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Public Perception of Massage Therapy

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Abstract

Massage therapy, as a service, is susceptible to churn for its misconceived efficiency and practice. However, therapists and massage businesses could frame messages that highlight, for instance, their service proficiency or price promotions on the public's perception of massage to overcome such misconception. We tested this prediction in two studies. In study 1 (n = 1,925), we distinguished four groups of individuals by their massage perception (positive, negative) and whether they had ever received a massage (yes, no). In study 2 (n = 1,209), we observed the four types of people that study 1 determined to compare the influences of a service expert and discount on their perceptions of massage therapy in a 2 (therapist: expert, nonexpert) x 2 (discount: yes, no) Solomon four-group experiment. There is evidence that positive perception is prone to service expert among those who had received a massage before. Those who experienced massage service for the first time, however, were prone to a bargain. Despite their lack of practical experience, these results imply that inexperienced and emerging therapists (e.g., students on practicum, interns) could help a massage business create customers when their imperfect services are bundled with an economic incentive. An expert therapist could, then, convert the initially discount-prone receivers of massage into quality-prone repeating customers and justify a price premium.

Keywords: Complementary and alternative treatments, Massage therapy, Public perception, Solomon four-group, New Zealand.

INTRODUCTION

Who would not enjoy a massage after a tiring workday? Anecdotal evidence indicates many would, but empirical evidence from studies with Western samples suggests otherwise due to the belief that the efficiency of complementary and alternative treatments, such as massage, are hardly comparable to modern medicine (1). The misperception created by, for example, media coverage about therapists accused of sexual harassment (2) and movies associating massage with sex industry (3) could also be among the reasons that might restrain one from receiving a massage service. Notwithstanding the threat that such factors could establish a negative public perception of the entire profession besides the individual therapist, perceptual studies on massage have been rare. There are, in comparison, reams of medical research examining massage as a supportive (4–6) and integrative treatment (7–9) for pain management or reduction. Although there have been calls for research on the public perception of massage (10), responding attempts have mostly employed samples comprised of professionals [e.g., massage therapists (11)], general practitioners (12, 13), nurses (14), faculty members (15) and medical students (16). It seems, therefore, that scholarly works have partially fulfilled this void.

In most Eastern countries, massage is a popular complementary and alternative treatment method, and governments entirely regulate massage therapy (e.g., in China, India, Thailand). In comparison, only a few Western counties regulate massage services (e.g., Germany) while many do not (e.g., the UK, New Zealand). It seems interesting; therefore, that massage therapy has gained popularity among the Western consumer to become an industry in, for example, New Zealand (17) despite the afore-mentioned demerits and lack of government regulation. The inclusion of body massage as a

basket item in the New Zealand Consumer Price Index computations in 2017 (18) instances a recent incident as an illustration. Amid the controversy that massage therapy receives negative publicity (2) and is unregulated in the country, but increasing demand has lately grown it as an industry, the indication is that the perceptions of massage therapy among the members of the New Zealand public could be unenduring, varied, and even fragile.

Accordingly, we conducted a randomised experiment on a large New Zealand sample over 17 months that started in mid-2018. Our attempt for an insight into the public perception of massage could supply a cross-cultural comparison opportunity for the relevant literature. Moreover, the present investigation could assist not just the providers of massage therapy in attracting new and retaining existing customers, but also medical authorities in the creation and maintenance of positive public awareness of complementary and alternative medicine. Next, we present an overview of our studies. The methodological details of and findings from our studies follow. A discussion on the contributions of our work concludes the paper.

