

# Transformational leadership in primary care: Clinicians' patterned approaches to care predict patient satisfaction and health expectations

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## Abstract

Clinicians face the complex challenge of motivating their patients to achieve optimal health while also ensuring their satisfaction. Inspired by transformational leadership theory, we proposed that clinicians' motivational behaviors can be organized into three patient care styles (transformational, transactional, and passive-avoidant) and that these styles differentially predict patient health outcomes. In two studies using patient-reported data and observer ratings, we found that transformational patient care style positively predicted patients' satisfaction and health expectations above and beyond transactional and passive-avoidant patient care style. These findings provide initial support for the patient care style approach and suggest novel directions for the study of clinicians' motivational behaviors.

## Keywords

health education, health expectations, health psychology, patient satisfaction, transformational leadership

For the modern clinician, it is not enough to provide competent medical care; clinicians must also motivate their patients through interpersonal exchanges to achieve optimal levels of patient satisfaction and health (DiMatteo et al., 2012). For example, clinicians' nonverbal behavior such as tone of voice, posture, and use of humor all play a role in patients' satisfaction, trust, and adherence (Wrench and Booth-Butterfield, 2003). Unfortunately, the list of clinicians' behaviors that researchers have identified as motivational is long and unfocused, such that it would be nearly impossible to incorporate all of these idiosyncratic behaviors into a cohesive behavior modification strategy to improve patient care. To counter this challenge, we propose a theoretical approach to instead identify underlying mechanisms that

render each behavior effective and then cluster those mechanisms according to their similarities (Huynh and Sweeny, 2014). We suggest that these clusters of behaviors, which we refer to as *patient care styles* (PCSs), can be organized through the lens of transformational leadership theory (Bass and Riggio, 2006). In this article, we examine the utility of this approach for predicting patient outcomes.

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Transformational leadership theory stands as the most widely researched approach to understanding motivational leadership behaviors (Bass and Riggio, 2006). Its popularity stems from the fact that leaders' effectiveness is not judged by individual behaviors but rather by styles, or clusters of behaviors grouped together based on their effectiveness for motivating followers. Although the study of leadership typically concerns leaders and work-group members in business settings, we extend the scope of leadership research to include clinician–patient relationships. Considering the similar dynamics of leader–follower and clinician–patient relationships (e.g. repeated interactions and uneven power status; French and Raven, 1959), and given the comparable motivational goals of the two parties (i.e. one party motivating the other party toward the completion of a task), the integration of leadership and health research can yield valuable insights for the process and delivery of quality patient care (Gabel, 2012).

The PCSs framework does not supersede previous models of patient care, such as patient-centered care (Epstein and Street, 2011; Stewart et al., 2000) or patient empowerment (Anderson et al., 1995; Wallerstein, 1992). Rather, the model incorporates and organizes factors such as goal setting, patient autonomy, and motivation into a framework that not only emphasizes the role of the patient but also the important dynamics between the clinician and patient. In addition to serving as an organizing framework, transformational leadership theory allows for specific predictions about the effectiveness of each style, which have been consistently and significantly supported through cross-sectional and longitudinal studies and experiments with random assignment (Judge and Piccolo, 2004). Finally, transformational leadership research empowers institutions to systematically train leaders to be more effective at motivating followers in a variety of settings (Collins and Holton, 2004). Therefore, using transformational leadership as the theoretical framework, we can make predictions about which PCS will likely be most effective, and these insights can ultimately aid clinicians in becoming more effective motivators.

## PCSs

Essential to the transformational leadership framework is the idea that leaders can shift through the full range of styles, but the style they display most frequently represents their primary style (Bass and Riggio, 2006). An updated version of the traditional leadership model contains three primary styles: transformational, transactional, and passive-avoidant leadership. Each style comprises several components, as described in greater detail below.

