

EDITORIAL

Tailoring: what's in a name?

Health Education Research has taken a lead in publishing findings from the recent wave of studies reporting the effects of tailored health education interventions. However, in this journal and elsewhere, there has been considerable variation in what is meant by the descriptor 'tailored'. As a growing number of health education researchers and practitioners have added the language of tailoring to their vocabulary and the possibility of tailoring to their repertoire of intervention methods, it is increasingly important that the field provide a clear definition for tailoring and seek to standardize related terminology.

We would like to suggest that tailoring be defined as follows:

Any combination of information or change strategies *intended to reach one specific person*, based on characteristics that are unique to that person, related to the outcome of interest, and have been *derived from an individual assessment*. (Kreuter *et al.*, 1999a,b)

This definition highlights the two features of a tailored health promotion intervention that distinguish it from other commonly used approaches: (1) its collection of messages or strategies is intended for a particular person rather than a group of people and (2) these messages or strategies are based on individual-level factors that are related to the health or behavioral outcome of interest. Our rationale is as follows.

The word tailor comes from the Latin word *talea* meaning 'to cut'. Its common usage today is to make or adapt to fit a particular purpose—as in tailor-made clothing. Although we have found no uses of the term tailoring in the published literature which betray this *general* meaning, there are clearly different interpretations and operational definitions of the concept. Appropriately, most authors describe tailoring as a process of specially creating intervention materials or activities. The details of that process typically fall into one of two categories. The first corresponds more closely to

tailor-made clothing, custom fit in size and style to a particular person. The second corresponds more nearly to the process of target marketing, appealing to a defined population subgroup that is expected to like a particular size or style of clothing. This latter approach may be more appropriately labeled as 'targeted' rather than tailored.

Targeting involves development of a single intervention approach for a defined population subgroup that takes into account characteristics shared by the subgroup's members. These subgroups may be very small and quite specifically defined, such as African-American women aged 50–65 belonging to a particular neighborhood health center. Targeting is based upon the advertising principle of market segmentation, which aims to find the right kinds of consumers for a particular product or service (Peppers and Rogers, 1993). Several recently published studies contain similar examples of group-targeted interventions which have nevertheless been described as tailored (Davis *et al.*, 1992; Rimer and Orleans, 1994; Rimer *et al.*, 1994; Drossaert *et al.*, 1996; Morgan *et al.*, 1996). For example, Eakin and colleagues described tailoring as 'a process of producing a video whose content and characters are adapted for or designed to appeal to a particular target population' [(Eakin *et al.*, 1998), p. 520] and Pasick described tailoring as 'the adaptation of interventions to best fit the relevant needs and characteristics of a specified target population' (Pasick, 1997).

In contrast to targeting, tailoring—as we have defined it—refers to a process of creating individualized intervention materials or strategies. This approach has also been referred to as 'individual tailoring' or 'computer tailoring'. The published literature contains a number of intervention studies using this tailoring approach (Prochaska *et al.*, 1993; Campbell *et al.*, 1994, 1999; Skinner *et al.*, 1994; Strecher *et al.*, 1994; Curry *et al.*, 1995; Kreuter and Strecher, 1995, 1996; Brug *et al.* 1996, 1998; Bull and Jamrozik, 1998; Dijkstra *et al.*, 1998a–c; Marcus *et al.*, 1998; Rakowski *et al.*, 1998; Bull *et al.*, 1999; Kreuter *et al.*, 1999b; Lipkus *et al.*, 1999; Rimer *et al.*, 1999) In these

studies, researchers have collected data from individuals regarding a number of psychosocial behavioral determinants and have used conceptually or empirically based algorithms—usually computer-driven—to process each person’s data and generate customized feedback to meet his or her unique needs. Although some have suggested that interventions can also be tailored to organizations or communities, we would generally consider such group-level customization as an example of targeting. Only when the characteristics of these organizations were measured and addressed in creating customized materials or change strategies that were directed towards *specific individuals within these organizations* would we consider such an approach to be tailored.

