



# Understanding the use of attachment theory applied to the patient-provider relationship in cancer care: Recommendations for future research and clinical practice

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## ABSTRACT

Patient attachment styles may inform how patients react differently to the stress of being diagnosed with cancer, as well as how patients may desire to interact and be supported by their provider. The objectives of this study were two-fold: 1) to conduct a systematic scoping review to clarify how attachment theory is utilized and applied within the current body of research on the patient-provider relationship within cancer care, and 2) add to the existing body of literature by introducing an integrated model of patient attachment styles and patient-provider relationships for use in clinical and scholarly work. A systematic search of multiple databases including PubMed, Google Scholar, PsychInfo, and WorldCat was conducted using variations and combinations of keywords related to patient-provider relationship, attachment style, and cancer. The nine studies included in the review were published from 2011 to 2019. The majority of studies had participant samples with multiple cancer diagnoses (n = 5) and examined attachment as an independent or predictor variable (n = 6). Results suggest that a secure attachment was predictive of a better working alliance, more perceived support, less general distress, higher levels of trust and satisfaction with healthcare providers when compared to patients with an insecure attachment style. Data from the current review suggest that using an attachment theory framework can improve the understanding of the patient-provider relationship. We propose a conceptual model that aligns patient attachment style and patient-provider relationship types to be utilized in clinical practice in future research to tailor patient-centered cancer care.

## 1. Introduction

A strong, therapeutic patient-provider relationship is crucial for effective and optimal patient-centered care (PCC). This relationship may be particularly important in the management of chronic-illness such as cancer, due to the length and development of the patient-provider relationship [1]. Within the context of cancer, the patient-provider relationship is unique due to the intensity and duration of care [2,3]. As such, the patient-provider relationship within patient-centered cancer care is particularly important and nuanced. Patients who are diagnosed with cancer experience a profoundly stressful circumstance and often need comfort and security from their provider. Unfortunately, the health system in the United States faces enormous challenges delivering PCC, and patient-centered processes may occur in less than half of clinical encounters [4–6].

There are multiple barriers to PCC in cancer care for both the patient and the provider. For example, patient difficulty in processing information may be compounded by treatment side effects, while provider underpreparedness and discomfort may lead to difficulty in discussing emotionally charged topics like prognosis [7–10]. To date, improvements in patient-centered cancer care have largely focused on developing models-of-care and curriculum that address provider communication and engagement of patients in their healthcare [11,12]. While these factors are undoubtedly important to PCC, it is also possible that these approaches oversimplify the distinct and essential roles the patient and provider play in their relationship. Specifically, patients often view their provider as an “expert” in medical knowledge with the skills to extend the quality and quantity of their life [13]. In turn, the provider considers the patient as the “expert” relative to their own preferences and values related to treatment [14]. Patients may,

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however, have very divergent expectations regarding the role that they and their providers should play within their relationship relative to decision-making. Therefore, true PCC requires adapting the clinical relationship in a way that is most comfortable and engaging for the individual patient rather than generalizing the patient role or “standardizing” every patient-provider relationship.

Applying a theoretical framework from relational science to the patient-provider relationship in the context of cancer care may facilitate an understanding of interpersonal patterns to help tailor PPC to unique patient needs [15–19]. To this end, there has been an increased interest in the application of Attachment Theory to health behavior and outcomes [17,20–23]. Attachment theory and attachment styles can be defined as working models or patterns of how individuals function and interact within significant relationships [18]. The theory is most well known for its application to the bonds that form between an infant and their parent. Infants are dependent on their primary caregivers for survival and engage in behaviors (e.g., crying, reaching) that signal an unmet need. The caregiver responds to that need by providing feelings of safety and acts as a “secure base” for the infant as they explore their environment. However, the caregiver may be inconsistent, harsh or neglectful in their response to an infant’s unmet needs. Based on the response of the caregiver and the developmental stage of the child, original primal behaviors evolve as the child attempts to maintain proximity to the caregiver and regain feelings of safety/security. This interpersonal dynamic can be classified as an “attachment style” and serves as a “template” or working model for how significant relationships function, even into adulthood [24–28].

Adult attachment styles are most commonly assessed in two dimensions: attachment anxiety and attachment avoidance. These dimensions classify self-regulation strategies of an individual to seek

emotional proximity to an attachment figure while under duress. Individuals who are high on the anxiety dimension fear abandonment and rejection and thus, exhibit “clingy” and “controlling” behaviors to feel safe and secure. High scores on the avoidance dimension denote mistrust of others and are characteristic of individuals who would rather cut-off a relationship, or avoid one entirely, so as to not feel hurt or disappointed by an unavailable attachment figure [29]. An individual can be characterized as high or low relative to these dimensions and subsequently classified as securely or insecurely attached, with secure individuals scoring low on both avoidance and anxiety (vs 3 insecure subtypes: preoccupied/anxious, dismissing/avoidant, fearful/avoidant)(Fig. 1) [27,30–33].

In the field of Psychotherapy, there is a well-established connection between attachment styles, as well as individual-level (e.g. early termination) and dyadic (e.g. working alliance) outcomes [34,35]. Specifically for working alliance, a recent meta-analysis revealed that individuals with greater attachment security reported stronger alliance (weighted effect size:  $r = 0.17$ ,  $p < 0.001$ ), which may be due in-part to the development of trust and bonds being an important component of both concepts [35]. Insecurely attached patients may have difficulty forming an alliance, which is important as the quality of alliance is one of the strongest predictors of positive treatment outcomes [34,36,37]. Similar patterns have emerged within the healthcare context; secure attachments have been associated with better treatment outcomes among patients with other chronic illnesses such as diabetes, including adherence to treatment, and fewer negative affective symptoms like depression [17,38,39]. In contrast, insecure attachment has been correlated with a higher risk of negative physical symptoms, comorbid diagnoses, healthcare utilization, and increased challenges within the patient-provider relationship [17,18,23,40].