Just as there are three distinct leadership styles, we propose that there are three distinct PCSs. Similarly, we propose that clinicians can shift through a range of styles, but the style they display most frequently represents their “habit” and thus their primary PCS. Evidence suggests that clinicians do indeed have habits. For example, clinicians can practice the four habits of medical interviewing, which include eliciting the patient's perspective, demonstrating empathy, and investing in the beginning *and* the end of the interaction, to increase the flow of medical visits (Frankel and Stein, 1999). In the following sections, we describe each PCS and its components.

### Transformational PCS

Transformational PCS characterizes clinicians who not only create health plans for patients and monitor their progress but also inspire and motivate patients to achieve to those goals. The transformational PCS includes four components (“the four I's”): idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass and Avolio, 1991). These components are not mutually exclusive; clinicians can engage in any or all of these components in order to maximize their effectiveness as care providers.

Clinicians display *idealized influence* when they serve as role models for patients (Anderson et al., 1987). They display good health habits, which are often apparent to patients (e.g. non-smoking and maintenance of healthy weight; Harsha et al., 1996). In displaying *inspirational*

*motivation*, clinicians create a compelling vision for their patients' health and clearly communicate that vision to the patient. During the process of creating a health plan, they enthusiastically engage patients in the information exchange process and achieve patient consensus (Charles et al., 1997), which conveys that the clinician and patient are working together as a team toward a common goal (Charles et al., 1997). With *intellectual stimulation*, clinicians engage patients to view their health concerns in new ways and to come up with innovative solutions to those issues. They facilitate an environment in which patients can reflect on their concerns and do not force or coerce patients to accept a unilaterally determined solution (Rollnick and Miller, 1995). Finally, clinicians display *individualized consideration* when they treat each patient as a unique individual. They prioritize the process of creating warm interpersonal relationships (Beach and Inui, 2006) and adjust their style to allow for differences in patient autonomy (Deber et al., 1996).

### Transactional PCS

This PCS characterizes clinicians who set health goals for patients and provide them with instructions, feedback, and reinforcement to pursue those goals. For example, a clinician–patient “transaction” may begin with a description of a health plan during an initial visit (e.g. an exercise regimen and medications) and end when the clinician provides feedback regarding the patient's success (or failure) in executing the plan during a follow-up appointment. Transactional PCS has two components: problem-focused active care and contingent reward care.

Clinicians who display *problem-focused active* care monitor patients to anticipate adherence failures or deviations from patients' standard level of health. They focus on avoiding or preventing major health problems before they occur. Clinicians who display *contingent reward* care articulate the goals of treatment and the outcomes patients can expect when they follow through with the health plan. These clinicians provide extensive feedback and offer

reinforcements to patients during the course of their care (e.g. Seaburn et al., 2005). The primary distinction between problem-focused active care and contingent reward care is that problem-focused active care focuses only on preventing potential negative outcomes, whereas contingent reward care focuses on goal setting and reinforcement.

### Passive-avoidant

Clinicians who engage in a passive-avoidant style do not maximize their capacity to care for patients. At worst, they are unsympathetic to patients' needs and leave health concerns to patients to sort out for themselves (*laissez-faire*). For example, they may order many unnecessary tests or refer patients to specialists, with the sole intention of avoiding decisions about the patients' health (Axt-Adam et al., 1993). At best, these clinicians only concentrate on corrective actions, such as addressing symptoms only after they have occurred (*problem-focused passive*). The *laissez-faire* component appears similar to the default style in Roter and Hall's classic model of patient–physician relationships (Roter, 2000); however, our model only focuses on clinician behaviors rather than the broader patient–physician relationship. Although we suspect that this PCS is rare, at least in its most extreme form, we assess it in the current studies to provide a thorough test of our theoretical approach.

It is important to note that the transformational and transactional styles are not necessarily independent of each other; instead, the transformational style enhances the effects of the transactional style. In other words, transformational clinicians are effective because they transcend transactional behaviors, not because they neglect transactional behaviors. Therefore, we anticipate that the transformational PCS engenders positive patient outcomes above and beyond the contribution of the transactional PCS (i.e. an augmentation effect; Den Hartog et al., 1997), not that the effect of one style depends on the effect of the other style (i.e. an interaction effect).