To further illustrate the distinction between tailoring and targeting, consider the following examples of health education interventions drawn from recently published research. As part of a multi-facted intervention approach used in their *Pathways* Project, Perez-Stable *et al.* (Perez-Stable *et al.*, 1996) developed a targeted educational booklet, *Mujer y el Cancer*, designed to promote breast and cervical cancer screening among Latinas in San Francisco. To make the booklet culturally appropriate for this population, project members:

- Wrote the booklet at a sixth grade reading level and in Spanish.
- Used bright colors, bold graphics and color photographs believed to appeal to this group.
- Used Latina models to demonstrate desired behaviors or visually explain messages.
- Included testimonials from members of the Latina community about the importance of screening.
- Addressed fatalistic attitudes and ethnic-specific misconceptions about the causes of cancer.

Given these elements of the booklet, one might reasonably assume that members of the target population were characterized by having a lower reading level, speaking mostly Spanish, liking bright and bold colors, relating more closely to women who looked and talked like they did, and holding certain culturally based beliefs related to

cancer and cancer prevention. Thus, the *Mujer y el Cancer* booklet was created on the basis of these characteristics.

Print materials for women’s cancer screening have also been developed using tailoring methodology. For example, Skinner, *et al.* (Skinner *et al.*, 1994) created tailored physician recommendation letters that were sent to women patients in a primary care setting. To participate, eligible women completed a brief telephone survey assessing their stage of readiness, perceived barriers and perceived benefits for getting a mammogram. Based on this information plus demographic and risk status data, individualized letters were generated and sent to women at their homes. Each letter contained a drawing of a woman. The drawing was tailored to the race and age of the recipient. Below each of these drawings was a testimonial caption that was tailored to the recipient’s stage of readiness to get a mammogram. Text messages in the letters addressed each woman’s specific barriers to getting a mammogram, beliefs about mammography and breast cancer, stage of readiness to change, and breast cancer risk. In all, nearly 400 000 different tailored letters could be generated.

In summary, the targeted *Mujer y el Cancer* booklet was based on an aggregate profile of a specific population subgroup (Latinas in San Francisco) and was produced in just one version specially designed for this subgroup. Its focus was primarily on those characteristics assumed to be shared by many members of the subgroup. On the other hand, the tailored physician recommendation letters for mammography were based upon specific characteristics of individual women within the intervention population. Additionally, different letters were produced for different women. While these messages certainly could have been written to reflect shared characteristics of the patient population, they focused instead on the unique characteristics of each woman.

Both targeted and tailored approaches are guided by sound practice principles and studies have demonstrated that both can be more effective

than generic interventions which do not take into consideration the characteristics of those to whom they will be offered (Kreuter *et al.*, 1999c; Skinner *et al.*, 1999). However, there are important differences, too. In particular, the units of assessment (subgroups versus individuals), types of data collected (usually demographic versus psychosocial), use of data collected (using individual level data to characterize a subgroup versus using individual level data to intervene with a specific individual) and final intervention content (same content for all members of a subgroup versus different content for each person) can be quite dissimilar. As yet, neither has been shown to be superior to the other. In fact, over the next few years, we hope to see new studies comparing the relative effectiveness and cost-effectiveness of tailored versus targeted interventions. For example, studies are needed to determine optimal segmentation strategies for health education and health communication. At one end of a continuum of possible strategies lies single-variable audience segmentation, such as would be used to develop materials targeted to blacks (versus whites), men (versus women) or younger (versus older) persons. At the other end of the continuum would lie the ultimate segmentation strategy—individual tailoring or segments of one specific person. In between these extremes lie innumerable possibilities for combining different types of variables to yield different types and sizes of audience segments. At present, very little is known about the differences in development time, costs or the effectiveness of these alternatives.

