

Provider Trust: A Useful Concept in Maternal Care

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Abstract: The maternal patient-provider relationship is important in birth experiences. However, no measures of obstetric patient-provider relationship quality exist, perhaps partially explaining why the concept has not been systematically studied in pre- and perinatal psychology and related fields. As a first step in this line of inquiry, we examined a care provider trust measure completed by 70 obstetric clinic patients along with state anxiety, fear of childbirth, and postpartum satisfaction measures. The trust measure performed similarly with our sample as in the original validation. Trust scores were similar across provider type (midwife vs. physician) and demographic variables. Correlations between trust, anxiety, and childbirth fear were low to moderate. The provider trust measure shows promise for advancing understanding of maternal and provider influences on the care relationship and outcomes.

Keywords: Pregnancy; childbirth; patient-provider relations; provider trust; prospective study; behavioral components; interpersonal components; unidimensional concept; continuity of care

Models of effective maternal care stress the maternal patient-provider relationship as critical in ensuring satisfactory childbirth experiences and related decision-making (e.g., Hodnett, 2002; Khan-Neelofour, Gulmezoglu, & Villar, 1998) and even in safer birth outcomes (e.g., Page, McCourt, Beake, Vail, & Hewison, 1999). Although provider qualities such as “rapport” and “communication” have been referenced (e.g., Sakala & Corry, 2008), systematic measurement of maternal patient-provider relationship quality has largely been overlooked. We conducted this study to address characteristics of a measure of maternal trust in care providers.

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Background on Medical Provider Trust

By definition, provider trust is an interpersonal/relational quality that involves one party's willingness to allow another to perform acts on her or his behalf (Mayer, Davis, & Schoorman, 1995). Thom and Campbell (1997) identified behavioral components of trust as those related to physician practices whereas interpersonal components related to communication and conveying understanding. Along similar lines, Hall and colleagues conceptualized provider trust as a unidimensional concept, operationally defined as comprising *fidelity*, or addressing patient needs fully and without competing interests, *competence*, *honesty*, *confidentiality*, and *global trust*, or the "soul" of trust. Among a variety of provider characteristics, trust may "prove to be the most fundamental" (Hall et al., 2002, p. 296) in mediating health behaviors and outcomes. In essence, trust in a medical provider reflects a relinquishing of some personal control and intensification of associated vulnerability.

As major physical and psychic transformations, pregnancy and childbirth carry with them unique vulnerabilities that increase the need to trust maternal medical provider(s). As one mother put it, giving birth "is as close as some of us will have come to death." For first-time mothers in particular, an impending birth experience represents a journey into a vast unknown, which contemporary U.S. birth culture tends to frame as dangerous and unpredictable (Soliday, 2012).

In addition, maternal care providers address the needs not only of their pregnant and birthing patients, but also of their offspring, which likely increases maternal sense of vulnerability with a provider. For these reasons, understanding maternal provider-patient trust is essential unto itself, as well as to further understanding of women's involvement in the birth process, including decision making and related outcomes.

Research on Maternal Trust in Care Providers

In discussing a prenatal patient with a rigid birth plan, Klein (1983) argued for examining and building trust in maternal care provider-patient relationships to reduce maternal fears and to promote the setting of realistic, flexible goals and expectations for childbirth. However, since then, little research has been conducted on provider trust within the obstetric population, particularly among pregnant women. In fact, we found only one peripherally

related study involving pregnant women: Lori, Yi, and Martyn (2011) interviewed African-American women on desirable qualities of prenatal care providers; interview themes indicated patient interest in provider qualities such as delivering compassionate care.

The handful of other studies have involved postpartum mothers and included measures that may apply to contemporary U.S. obstetric populations to a greater or lesser degree. In a study comparing Polish vs. Greek women's reports of physician trust (Krajewska-Kulak et al., 2011), a measure of trust based on a definition similar to Hall et al. (2002) successfully distinguished cultural groups with known differences in health care systems and maternal care practices. However, the trust measure (Anderson et al., 1990) had been validated to measure patients' trust in *physicians*. In U.S. maternal care, licensed midwives attend up to 9% of births (Martin et al., 2010) and provide a higher percentage of prenatal care; thus, a provider trust measure should apply to both non-physician and physician providers.

Two large scale studies were conducted from a health care marketing perspective, in which maternal trust in the care provider was conceptualized as a relationship feature critical to ongoing and successful obstetric clinic practice. Crutchfield, V. B. Eveland, and A. P. Eveland (2002) assessed over 1,000 former obstetric clinic patients within their first year postpartum using a 7-item, validated trust measure. However, only a single scale item focused on the provider whereas the rest focused on overall clinic practice (e.g., office staff). In a related study, Crutchfield and Morgan (2010) constructed a statistical model based on former obstetric patient reports of perceived provider trust and commitment; commitment more strongly associated with the patients' reported willingness to refer others to the provider and to levy practice-related complaints.