## Patient health outcomes associated with PCSs

In addition to proposing the structure of PCSs, we also suggest that PCSs may contribute to patient satisfaction and health expectations, which are important markers of effective patient care.

### *Patient satisfaction*

Patient satisfaction refers to personal evaluations of the healthcare process. Patient satisfaction can be used to assess the quality of care, to highlight areas in need of improvement, and to assess patient loyalty and commitment (Sitzia and Wood, 1997). Additionally, patient satisfaction is associated with better adherence to treatment recommendations and health outcomes (e.g. DiMatteo, 2004). Because research indicates that transformational leadership produces more satisfied work-group members than transactional and passive-avoidant leadership (Bass and Riggio, 2006), we believe transformational clinicians will have more satisfied patients than clinicians characterized by either of the other two styles.

### *Health expectations following visit (Study 2 only)*

Patients who are more optimistic about their future health status may be more likely to pursue or continue their care (Mann, 2001). Furthermore, creating health regimens that align with patients' expectations can increase the likelihood that patients will adhere to the recommended treatment (Horne and Weinman, 1999). We propose that when transformational clinicians display the inspirational motivation component, they show optimism about their patients' health, and when they display the individualized consideration component, they tailor their care to each patient. This combination may lead to the creation of health plans that patients believe are effective for improving their health in the future. Thus, we anticipate that patients' expectations about their future health status following the medical visit will be associated with clinicians' PCSs.

## Overview and hypotheses

The primary goal of this article is to examine each PCS' association with patients' satisfaction and health expectations. In Study 1, we examined PCSs using patient-reported questionnaire data. In Study 2, we examined PCSs using third-party observer ratings of clinician-patient interactions to overcome potential bias in the patient-reported questionnaires from Study 1. Study 1 assessed only patient satisfaction, whereas Study 2 examined satisfaction and health expectations. Specifically, we tested the following hypotheses in two studies:

- *Hypothesis 1.* Scores on the passive-avoidant PCS dimension will negatively predict (or not predict) patients' satisfaction and health expectations.
- *Hypothesis 2.* Higher scores on the transactional PCS dimension will positively predict patients' satisfaction and health expectations.
- *Hypothesis 3.* Higher scores on the transformational PCS dimension will positively predict patients' satisfaction and health expectations, above and beyond the predictive power of scores on the transactional dimension.

Moreover, many demographic factors predict patient satisfaction and health expectations (DiMatteo, 2004). For example, patients with lower educational attainment and lower incomes tend to be more satisfied with their care (Huynh et al., 2014). To address the unique predictive relationship between PCSs and our outcomes, we controlled for these demographic variables in our analyses.

## Study 1

### *Method*

*Participants.* Healthcare recipients ( $N=164$ ; 62% female; 36% 18–25 years old, 40% 26–55, 24% >56; 49% White, 13% Hispanic, 20% Asian, 10% African American, and 8% did not state) completed an online questionnaire about

their most recent medical visit and were awarded US\$5 to an online retailer for their participation. Participants had most recently visited their clinician for a preventive care issue (e.g. physical; 49%) or to address an acute illness (e.g. to care for a cold, flu, or physical injury; 50%) or chronic illness (e.g. to care for diabetes or cancer; 14%). Participants could select more than one option regarding the reason for their visit. In all, 54 percent completed our survey within 3 months of seeing their clinician, 31 percent between 3 and 12 months, and 14 percent the visits occurred more than a year prior to completing our survey. In total, 51 percent of the participants had been with the clinician for more than a year, 17 percent between 1 and 11 months, and for 32 percent of participants, this was their first visit with the clinician.

**Procedures.** Trained undergraduate research assistants recruited participants from their social networks to complete an online questionnaire. The research assistants did not know the study's hypotheses and were simply instructed to ask participants to complete a questionnaire about their most recent medical visit. The research assistants were instructed to oversample non-undergraduate students, and the age distributions in our sample suggest that we were successful in recruiting an adult sample that was not dominated by undergraduate students.