It is important that those who develop, test and review interventions be able to easily distinguish between tailored and targeted approaches. Therefore, just as our field has sought in the past to point out the subtle but important differences between physician advice and physician counseling or between community-based interventions and interventions that simply take place in a community, so too must we recognize in our understanding and terminology the differences between tailoring and targeting.

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References

- Brug, J., Steenhaus, I., van Assema, P. and de Vries, H. (1996) The impact of computer-tailored nutrition intervention. *Preventive Medicine*, **25**, 236–242.
- Brug, J., Glanz, K., Van Assema, P., Kok, G. and Van Breukelen, G. J. P. (1998) The impact of computer-tailored feedback and iterative feedback on fat, fruit and vegetable consumption. *Health Education and Behavior*, **25**, 517–531.
- Bull, F. C. and Jamrozik, K. (1998) Advice on exercise from a family physician can help sedentary patients to become active. *American Journal of Preventive Medicine*, **15**, 85–94.
- Bull, F. C., Kreuter, M. W. and Scharff, D. P. (1999) Effects of tailored, personalized, and general materials on physical activity. *Patient Education and Counseling*, **36**, 181–192.
- Campbell, M. K., DeVellis, B. M., Strecher, V. J., Ammerman, A. S., DeVellis, R. F. and Sandler, R. S. (1994) Improving dietary behavior: the effectiveness of tailored messages in primary care settings. *American Journal of Public Health*, **84**, 783–787.
- Campbell, M. K., Bernhardt, J. M., Waldmiller, M., Jackson, B., Potenziani, D., Weathers, B. and Demissie, S. (1999) Varying the message source in computer tailored nutrition education. *Patient Education and Counseling*, **36**, 159–167.
- Curry, S. J., McBride, C., Grothaus, L. C., Louis, D. A. and Wagner, E. H. (1995) A randomized trial of self-help materials, personalized feedback, and telephone counseling with nonvolunteer smokers. *Journal of Consulting Clinical Psychology*, **63**, 1005–1014.
- Davis, S. W., Cummings, K. M., Rimer, B. K., Sciandra, R. and Stone, J. C. (1992) The impact of tailored self-help smoking cessation guides on young mothers. *Health Education Quarterly*, **19**, 495–504.
- Dijkstra, A., De Vries, H. and Roijackers, J. (1998a) Computerized tailored feedback to change cognitive determinants of smoking: a Dutch field experiment. *Health Education Research*, **13**, 197–206.
- Dijkstra, A., De Vries, H. and Roijackers, J. (1998b) Long-term effectiveness of computer-generated tailored feedback in smoking cessation. *Health Education Research*, **13**, 207–214.
- Dijkstra, A., De Vries, H., Roijackers, J. and van Breukelen, G. (1998c) Tailoring information to enhance quitting in smokers with low motivation to quit: three basic efficacy questions. *Health Psychology*, **17**, 513–519.