MATERIALS AND METHODS

Overview of studies

In the prelim study 1, we surveyed people for their perceptions of massage therapy (positive, negative) and massage experience (yes, no) to group them into four. As seen in table 1, we labelled these groups as satisfied, unsatisfied, prospect, and pessimist based on the indications of the theories conceptualising consumer service perceptions (19) and behavioural decision-making (20). In reasoned conations, perceptions are anterior to behaviour (20), which implies in context, for example, that one's perception that massage therapy is incomparable to contemporary medicine could coerce them into forbearing from receiving it. The succeeding study 2 was a 2 (therapist: expert, nonexpert) x 2 (discount: yes, no) randomised experiment using six Solomon four-group comparisons that involved 13 groups on each of the four subject categories study 1 determined (see Fig. 1). The design's attempt to explain the decision to consume a massage service from the economic perspective was informed of the theory of expected utility (21). In context, the theory suggests that massage consumption could represent a rational choice-making to satisfy a current need (e.g., relaxation) and to facilitate decision-making in future occasions arising from the same need (e.g., by visiting the same therapist instead of seeking alternatives). Consumer decision theories indicate that price is a significant cognitive reference influencing decision-making (22) and consumption behaviour (23). In sum, the indications of this theoretical and empirical evidence sparked two research questions: RQ1 does massage experience cause a change in people's perception of massage therapy? And, whether receiving a massage RQ2(a) from an expert therapist or (b) on discount is more influential on people's massage perception?

Study 1

A 14-item instrument collected data from 2,052 volunteers in intercepts at four shopping centres in Auckland, New Zealand. Three questions discovered involvement with massage and eight items, adapted from Lawler and Cameron (13), operationalised massage perceptions on a 4-point scale (1 = strongly disagree, 4 = strongly agree). The remaining questions explored sample demographics. Survey participants comprised not only visitors and shoppers at the shopping centres but also the customers of a chain business running a massage salon in each mall. The business was participating in the university-industry collaboration programme of multiple New Zealand tertiary institutions, including the authors'. After the exclusion of 127 (6%) incomplete questionnaires remained 1,925 analysable data (56% male; 69% ≥30 years of age). A principal component analysis explored the factorial structure of the 8-item construct. Index scores on massage perception were grouped into two as $1 \leq$ negative perception $\leq 2.49 <$ positive perception ≤ 4 (see table 1).

Table 1. Subject groups in study 1 (with key descriptors)

		Massage experience		
		Yes	No	Total
Massage perception	Positive	**Satisfied**	**Prospect**	956
	Description	*Perceived quality of massage therapy ≥ expectations*	*Heard of massage from '+' content (e.g., word-of-mouth)*	
	Sample composition	*n=692 (36%)* *Female (52%)* *≥30 years of age (74%)* *$M(SD)_{perception}$=3.31 (.56)*	*n=264 (14%)* *Male (60%)* *≥30 years of age (62%)* *$M(SD)_{perception}$=3.17 (.55)*	
	Negative	**Unsatisfied**	**Pessimist**	969
	Description	*Perceived quality of massage therapy < expectations*	*Heard of massage from'–' content*	
	Sample composition	*n=453 (24%)* *Male (61%)* *≥30 years of age (75%)* *$M(SD)_{perception}$=1.70 (.30)*	*n=516 (27%)* *Male (62%)* *≥30 years of age (60%)* *$M(SD)_{perception}$=1.80 (.39)*	
Total		1,145	780	1,925

Notes: The sum of percentages for group sizes exceeds 100% due to rounding. Having received a massage before changed one's perception significantly [F (3, 1921) = 1704.164, p < .001]; the odds of a subject with massage experience to have a positive perception were 3 times higher than those without

Study 2

Sample. We re-invited study 1 subjects, 64% (1,238) volunteered to participate in the experiment. Twenty-nine random exclusions equalised the sizes of massage-receiving groups across the 13 experimental conditions in Fig. 1. Overall, study 2 recruited 1,209 people (see table 2).

Design and Procedures. In the experiment, a pair of Solomon four-group (S) designs measured the effect of a discount on massage perception (S1, S6); another pair explored that of massage provider (S2, S5), and two examined the combined effect of these (S3, S4). This arrangement required comparing few conditions with others. In such occasions, a group's response to a stimulus in an S design was reused in other S designs that exposed subjects to the same stimulus. For instance, as shown in upper Fig. 1, the condition 'expert+no discount' in S1 was compared with three conditions: first 'expert+discount' (in S1), second 'nonexpert+no discount (NoD)' (in S2), and third 'nonexpert+discount' conditions (in S3). Accordingly, S1, S2, and S3 shared groups 2 and 4. As lower Fig. 1 depicts, there were six such groups in the master design; half control (2, 4, and 10), half treatment groups (3, 6, and 8).