**Measures.** Participants answered questions about their most recent medical visit. Patient satisfaction with the clinician was assessed using a one-item measure ("I was satisfied with the care I received from my doctor"); the scale included all numbers from 1 to 7 with the following labels: 1=*strongly disagree*, 3=*somewhat disagree*, 5=*somewhat agree*, 7=*strongly agree*; Robbins et al., 1993;  $M=5.81$ , standard deviation ( $SD$ )=1.44). Participants also responded to a set of items designed to measure their clinician's PCSs (27 items total). Items from the Multifactor Leadership Questionnaire (Bass and Avolio, 1991) were selected and modified to reflect clinician-patient relationships in the medical context instead of leader-follower

relationships. The items were presented in a random order so that items pertaining to each style were not grouped together.

Sample items for each component are presented below according to their PCS. Participants responded to the stem prompt: "My clinician ...": (1) *passive-avoidant*, 7 items,  $\alpha=.80$ ; for example, "Fails to interfere until my health issues become serious," "Avoids making decisions with regard to my health";  $M=1.97$ ,  $SD=1.14$ ; (2) *transactional*, 7 items,  $\alpha=.83$ ; for example, "Makes clear what I can expect to receive when health goals are achieved," "Directs my attention toward failures to meet standards set for my health";  $M=2.22$ ,  $SD=1.00$ ; and (3) *transformational*, 13 items,  $\alpha=.93$ ; "Gets me to look at my health problems from many different angles," "Expresses confidence that my health goals will be achieved";  $M=.54$ ,  $SD=1.00$ . Because the transformational style has more components, this style required more scale items than the other two styles.

### Data analysis

We first created a composite score for each style by averaging items across components within each of the three styles. We then tested our hypotheses using hierarchical multiple regression. We used hierarchical multiple regression because we were interested in each style's unique contribution to variance in patient satisfaction. In particular, we wanted to partition variance of the outcomes by each PCS. Because transactional PCS may represent an adequate model of care in some situations but may be insufficient for others, we specifically examined the effects of transformational PCS above and beyond the effects of transactional PCS (i.e. an augmentation effect; Seltzer and Bass, 1990). We entered the predictor variables in four steps: (1) control variables (age, income, education, race, sex, elapsed time from medical visit to survey completion, and length of relationship with clinician),<sup>1</sup> (2) passive-avoidant PCS, (3) transactional PCS, and (4) transformational PCS. Because of the high correlation between transactional and transformational PCS, we



examined their collinearity by regressing transactional PCS onto transformational PCS. The resulting tolerance was higher than .20, which suggests that the estimated coefficients are reliable in the following regression models (Miles and Shevlin, 2001).

## Results

Results from step 1 showed that only the length of relationship with clinician and elapsed time from medical visit to survey completion were significant predictors of patient satisfaction with clinician,  $\beta = .17$ ,  $p = .04$  and  $\beta = -.19$ ,  $p = .02$ , respectively; all other  $\beta$ s  $< .10$ ,  $ps > .10$ ;  $R^2 = .14$ ,  $F(10, 148) = 2.12$ ,  $p = .03$ . In step 2, the passive-avoidant style did not account for additional variance,  $\beta = .11$ ,  $\Delta R^2 = .01$ ,  $F(1, 147) = 2.09$ ,  $p = .20$ . In step 3, the transactional style significantly and positively accounted for additional variance in satisfaction,  $\beta = .85$ ,  $\Delta R^2 = .26$ ,  $F(1, 146) = 62.13$ ,  $p < .001$ . In step 4, transformational PCS significantly and positively explained yet additional variance in patient satisfaction,  $\beta = .35$ ,  $\Delta R^2 = .03$ ,  $F(1, 145) = 8.07$ ,  $p < .01$ ; total  $R^2 = .44$ .

## Study 2

Study 1 relied exclusively on patient-reported evaluations of their clinicians' PCSs, which may reflect biased perceptions of their clinicians. In contrast, Study 2 used audio recordings of clinician–patient interactions to more objectively evaluate clinicians' PCSs. Additionally, Study 1 asked participants to rate their most recent medical encounter, whereas Study 2 involved medical interactions with only primary care providers. Despite many apparent differences between the two studies, the fundamental question (i.e. do PCSs predict patient outcomes?) is the same.