- Drossaert, C. H., Boer, H. and Seydel, E. R. (1996) Health education to improve repeat participation the Dutch breast cancer screening program: evaluation of a leaflet tailored to previous participants. *Patient Education and Counseling*, **28**, 121–131.
- Eakin, E. G., Lichtenstein, E., Severson, H. H., Stevens, V. J., Vogt, T. M. and Hollis, J. F. (1998) Use of tailored videos in primary care smoking cessation interventions. *Health Education Research*, **13**, 519–527.
- Kreuter, M. W. and Strecher, V. J. (1995) Changing inaccurate perceptions of health risk: results from a randomized trial. *Health Psychology*, **14**, 56–63.
- Kreuter, M. W. and Strecher, V. J. (1996) Do tailored behavior change messages enhance the effectiveness of health risk appraisals? Results from a randomized trial. *Health Education Research*, **11**, 97–105.
- Kreuter, M. W., Farrell, D., Olevitch, L. and Brennan, L. (1999a) *Tailored Health Messages: Customizing Communication with Computer Technology*. Lawrence Erlbaum, Mahwah, NJ.
- Kreuter, M. W., Bull, F. C., Clark, E. M. and Oswald, D. L. (1999b) Understanding how people process health information: a comparison of tailored and untailored weight loss materials. *Health Psychology*, **18** (5), 1–8.
- Kreuter, M. W., Strecher, V. J. and Glassman, B. (1999c) One size does not fit all: the case for tailoring print materials. *Annals of Behavioral Medicine*, in press.
- Lipkus, I. M., Lyna, P. R. and Rimer, B. K. (1999) Using tailored interventions to enhance smoking cessation among African-American smokers at a community health center. *Nicotine and Tobacco Research*, **1**, 77–85.
- Marcus, B. H., Emmons, K. M., Simkin-Silverman, L. R., Linnan, L. A., Taylor, E. R., Bock, B. C., Roberts, M. B., Rossi, J. S. and Abrams, D. B. (1998) Evaluation of motivationally tailored vs. standard self-help physical activity interventions at the workplace. *American Journal of Health Promotion*, **12**, 246–253.
- Morgan, G. D., Noll, E. L., Orleans, C. T., Rimer, B. K., Amfoh, K. and Bonney, G. (1996) Reaching mid-life and older smokers: tailored interventions for routine medical care. *Preventive Medicine*, **25**, 346–354.
- Pasick, R. J. (1997) Socioeconomic and cultural factors in the development and use of theory. In Glanz, K., Lewis, F. M. and Rimer, B. K. (eds), *Health Behavior and Health Education: Theory, Research and Practice*. Jossey-Bass, San Francisco, CA, pp. 425–440.
- Peppers, D. and Rogers, M. (1993) *The One to One Future: Building Relationships One Customer at a Time*. Doubleday, New York.
- Perez-Stable, E. J., Otero-Sabogal, R., Sabogal, F. and Napoles-Springer, A. (1996) Pathways to early cancer detection for Latinas: En Accion Contra el Cancer. *Health Education Quarterly*, **23** (Suppl.), S41–S59.
- Prochaska, J. O., DiClemente, C. C., Velicer, W. F. and Rossi, J. S. (1993) Standardized, individualized, interactive and personalized self-help programs for smoking cessation. *Health Psychology*, **12**, 399–405.
- Rakowski, W., Ehrlich, B., Goldstein, M. G., Rimer, B. K., Pearlman, D. N., Clark, M. A., Velicer, W. F. and Woolverton, H., III (1998) Increasing mammography among women aged 40–74 by use of a stage-matched, tailored intervention. *Preventive Medicine*, **27**, 748–756.
- Rimer, B. K. and Orleans, C. T. (1994) Tailoring smoking cessation for older adults. *Cancer Supplement*, **74**, 2051.
- Rimer, B. K., Orleans, C. T., Fleisher, L., Cristinzio, S., Resch, N., Telepchak, J. and Keintz, M. K. (1994) Does tailoring matter? The impact of a tailored guide on ratings and short-term smoking-related outcomes for older smokers. *Health Education Quarterly*, **9**, 69–84.
- Rimer, B. K., Conaway, M., Lyna, P., Glassman, B., Yarnall, K. S. H., Lipkus, I. and Barber, L. T. (1999) The impact of tailored interventions on a community health center population. *Patient Education and Counseling*, **37**, 125–140.
- Skinner, C. S., Strecher, V. J. and Hospers, H. (1994) Physicians' recommendations for mammography: do tailored messages make a difference? *American Journal of Public Health*, **84**, 43–49.
- Skinner, C. S., Campbell, M. K., Rimer, B. K., Curry, J. and Prochaska, J. O. (1999) How effective is tailored print communication? *Annals of Behavioral Medicine*, in press.
- Strecher, V. J., Kreuter, M. W., Den Boer, D.-J., Kobrin, S., Hospers, H. J. and Skinner, C. S. (1994) The effects of computer-tailored smoking cessation messages in family practice settings. *Journal of Family Practice*, **39**, 262–270.