Trust vs. Continuity of Care

In studies stressing the importance of the patient-provider relationship, continuity of care – seeing the same provider throughout the course of prenatal care, labor, and delivery – is often placed at the forefront (e.g., Hundley, Ryan, & Graham, 2001; Oropresa, Landale, & Kenkre, 2002). However, most U.S. women, particularly those with fewer resources, have some restrictions on access to and choice among obstetric providers (American College of Obstetricians and Gynecologists [ACOG],

1996). Although midwifery models of care emphasize a good quality patient-provider relationship (Soliday, 2012), access to midwives varies by geographic location and professional culture. Furthermore, across midwifery and traditional obstetric clinics, there is a trend towards structuring provider schedules and rotating patients among care providers. Thus, potentially modifiable characteristics that cut across provider types and can be assessed from one provider to the next are of particular interest.

Summary and Study Aims

Patient-provider relationship quality has been identified as important in women's birth experiences and outcomes. Although continuity of care has been discussed as one aspect of the patient-provider relationship, trust in the care provider applies across providers, making it relevant in a culture of structured provider schedules and rotations. The author of one case study suggested that provider trust may help reduce childbirth-related fear (Klein, 1983); two studies conducted with postpartum mothers indicated that provider trust significantly related to behavioral intentions including "ease of voice," or raising complaints directly with providers. We found no quantitative study on provider trust among pregnant women. To address the need for further inquiry into provider trust in maternal care, we conducted this study to examine characteristics of an existing provider trust measure with a sample of pregnant women, including its association with demographic variables and other measures.

Method

Participant Recruitment

Prior to study initiation, study procedures were approved by the authors' Institutional Review Board. Participants were recruited from two women's health clinics, each employing midwives and obstetricians and serving a cross section of patients and averaging 20-30 new cases monthly in a U.S. Pacific Northwest region with slightly over 160,000 residents (80+% white; median income, US\$41,000). Inclusionary criteria were: age 18 or over, ability to complete study measures in English, lower-risk status, and planned vaginal delivery. Study

recruitment ran from January to June, 2011. Seventy patients, further described in *Results*, completed the time 1 assessments.

Materials and Measures

At Time 1, *demographic questions* included maternal age, parity, work status, race, maternal education (total years), relationship status, and insurance coverage. *Prenatal questions* included due date, risk status (low vs. higher-risk), planned birth mode (vaginal vs. planned cesarean), planned birth setting (hospital, home, center), primary prenatal attendant (physician, midwife), and number of prenatal visits attended and number attended with the provider they had seen most in prenatal care (one visit, 2-3 visits, 4+ visits).

Provider trust. The 10-item, self-report *Physician Trust Scale* (Hall et al., 2002) was used to assess pregnant women's trust in their maternal care providers because it was validated across provider types (i.e. physician and non-physician) and care settings. The scale is rated on a 1 (not at all) to 5 (a great deal) scale with a score range of 10-50. A sample item reads, "My care provider will do whatever it takes to get me all the care I need." Three items are negatively worded. Alpha reliability from original scale validation with a national sample was $\alpha = .93$, with a scale mean of 40.8 ($SD = 6.2$). All items correlated to the total scale at .59 or above, indicating that "trust" in this scale is a unidimensional construct. Time with physician and total number of visits correlated with trust .13 and .16, respectively; the correlation with satisfaction with physician (single item) was $r = .75$. The scale successfully predicted behavioral intentions such as likelihood of recommending provider or returning to the same care provider. For our purposes, term "physician" was changed to "care provider," and scale completion instructions asked respondents to report on the provider with whom they had had the most prenatal visits.

State anxiety. To assess whether provider trust would be distinct from other psychological states, we assessed state anxiety using a six-item, short form of the State-Trait Anxiety Scale (STAI-SF; Marteau & Becker, 1992). In scale validation, the STAI-SF alpha reliability was $\alpha = .82$, and its correlation exceeded $r = .90$ with the 20-item long form. The 6-item measure was originally developed and revalidated with a sample of 200 pregnant women. A sample item reads, "I am calm," and three

are reverse scored. Items are rated on a 1 (not at all) to 4 (very much), with a possible score range of 6-24.