## Method

**Description of data set.** We used data from the *Clinician–Patient Communication to Enhance Outcomes (CPC)* program conducted by the Institute for Healthcare Communication (formerly the

Bayer Institute for Health Care Communication) in 1994–1998. Clinician–patient interactions were audio recorded with patient and clinician consent, and both parties completed post-visit questionnaires. For confidentiality purposes, each audio recording was assigned a unique number identifying the clinician, patient, and practice site. Because these recordings are from primary care visits, the visits vary greatly in length, with some interactions lasting well over 30 minutes.

**Sample characteristics.** The sample consisted of 297 patients (55% women; 58% White/Caucasian, 21% Asian, 7% Hispanic, 6% African American, and 8% did not state) and 100 clinicians (39 female; 47 White/Caucasian, 44 as Asian American, 7 Hispanic, and 2 African American) with an average age of 37.59 years ( $SD = 9.63$ ).

**Procedures and measures.** Four raters coded each audio recording and each rater coded approximately 100 audio recordings. Recordings were provided to raters in a counterbalanced order to reduce fatigue effects (Haskard et al., 2008). Raters listened to the full audio recording of each interaction and then evaluated the clinician on items representing the components of PCSs. Raters received two waves of training. In the first wave, each item on the rating scale was explained in great detail to ensure there was consensus on the meaning of each item. All raters then listened to the same audio recording (not included in the sample) and provided initial practice ratings. Then the raters, along with the first author, discussed each item at length with regard to the target audio recording. The goal of this exercise was not necessarily to gain consensus for the ratings themselves but for the raters to fully comprehend the meaning and intent of each item. In the second wave of training, raters listened to and coded two additional audio recordings and discussed them in a group with the first author until consensus was reached about the meaning of each item. Inter-rater reliability was satisfactory (intraclass correlation coefficient (ICC) = .71; Shrout and Fleiss, 1979), which enabled us to appropriately average the

raters' scores across each item if there was disagreement between raters during data analysis.

**Rating measures.** Items describing PCSs were reworded and presented from an observer perspective. Each item was rated on a 1–7 scale with two anchors, 1 = *not at all*, 7 = *a great deal*. For example, “The clinician avoids responding to urgent questions” (*passive-avoidant*,  $M=1.37$ ,  $SD=.38$ ); “The clinician sets clear goals for patient’s health and specifies the benefits of achieving these goals” (*transactional*,  $M=4.62$ ,  $SD=1.15$ ); “The clinician expresses confidence in the patient’s ability to become or stay healthy” (*transformational*,  $M=4.22$ ,  $SD=.87$ ).

**Patient questionnaire from CPC program.** Post-visit patient-reported questionnaires collected in the original study were marked by the same identification number as the audio recordings to permit linkage between the measures. The questionnaire included an assessment of the patient’s satisfaction with the clinician (“How would you rate the overall care you received from the doctor who treated you today?”; 1 = *poor*, 5 = *excellent*; Robbins et al., 1993;  $M=4.47$ ,  $SD=.80$ ) and their expectation for their future health status (“I expect my health to get worse”; 1 = *definitely true*, 5 = *definitely false* (reverse coded); Ware and Sherbourne, 1992;  $M=3.73$ ,  $SD=1.17$ ).

## Data analysis

Due to the clustered nature of the data (patients nested within clinicians), which can violate the independence assumption in regression analyses, we began using multilevel modeling (MLM) to explore the data. MLM is advantageous because it allowed us to partition the error variance at the appropriate level of analysis (either at the patient or clinician level; Raudenbush and Bryk, 2002). For each of the outcomes (satisfaction and patient’s health expectations), we tested an unconditional analysis of variance (ANOVA) model in HLM 7 Student Edition (Raudenbush and Bryk, 2014). We examined the ICC to determine