Table 2. Subject groups in study 2 (with key descriptors)

		Massage experience		
		Yes	No	Total
Massage perception	Positive	**Satisfied**	**Prospect**	572
	Sample composition	*n=390 (32%)* *Female (57%)* *≥30 years of age (70%)* *$M(SD)_{perception}$=3.07 (.70)*	*n=182 (15%)* *Male (53%)* *≥30 years of age (66%)* *$M(SD)_{perception}$=2.61 (.81)*	
	Negative	**Unsatisfied**	**Pessimist**	637
	Sample composition	*n=286 (24%)* *Male (52%)* *≥30 years of age (61%)* *$M(SD)_{perception}$=1.95 (.60)*	*n=351 (29%)* *Male (54%)* *≥30 years of age (63%)* *$M(SD)_{perception}$=2.15 (.69)*	
Total		676	533	1,209

Notes: Group sizes in the S design are 30, 22, 14, and 27 (x13 groups, see Fig.1) for the satisfied, unsatisfied, prospect, and pessimist, respectively. No significant interaction between the effects of gender and consumer type [F (3, 1917) = .391, p = .719], or that of age (i.e., those <30 vs ≥30 years) and consumer type on massage perception [F (3, 1917) = .289, p = .758]. Perceptions differed by experience [F (3, 1205) = 1088.435, p < .001]; the odds of a subject with massage experience to have a positive perception were 2.63 times higher than those without.

In S1, which controlled for the therapist, group 1 participated twice to experience different conditions: 'expert+NoD' (O1) and 'expert+discount' (O2). Group 2, control with a pre-test, also had two exposures, but both were for the same condition 'expert+NoD' (O3, O4). Group 3 participated once to experience the 'expert+discount' (O5) stimulus. Group 4, control without a pre-test, was exposed to the 'expert+NoD' (O6) condition once.

In S2, where bargain was controlled, group 5 was observed for 'expert+NoD' (O7) and 'nonexpert+NoD' (O8) conditions. Group 6 experienced only the 'nonexpert+NoD' condition (O9). The remaining two were the same control groups as in S1. S3 recruited group 7 once for the 'expert+NoD' (O10) and then for the 'nonexpert+discount' (O11) exposures. Group 8 experienced the 'nonexpert+discount' condition (O12) for once. The two control groups were the same as in S1. In S4, groups 9 and 10 participated twice, the former had dissimilar ['expert+discount' (O13), 'nonexpert+NoD' (O14)] whereas the latter had the same exposures ['expert+discount' (O15, O16)]. The remaining two were the groups 6 (of S2) and 3 (of S1). Controlling for the bargain, S5 employed group 11 two times; first for the 'expert+discount' (O17), second for the 'nonexpert+discount' (O18) conditions. Of the remaining three groups in S5, two were control (10 of S4 and 3 of S1), and the other was the group 6 of S2. Lastly, S6 controlled for the therapist and exposed group 12 to two different conditions ['nonexpert+NoD' (O19), 'nonexpert+discount' (O20)]. Similarly, it recruited group 13 twice, but their repeated exposures were identical ['nonexpert+NoD' (O21, O22)]. The others were the treatment group 8 (of S3) and the control group 6 (of S2).

The experiment was conducted at the four massage salons, where study 1 collected part of its data. Expert therapists were employees (M = 12.5, SD = 3.4 years of experience) holding a massage qualification. Nonexperts were interns studying towards a massage qualification at a New Zealand institution. During massage interventions, all therapists served in their service uniforms, experts (nonexperts) wore their nametags (intern tags). Expert therapists had their qualifications displayed on the premise. A member of the research team administered the perception scale after a consumer's receipt of massage.