Fear of childbirth. To assess fear of childbirth, a 10-item fear of delivery scale (K. Wijma, Alehagen, & B. Wijma, 2002) was selected because it is theoretically less strongly associated with anxiety than other fear of childbirth measures. A sample item reads, "I can manage this." Five items are negatively worded. Items are scored on a 1 (do not agree at all) to 10 (agree totally) scale; possible score range is 6-60, and alpha reliability in the validation study was $\alpha = .88$.

Birth satisfaction. Because provider trust is theoretically associated with but distinct from satisfaction with medical care (Hall et al., 2002), one item from the Labor Expectations and Experiences Scale (Slade, MacPherson, Hume, & Maresh, 1993) was used: "How satisfied do you feel with the care you received from any doctors who might have attended you during labor?" We modified term "any doctors" to "the doctor or midwife." The item was rated on a 1 (not at all satisfied) to 5 (very satisfied) scale.

Procedure

At a third trimester prenatal clinic visit, medical assistants handed prospective participants an announcement describing the study as a survey on mothers' views about childbirth and their feelings and listing inclusionary criteria. Mothers accessed the on-line survey with a unique login and password and were reimbursed with a \$10 gift card. Approximately one month postpartum, they were contacted via e-mail for part II of the study. Of the 70 participants who completed Time 1 assessments, 67 (95.7%) completed the postpartum follow-up.

Results

Table 1 contains descriptive statistics on the sample. On average, mothers were in their late 20s (range: 19-44 years), they had approximately two years of college education (range: 8-20 years), and most were married to or cohabiting with their partners. Half ($n = 35$) were first-time mothers. Fifteen (23.1%) were seen by midwives, and the remaining were seen by obstetric physicians. The average number of prenatal visits was 4.3 ranging from 2-9.

Table 1
Sample Description ($N=70$)

Variable	Mean or Frequency
Maternal age, years (M, SD)	28.2 (5.9)
Maternal education, years (M, SD)	14.2 (2.8)
Race, non-white (n, %)	10 (14.3)
Married or partnered (n, %)	60 (93.7)
Primiparous (n, %)	35 (50.0)
Midwife care (n, %)	15 (23.1)
Prenatal visits (M, SD)	4.3 (1.8)
Meetings with provider (n, %)	
1	46 (68.7)
2-3	6 (9.0)
4+	15 (22.4)

Scale Characteristics

The alpha reliability coefficient for the 10-item physician trust scale was $\alpha = .85$. Scores ranged from 26-42, with an average of 37.3 ($SD = 3.5$). This score compares to 40.8 obtained from the original scale national validation sample (Hall et al., 2002). The modal (most frequent) score was 40 ($n = 26, 40.6\%$). As shown in Table 2, average item scores were in the 3.5-3.9 range, indicating moderate to strong agreement with items such as, "My care provider is extremely thorough and careful."

Table 2
Item-total correlations and score range

Item	Mean	SD	I-T r
My care provider will do whatever it takes to get me all the care I need.	3.86	.35	.67
Sometimes my care provider cares more about what is convenient for him or her than my medical needs.	3.70	.58	.76
My care provider's skills are not as good as they should be.	3.82	.61	.39
My care provider is extremely thorough and careful.	3.85	.36	.74
I completely trust my care provider's decisions about which medical decisions are best for me.	3.72	.52	.75
My care provider is totally honest in telling me about all the different treatment options available for my situation.	3.86	.35	.69
My care provider only thinks about what is best for me.	3.52	.75	.58
Sometimes my care provider does not pay full attention to what I am trying to tell her or him.	3.74	.59	.48
I have no worries about putting my life in my care provider's hands.	3.54	.73	.77
All in all, I have complete trust in my care provider.	3.71	.52	.78

Note: I-T r – Item-total correlation

Trust Scale Correlations with Demographic Variables and Other Related Constructs

Forty six mothers (68.7%) reported they had met the provider who had seen them “most” in prenatal care only once; six (9.0%) had met the “most seen” provider 2-3 times, and 15 (22.4%) had met the “most seen” provider 4+ times. A t-test conducted on trust scores by “low” (one visit; $n = 46$) vs. “high” (4+ visits, $n = 15$) contact with the provider was nonsignificant, $t(59) = -.71$, $p = .48$, $M = 37.1$ ($SD = 3.5$) and $M = 37.8$ ($SD = 1.2$), respectively.

A t-test on trust by parity (nulliparous vs. multiparous) approached significance, $t(65) = -1.90$, $p = .06$, $M = 36.5$ ($SD = 4.1$) and $M = 38.1$ ($SD = 2.6$), respectively. Trust scores did not differ by care provider (midwife or OB physician), $t(65) = .61$, $p = .55$, $M = 37.4$ ($SD = 3.5$) and $M = 36.8$ ($SD = 3.6$), respectively. Trust scores did not differ by race, $t(65) = -.43$, $p = .67$, $M = 37.2$ ($SD = 3.6$), White mothers, and $M = 38.0$ ($SD = 2.8$) in nonwhite mothers. Relationship status could not be tested due to insufficient number of mothers without partners.