whether the proportion of variance in each outcome was due to differences between clinicians rather than differences between patients treated by the same clinician. A large ICC indicates that patients seeing the same clinician are very similar and/or that there are great differences across clinicians (Adelson and Owen, 2012). MLM should only be used when ICCs are greater than .10 (Lee, 2000). If ICCs are less than .10, we would examine our hypotheses using hierarchical multiple regression, similar to Study 1. For both outcomes, neither of the ICCs were greater than .06 (test of  $U_0$  is not significant at the  $\alpha < .05$  level, all  $\chi^2s(98)=96.71$ ,  $ps > .13$ ). These results indicated that patients are quite different within clinician groups and/or there are not great differences across clinicians, and more importantly, we would be unlikely to violate the independence assumption when conducting regression analyses. Therefore, we continued to use hierarchical multiple regression to examine our hypotheses.

Similar to Study 1, for each of the outcomes, we entered the predictor variables in four steps: (1) control variables (patient sex, income, education, and race), (2) passive-avoidant PCS, (3) transactional PCS, and (4) transformational PCS. Tolerance values were all higher than .20, which indicated that collinearity was not an issue (Miles and Shevlin, 2001).

## Results

**Patient satisfaction.** Results from step 1 showed that the control variables did not account for significant variance in patient satisfaction, all  $\beta s < .10$ ,  $ps > .10$ ,  $R^2 = .02$ ,  $F(8, 282) = .65$ ,  $p = .73$ . In step 2, passive-avoidant style did not account for additional variance,  $\beta = -.07$ ,  $\Delta R^2 = .01$ ,  $F(1, 281) = 1.46$ ,  $p = .23$ . In step 3, the transactional style also did not account for additional variance in satisfaction,  $\beta = .03$ ,  $\Delta R^2 < .01$ ,  $F(1, 280) = .23$ ,  $p = .63$ . However, in step 4, transformational PCS significantly explained additional variance in patient satisfaction,  $\beta = .22$ ,  $\Delta R^2 = .02$ ,  $F(1, 279) = 5.22$ ,  $p = .02$ ; total  $R^2 = .04$ .

*Patients' health expectations following visit.* Results from step 1 showed that only patients' sex predicted expectation of health status, such that males expected poorer health after the visit,  $\beta = -.21$ ,  $p < .001$ ; all other  $\beta$ s  $< .10$ ,  $ps > .10$ ;  $R^2 = .07$ ,  $F(8, 282) = 2.62$ ,  $p < .01$ . In step 2, passive-avoidant PCS negatively predicted patients' health expectations following visit,  $\beta = -.16$ ,  $\Delta R^2 = .02$ ,  $F(1, 281) = 7.54$ ,  $p < .01$ . In step 3, transactional PCS did not account for additional variance in expectations,  $\beta = .01$ ,  $\Delta R^2 < .01$ ,  $F(1, 280) = .04$ ,  $p = .85$ . In step 4, transformational PCS significantly and positively explained additional variance in patients' health expectations following visit,  $\beta = .22$ ,  $\Delta R^2 = .02$ ,  $F(1, 179) = 5.47$ ,  $p = .02$ ; total  $R^2 = .11$ .

## Discussion

In two studies, we examined the predictive power of clinicians' styles of patient care. In increasing order of effectiveness, these styles are passive-avoidant, transactional, and transformational. Clinicians who primarily use a passive-avoidant style tend to not be engaged in their patients' care, whereas clinicians who use a transactional style may set strict guidelines for their interactions with their patients. In contrast, the transformational style characterizes clinicians who are not only actively involved in their patients' care, they also serve as a role model for the patients, ask questions that stimulate patients to think about their health in new ways, and display optimism about their patients' ability to initiate and maintain health behaviors.

We hypothesized that the passive-avoidant PCS would have either no effect or a negative effect on patient outcomes. In two studies, we found support for this hypothesis. Specifically, we found that the passive-avoidant style was unrelated to patient satisfaction but was negatively related to patients' expectations for their future health (albeit weakly). One explanation for these outcomes is that passive-avoidant clinicians are ineffective at motivating their patients toward improved health. However, we should note that the null relationships between this style and certain patient health outcomes

may result from a range restriction issue. Patients rated their clinicians very low on this style, and coders also rated this style with low scores, which confirms our suspicion that clinicians rarely display this style in reality.