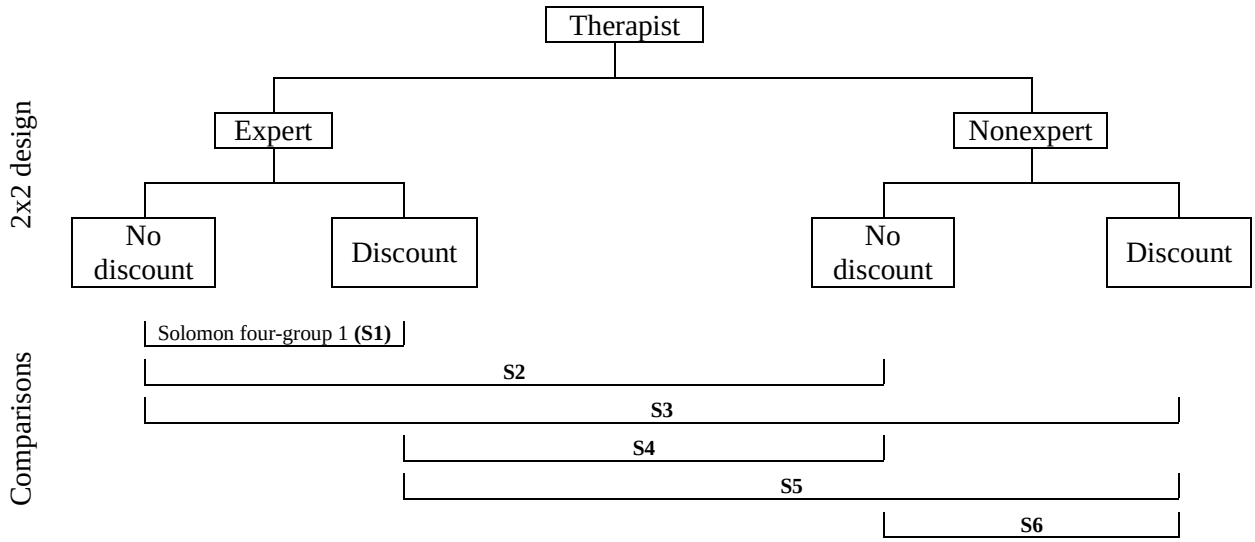
Data Analysis. A 2 (treatment: yes, no) x 2 (pre-test: yes, no) ANOVA on post-test scores in each S checked for pre-testing effect. A pre-testing effect would exist; for instance, in S1 (see Fig. 1), when massage perception in O2 were higher than that in O4, and O5 were higher than O6. A follow-up test computed two Cohen's ds for main-effects using the cell means in each S for a within-group comparison of the pre/post-test outcomes of the first group (e.g., O1/O2 in S1), and a between-groups comparison of the post-test outcomes of the last two groups (e.g., O5 and O6 in S1). All data were analysed using the PAST (Paleontological Statistics) software.

RESULTS

Study 1: Public Perceptions

Participants, who had received a massage in the past 12 months (60% of the sample), reported that the main reason for their visit to a salon was injuries (34%), followed by relaxation (30%), tension or stress (16%), chronic pain (11%), and sprains or strains (9%). Rare consumption (once a month) was typical (51%), only 5% were regularly receiving a massage; the remainder was occasional receivers.

The eight items formed six underlying components; four producing one component that explained 75% of the variance (see appendix A). An index score of this foursome of variables was computed to represent massage perception. Table 1 reports mean perception scores for groups. Massage perception across the sample ranked positive M = 2.51 (SD = .89). Neither the effects of gender and consumer type [$F(3, 1917) = .492$, $p = .608$] nor that of age (i.e., those <30 vs ≥30 years of age) and consumer type returned a significant interaction on perception, $F(3, 1917) = 1.078$, $p = .345$.



Comparisons with Solomon four-group

S1: Controlling therapist (expert)

Group	Pre-test	Treatment	Post-test
(R)1	O_1	X	O_2
(R)2*	O_3		O_4
(R)3*		X	O_5
(R)4*			O_6

S2: Controlling bargain (no discount)

(R)5	O_7	X	O_8
(R)2*	O_3		O_4
(R)6*		X	O_9
(R)4*			O_6

S3: Experiment condition-1

(R)7	O_{10}	X	O_{11}
(R)2*	O_3		O_4
(R)8*		X	O_{12}
(R)4*			O_6

S4: Experiment condition-2

(R)9	O_{13}	X	O_{14}
(R)10*	O_{15}		O_{16}
(R)6*		X	O_9
(R)3*			O_5

S5: Controlling bargain (discount)

(R)11	O_{17}	X	O_{18}
(R)10*	O_{15}		O_{16}
(R)8*		X	O_{12}
(R)3*			O_5

S6: Controlling therapist (nonexpert)

(R)12	O_{19}	X	O_{20}
(R)13	O_{21}		O_{22}
(R)8*		X	O_{12}
(R)6*			O_9

Figure. 1 The experimental design with Solomon four-group comparisons in study 2

(Notes. The illustrated design was used on each of the four subject categories study 1 determined. Abbreviations: R = randomisation, O = outcome measure (perception of massage), X = treatment.)

