rating[a]				Importance rating[b]				Importance hierarchy[c]			
	M	*Range*	*SD*	*n*	*M*	*Range*	*SD*	*n*	*M*	*Range*	*SD*	*n*
Attitude	6.58	4-7	0.76	156	4.77	3-5	0.47	156	2.50	1-6	1.40	156
Personal care	6.55	4-7	0.81	156	4.59	1-5	0.65	156	4.62	1-6	1.56	156
Homemaker services	6.53	3-7	0.82	156	4.67	3-5	0.52	156	3.97	1-6	1.44	156
Dependability	6.66	4-7	0.68	156	4.81	3-5	0.43	156	1.78	1-6	1.15	156
Communication	6.52	3-7	0.84	156	4.69	1-5	0.56	156	4.03	1-6	1.28	156
Job skills	6.58	4-7	0.79	156	4.72	3-5	0.52	156	4.10	1-6	1.44	156

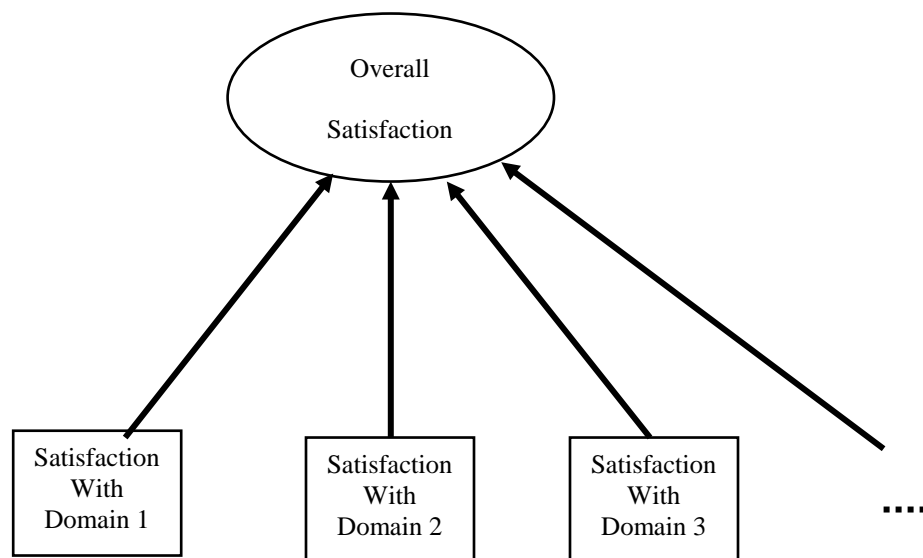Note: [a] Higher numbers indicate greater satisfaction.
[b] Higher numbers indicate greater importance.
[c] Lower numbers indicate greater importance.