Additionally, we hypothesized that transactional clinicians would be effective in promoting positive patient health outcomes to some degree. We found mixed support for this hypothesis. Transactional PCS positively predicted patient satisfaction (in Study 1, but not Study 2) but did not predict patients' health expectations following their visit. These inconsistent findings support the notion that in certain situations, transactional clinicians can improve patient health outcomes, but this style may not maximize clinicians' impact.

Finally, we hypothesized that transformational clinicians would be most effective in motivating patients toward attaining positive health outcomes. This hypothesis was fully supported in both the studies. Transformational PCS positively and consistently predicted patient satisfaction and patients' expectations for their health following the visit. These findings suggest that not only do clinicians need to provide information and suggest appropriate strategies, but they also need to motivate patients toward their health goals to be truly effective (DiMatteo et al., 2012). Additionally, the findings support an augmentation effect (Seltzer and Bass, 1990). Even when transactional and transformational PCS accounted for overlapping variance in a given outcome, transformational PCS explained additional unique variance. These findings indicate that clinicians may indeed gain more satisfied patients by displaying transactional PCS, but to consistently maximize satisfaction, clinicians need to engage in transformational PCS.

## Limitations and future directions

The primary strengths and weaknesses of our article stem from the pairing of two different studies with different methods and measurements. Study 1 asked participants to rate their most recent medical encounter, whereas Study 2 revealed real-time



dynamics in primary care visits. Study 1 measured PCSs directly (evaluated by the patient), whereas Study 2 measured PCS from coders' ratings of audio recordings. Taken together, the largely consistent findings support the PCS approach; however, future research can strengthen these findings by addressing limitations with methodology and common source data.

Regarding methodological inconsistencies, the mixed methods between Studies 1 and 2 added robustness to the findings, essentially providing a conceptual replication, but also weakened the comparability of our measured constructs. Future studies can examine PCSs across studies with identical outcome measures to provide greater clarity regarding the consequences of PCSs for patients' health and well-being.

We would also note that Study 2 used archival data that were collected over a decade ago, which may render some conclusions regarding PCSs out of date. Medicine has moved away from a paternalistic model toward a more patient-centered model in recent decades (Roter, 2000), thus transformational care (and not transactional care) may be increasingly common. Other aspects of care such as the length and nature of primary care visits may also be evolving. Although future research would do well to replicate our findings with more recent audio recordings of healthcare visits, we suspect that the patterns revealed in Study 2 would be consistent across time. That is, even if some styles of care are more or less common now than they were in the past, their association with patient outcomes is less likely to have changed.

An important limitation of both studies was that our findings were based on correlational data. Although we found support for hypothesized relationships between PCSs and patient outcomes, we could not establish causal links. For example, although transformational PCS is positively related to patient satisfaction, we do not yet know if transformational clinicians are engendering these effects in their patients. Future research should conduct interventions to randomly assign clinicians to PCS training

conditions to examine the potential causal effects of PCSs on patient outcomes.

## Conclusion

This article serves as the first empirical examination of clinicians' PCSs, which resulted from the integration of transformational leadership theory and health research. Through two studies involving a combination of patient-reported data and coder ratings of patient-clinician interactions, we found evidence for three primary styles: passive-avoidant, transactional, and transformational. Moreover, we found that the passive-avoidant style is unrelated to satisfaction, whereas transactional PCS is positively (if inconsistently) associated with these outcomes. Finally, we confirmed that transformational PCS is the most effective style, in that it is the only style to consistently and positively predict patient satisfaction and health expectations above and beyond the effects of demographic factors and the effects of the other styles of care. These findings suggest that the PCS approach is a valuable tool for organizing clinician behaviors and predicting meaningful patient outcomes.

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## Note

1. The purpose of the medical visit was also added as a control variable; however, it did not predict patient satisfaction,  $\beta_s < .06$ ,  $ps > .34$ , nor did it substantially alter the results of our key predictors.

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