(* Group reused in repeating conditions.)

Study 2: Trade-off of Expert Therapist and Discount on Massage Perception

Manipulation Checks. One-way ANOVA on the perception scores of the pre-test groups (i.e., O1, O3, O7, O10, O13, O15, O17, O19, and O21 in Fig. 1) revealed that the random assignment of subjects was ideal [F (8, 261) Satisfied = .682, p = .707; F (8, 189) Unsatisfied = 1.981, p = .053; F (8, 117) Prospect = .268, p = .976; and F (8, 234) Pessimist = 1.468, p = .171]. Treatments were free from pre-testing effect except for the pessimists in S4, where the experiment tested a combined effect of therapist and discount (see appendix B).

The Satisfied. Neither in S1 nor S6 where therapist was controlled for expert and nonexpert (intern), respectively, a discount affected perceptions, t (29) Expert = .31, p = .378; t (29) Intern = .13, p = .449. When massage was on discount (in S2 and S5), an expert massage returned significantly higher scores on perceptions [M (SD) S2 = 3.26 (.55); M (SD) S5 = 3.31 (.54)] than an intern's [M (SD) S2 = 2.83 (.76); M (SD) S5 = 2.86 (.73); t (29) S2 = –2.40, p =

.010, d = .64; t (29) S5 = –2.61, p = .006, d = .70. Results for the combined effect of therapist and bargain in S3 and S4 showed that a discounted massage by an intern did not improve perceptions (M = 2.86, SD = .73) whereas an expert massage at regular price did (M = 3.26, SD = .55), t (29) S3 = –2.34, p = .011, d = .62. A price reduction boosted perceptions when massage was performed by an expert therapist [M (SD) Expert = 3.31 (.54) vs M (SD) Intern = 2.83 (.76)], t (29) S4 = –2.66, p = .005, d = .71. Overall, a discount was ineffective in strengthening massage perceptions among the satisfied unless an expert therapist delivered the service.

The Unsatisfied. A discount did not change perceptions when therapist was controlled [t (21) Expert = –1.21, p = .117 in S1; and t (21) Intern =.29, p = .385 in S6], however, the therapist did when discount was. Under no-discount condition (in S2), subjects served by an expert returned higher perception scores (M = 2.18, SD = .69) compared to those served by an intern (M = 1.54, SD = .48), t (21) S2 = –3.07, p = .002, d = 1.09. When discount was present (in S5), therapists caused no difference in perceptions, t (21) S5 = –1.33, p = .098. A combined effect of these variables was significant; a discount elevated perceptions when subjects received massage from an expert (M = 2.81, SD = .69), but not from an intern therapist (M = 1.59, SD = .48; t (21) S3 = –2.82, p = .004, d = 1.00. Conversely, perceptions were indifferent between the group receiving a discounted massage from an intern and that receiving a regularly priced service from an expert, t (21) S4 = –1.56, p = .066. In sum, neither a massage by an inexperienced therapist nor a discount was as effective in recovering negative perceptions as an expert service was. However, when used in tandem to promote service expertise, a discount tempered non-positive massage perceptions.

The Prospect. When therapist was controlled for expertise, a discount did not cause a change in perceptions, t (13) S1 = 1.54, p = .064, but it did when intern therapist was controlled, t (13) S6 = 2.16, p = .018, d = .59. In neither of the conditions that controlled for discount the therapist had an effect on perceptions [t (13) S2 = –.36, p = .358; t (13) S5 = –.02, p = .492]. Conditions testing the tandem effect of therapist and discount returned significant results for the service on promotion, regardless of the therapist, t (13) S3: Intern + discount = 1.73, p = .045, d = .46 and t (13) S4: Expert + discount = –1.88, p = .033, d = .50.