Pearson's correlation coefficients were conducted on the demographic variables maternal age, education, family income and number of times met provider (see Table 3). Correlations ranged from $r = -.05$ (trust/income) to $r = .19$ (trust/education); none was significant.

Because differences on trust measure scores approached significance, we conducted t-tests to assess whether to include parity as a factor in remaining analyses. Anxiety (STAI), fear of childbirth (FOC), and satisfaction item scores did not differ significantly by parity, with p values ranging from .36 on the FOC scale (mean of 42.3 for primiparous; 44.1 for multiparous) to .98 on care satisfaction (mean of 4.2 for primiparous; 4.2 for multiparous). Scale intercorrelations were therefore conducted on the whole sample and included those between the trust scale, STAI, fear of childbirth (FOC), and the satisfaction item (see Table 3). Higher fear of childbirth scores significantly correlated with higher trust scores, $r = .36$ ($p < .05$). Trust and STAI scores did not correlate significantly; nor did trust and postpartum provider satisfaction ($r = -.02$, $p = 1.0$).

Table 3
Correlations between demographics, trust scale, and additional scales

	Age	Ed	Inc	Met	Trust	STAI	FOC	Sat
Age	-	.22	.52*	.01	.06	-.02	.12	.20
Ed		-	.13	.01	.19	-.09	.16	.04
Inc			-	-.19	-.05	.12	-.02	.14
Met				-	.11	.03	.15	.05
Trust					-	.29	.36*	-.02
STAI						-	.51*	.13
FOC							-	.27
Sat								-

Notes: Ed – maternal education; Inc – family income; Met – number of times met provider; STAI – State Anxiety Inventory; FOC – fear of childbirth; Sat – birth care satisfaction item

* $p < .05$

Discussion

Our study is the first to systematically assess provider trust in a sample of pregnant women. Properties of the trust measure and findings on its relationship with demographic variables, provider type, and existing measures of related but distinct constructs provide insight important to advancing understanding of the maternal patient-provider relationship. Those insights, in turn, have important research and clinical implications.

Of chief importance, our study makes available a provider trust measure appropriate to use in researching clinical aspects of contemporary obstetric care. Thirty years ago, Klein (1983) suggested that assessing patient-provider trust during pregnancy may help reduce fear of childbirth. Since then, only a few studies have involved systematically assessing obstetric patients' trust in their providers. We aimed to address certain of their limitations, beginning with the fact that we were unable to find a single study involving measurement of provider trust in pregnancy (as opposed to postpartum). In a study of provider trust assessed postpartum, the measure had been validated for use only with physician providers (Krajewska-Kułak et al., 2011), whereas the measure we used was designed for use with non-physicians as well. Thus, our study measure is better suited to the 21st century obstetric population because a growing number is seen by non-physician providers.

In addition, our measure centers on interpersonal qualities of trust, distinguishing our work from earlier studies using otherwise psychometrically sound measures focused largely on consumer-oriented care aspects such as office organization (Crutchfield et al., 2002; Crutchfield & Morgan, 2010). We chose an interpersonally-oriented measure assuming that the relational

qualities of provider trust would be more important than consumer-oriented qualities in clinical outcomes such as fear of childbirth and the birth experience. We based this assumption partly on qualitative findings indicating that patients viewed providers' relational styles as central in maternal care (Lori et al., 2011). With psychometric data now available on differently oriented provider trust measures, the question of which properties might better predict clinically relevant outcomes can be formally tested.

From a psychometric perspective, our results indicated that the trust measure performed soundly in a pregnant sample with results similar to the original validation study of over 1,000 primary care patients (Hall et al., 2002). For example, internal consistency reliabilities exceeded $\alpha = .85$ in both the validation study and ours, indicating that individual scale items related to the core trust concept with a general primary care and obstetric sample. Also similar to the validation study, we found a low ($r = .11$) correlation between number of provider meetings and trust; the validation study correlation was a nonsignificant $r = .16$ (Hall et al., 2002). The low correlation in our study and related nonsignificant difference between "low" (one visit) and "high" (four plus visits) contact groups may have resulted from the low rate of prenatal visits with the same provider, with 69% of mothers reporting not having seen the same provider more than once across an average of 4.3 prenatal appointments.