Figure 1. Top-down (Reflective-indicator) vs. Bottom-up (Formative-indicator) Model for Life Satisfaction and Client Satisfaction
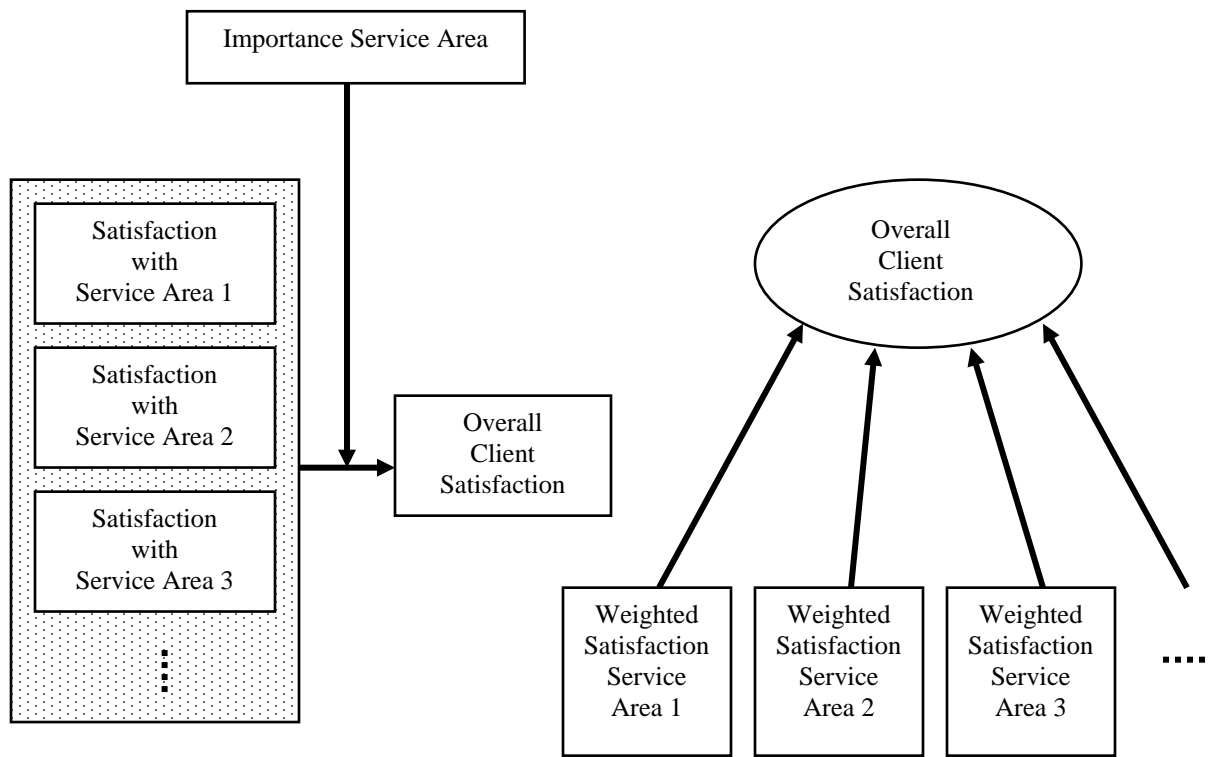

Top-down or Reflective-indicator Model

Bottom-up or Formative-indicator Model

Figure 2. Conceptual Model for CSAT-HC

Appendix A

Satisfaction Items

The following questions ask how satisfied you are with different services provided by your homecare aide(s). Please use a number from 1 to 7 to indicate your satisfaction where 7 means "Completely satisfied" and 1 means "Completely dissatisfied." If you are neither completely satisfied nor completely dissatisfied, you would put yourself somewhere from 2 to 6; for example, 4 means neutral, or just as satisfied as dissatisfied.

S1.   How satisfied are you with your homecare aide's attitude at work?   ____

S2.   How satisfied are you with the personal care you receive from your
       homecare aide?   ____

S3.   How satisfied are you with the homemaker services you receive from your
       homecare aide?   ____

S4.   How satisfied are you with your homecare aide's dependability?   ____

S5.   How satisfied are you with the way you and your homecare aide
       communicate?   ____

S6.   How satisfied are you with your homecare aide's job skills?   ____

Appendix B

Importance Items

Some people may feel some areas of the homecare services are more important than others. What areas of case management services do you consider extremely important or not at all important to you? Please use a number to indicate the importance of the services from 1 through 5, where 5 means "Extremely important" and 1 means "Not at all important."

I1.   Homecare aide's attitude at work   ____

I2.   Personal care   ____

I3.   Homemaker services   ____

I4.   Homecare aide's dependability   ____

I5.   The way you and your homecare aide communicate   ____

I6.   Homecare aide's job skills   ____

Appendix C

Constructing the Importance Hierarchy

Please rank, in the order of importance, the service areas listed below. Write the letter in the space to show its importance rank for each service area. For example, if you think "homecare aide's dependability" is the most important service area, write D in the blank space labeled "most important."
List of service areas:
A: Homecare aide's attitude at work
B: Personal care
C: Homemaker services
D: Homecare aide's dependability
E: The way you and your homecare aide communicate
F: Homecare aide's job skills

Importance	Service Area
Most important	_____
2nd most important	_____
3rd most important	_____
4th most important	_____
5th most important	_____
Least important	_____