The Pessimist. Both expert (M S1: Discount = 2.38, SD = .77 vs. M S1: No discount = 1.88, SD = .70) and intern therapists (M S6: Discount = 2.39, SD = .88 vs. M S6: No discount = 1.92, SD = .59) improved the negative perceptions of this group when their services were on discount [t (26) S1 = 2.59, p = .006, d = .69; t (26) S6 = 2.18, p = .017, d = .63]. When discount was controlled, perceptions remained analogous between the groups served by an expert and an intern, irrespective of pricing [t (26) S2: No discount = .26, p = .404; t (26) S5: Discount = .05, p = .478]. Test results for the combined effect of therapist and discount showed that perceptions improved regardless of the massage provider, unless massage was not charged regularly, t (26) S3 = 2.52, p = .007, d = .65 and t (26) S4 = –2.30, p = .013, d = .67.

DISCUSSION AND CONCLUSION

In this study, we first explored public perceptions of massage therapy, then analysed service expert and discount bases in a randomised experiment to assess their impact on that perception. We found evidence in support of the theoretical and empirical indications that past massage experience can determine present/future massage perceptions (19, 23). We also found that not only the therapist's proficiency but also a discount could recuperate pre-existing negative perceptions and strengthen positive ones. Our results suggest that inexperienced recruits who are emerging in the profession (e.g., student interns) could help a massage business create customers when price promotions are bundled with their poor service. Additionally, massage provided by an expert therapist might convert the initial discount-proneness of new customers into quality-proneness in time, and justify a price premium on repeating customers.

Contributions our study makes at a theoretical level are twofold. To our knowledge, the present study is the first randomised experiment to explore public perceptions of massage using the Solomon four-group design. With its two treatment and two control groups, each containing a pre-test, this design provides immunity to threats on validity in repeated measures (24, 25). Secondly, our study 1 divided its subjects into four by their massage perception (+, –) and experience (yes, no). This allowed not only a closer look at perceptions within different consumer groups in study 2 but also meaningful implications for the massage industry.

Our findings suggest that the perception of people with prior massage experience are sensitive to expertise; when served by an expert therapist, their positive/negative perceptions could improve/revert. Positive/negative perception-holding individuals were in/sensitive to a discount. This implies that a value-based marketing campaign highlighting service quality (e.g., professional achievement of therapists) could justify a premium-pricing strategy for niche markets. Differentiated pricing that offers budget incentives on expert services to less happy customers from both within (e.g., complaint issuers) and outside business accounts (e.g., those that competition fails to satisfy) could help broaden the base of customers with positive perceptions. For the achievement of this, active communication channels for market intelligence is necessary (e.g., satisfaction surveys). It could also be worthwhile to consider adding value to market offerings, for example, by expanding customer gain at experiential level (i.e., receiving a massage) to an intellectual level through informational or practical guidance to consumer wellbeing (e.g., short videos, printable leaflets on company website/social media).

We also found that individuals who have never received a massage before are prone to discounts; thus, could be regarded as opportunity-seeking trial-runners. Among such consumer group, we found that even a therapist on training could improve the perceptions of those who already have a positive perception. These results suggest that a recruit could turn prospects into satisfied customers when their service is bundled with a price promotion. Further, we noticed that pessimistic subjects might not necessarily be as such (contrary to our naming of them in study 1) because a discounted massage service significantly improved their perceptions regardless of the therapist's level of expertise. It also seems for this particular group that a budget motivation might have a hold on quality evaluations over massage services.

Theoretically, consumers bias the functional component against technical when evaluating a service performance due to their incapacity to assess the latter (26). In the health services context, functional components refer to the means for delivering a health service, whereas the technical aspects refer to the esoteric accuracy of diagnosis (27). In line with these indications, the 4-item compact device enfolded massage perceptions mostly in subjects' functional judgments. Additionally, we neither observed participants' medical condition (in study 1) nor had control over our primary independent variables (in study 2). Thus, massage services that ranged in duration, type, and price might have influenced perceptions differently across our study 2 sample. Moreover, the pre-testing effect in one of the six S designs partly limited our interpretations of results for the pessimist. This pre-testing effect was an inadvertent administrative error caused by reusing the responses from group 3 (of S1) in S4 (see Fig. 1), which we could only notice when data collection was over. These caveats that thwarted the utility of our findings might be avenues for future research.

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