As well as the measure performed with our sample, certain differences between our findings and those of the original validation study should be mentioned. First, two items showed lower item-total correlations in our study than they did in the national sample: "My provider's skills are not as good as they should be," (.39, our study; .59, Hall et al., 2002) and, "Does not pay full attention" (.48 vs. .68). Because prenatal visits are generally routine checks, provider skill or attention may be less important than in symptom- or problem-focused medical appointments. Second, in the original validation study, a physician satisfaction item and the trust scale correlated $r = .75$ (Hall et al., 2002), whereas the correlation in our sample was $r = -.02$. The discrepancy likely relates to the time lapse between our administration of trust and the satisfaction measures, which ranged from 1-4 months, compared to Hall et al. (2002), who administered measures concurrently. In addition, birth attendants were not likely the same individuals as those on whom mothers completed their trust measures, and if they were,

comparing routine prenatal care to care under labor stress is akin to comparing the proverbial apples to oranges.

Clinical Implications

Among the most important clinical implications of this work is that, regardless of maternal age, education, income, race, or even parity, trust scores remained in the moderate-to-high range. Trust scores were also comparable between patients of midwives and those of obstetricians. As a whole, the results indicate that providers can take comfort in the trust bestowed by their patients, although that trust, of course, comes with responsibilities.

One specific provider responsibility in the maternal care relationship could include appropriately responding to maternal anxiety and fear of childbirth, both of which correlated positively and significantly with provider trust. In other words, *higher* trust correlated with *higher* anxiety and with *higher* fear of childbirth. In the context of a provider relationship a mother views as trustworthy, it is possible that negative feelings such as anxiety and childbirth fears will surface. Our speculation is consistent with the suggestion by Klein (1983) that providers should build trust in order to reduce childbirth-related fears. Based on our results, we might rephrase Klein's statement to say that providers should build trust to allow anxiety and fears to surface, and that the most effective response may involve additional clinical skill or resources.

For example, appropriately treating anxiety and fear of childbirth would first require distinguishing whether fear and anxiety were generalized or focused on childbirth itself, as the two conditions warrant different treatments (Wenzel, 2010). In our study, the correlation between fear of childbirth and anxiety was $r = .51$, which indicates some overlap but also independence of the two constructs. Effective treatments for excessive anxiety in pregnancy have been established and include various medical (pharmacological) and non-medical options such as cognitive-behavioral therapy and interpersonal approaches (e.g., Lederman, 1995; Misri & Kendrick, 2007; Wenzel, 2010). In contrast, few established treatments for fear of childbirth exist. Midwife-led counseling has shown some if not limited success (Ryding, Persson, Onell, & Kvist, 2003); more effective have been psychologist-led psychoeducational groups and group treatments involving relaxation strategies (Rouhe et al., 2013; Saisto, Toivanen, Salmela-Aro, & Halmesmaki, 2006). Whether treating

fear of childbirth or anxiety in pregnancy, increasing availability of and access to appropriate treatment seems essential to ensuring maternal well-being.

We wish to reiterate that the first step in identifying a need to treat anxiety or fear of childbirth is the building of a trusting provider-patient relationship which would then allow distress to surface. Of course, maternal trust in a provider (and our measure thereof) is subjective and may reflect as much or more about the patient as her provider. Still, items from our measure of provider trust suggest that provider behaviors important in building patient trust would include listening and communicating effectively, practicing with skill and competence, and minimizing competing interests. We have as a future goal an observational study of provider behavior alongside maternal reports to help distinguish between characteristics of provider trust that are primarily patient perception vs. those that are shaped by provider behavior.

Results of our study generated important insights related to measuring provider-patient trust in maternal care, but we should mention its limitations. We used a modestly sized convenience sample, and further studies on our part will involve larger samples and more non-white participants. Similarly, data from clinics with distinctly different approaches to care may have resulted in more variability in the provider trust measure.

Nonetheless, our findings indicated that an existing measure of provider trust performed acceptably in a pregnant population and was sufficiently separate from other maternal measures, including state anxiety and fear of childbirth. In contrast to results from the original validation study in which provider trust correlated highly with provider satisfaction, our study did not indicate a correlation, most likely due to our longitudinal method and the related fact that maternal views on providers likely differ considerably between the experiences of healthy pregnancy checks and birth. Consistent with the validation study, however, our measure was uncorrelated with the number of times mothers had met their providers. With that in mind, trust in a provider likely reflects an evaluation of provider behaviors or characteristics that have yet to be elucidated, or provider trust reflects characteristics inherent within the mother, or both. In a culture of evolving models of health and maternal care, continued study of maternal patient-provider trust is essential.

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