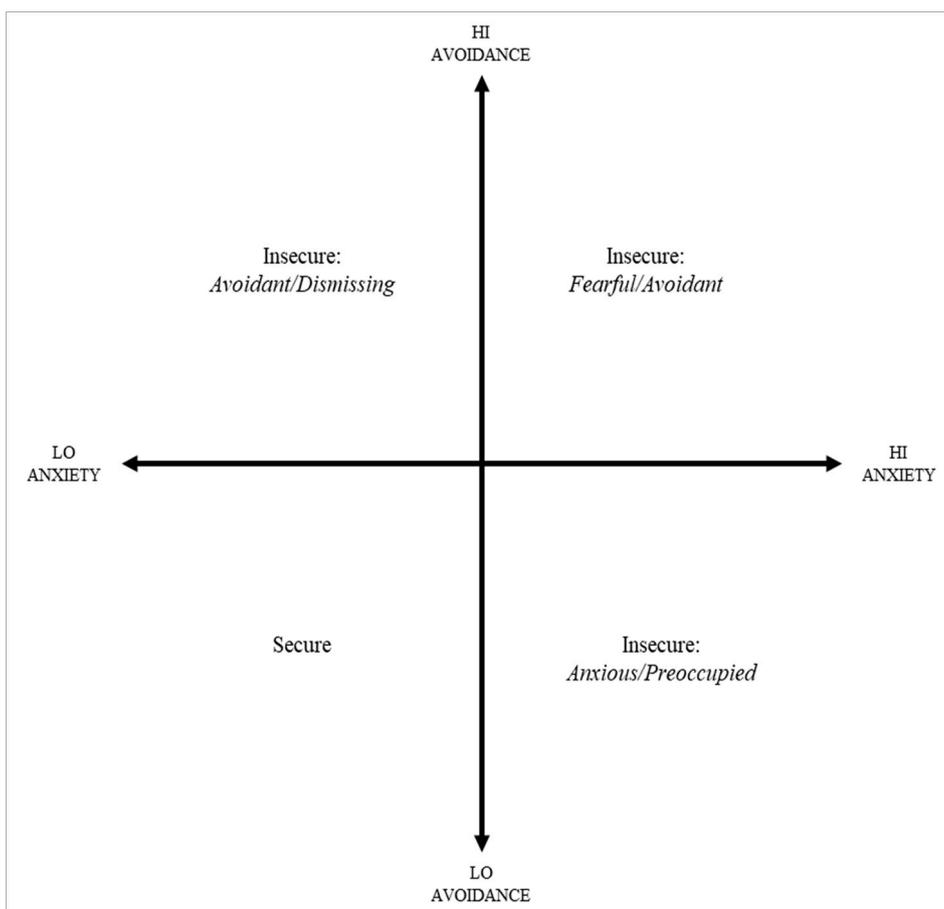


Fig. 1. Adult attachment styles using dimensions of anxiety and avoidance adapted from Fraley & Shaver, 2000.

Attachment behaviors are often triggered when an individual attempts to seek comfort and security to cope with triggering stressful situations such as a cancer diagnosis [41]. As the “expert” in the room, the provider often fulfills the role of attachment figure for the patient [42,43]. An understanding of the varied patient attachment styles may inform how patients may react differently to the stress of being diagnosed with cancer, as well as how patients may desire to interact and be supported by their provider [23,44,45]. As such, applications of attachment theory to patient-provider alliance within cancer care may be particularly important, as well as inform the provider’s tailored approach to patient behaviors to ensure optimal patient-centered treatment. Therefore, the objective of the current study was to conduct a scoping systematic review to define the impact of attachment theory on the patient-provider relationship within cancer care. We also sought to propose an integrated model of patient attachment and patient-provider relationship styles for use in clinical and scholarly work.

## 2. Methods

### 2.1. Search strategy

A scoping systematic review was conducted in accordance with the recommendations established by Peters and colleagues, as well as the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) [46,47]. Scoping systematic reviews are appropriate to address broad research questions and summarize literature that has a variety of methodological designs and cuts across disciplines. Scoping systematic reviews are also useful to identify current gaps in the literature to inform future research [46]. Therefore, a scoping systematic review was the best methodological approach to meet the objective of the current study.

Preliminary searches were conducted using a broad range of databases including Google Scholar and WorldCat. Databases included in WorldCat comprise Academic OneFile, Academic Search Complete, MasterFILE Complete, Newspaper Source Plus, OALster, Oxford Scholarship Online, and WorldCat.org. Content specific databases including PubMed and PsychInfo were also searched. Variations and combinations of keywords related to the patient-provider relationship (e.g., “interaction”, “dynamic”, “patient-provider”, “relationship”, “alliance”), attachment style (e.g., “attachment theory”), and cancer (e.g., “oncology”, “malignancy”, “cancer”) were used in the search strategy. Articles that discussed attachment in a colloquial sense and not directly related to attachment theory were not included. Articles that were empirical, published between 1990 and 2019, published in or translated to English in a peer-reviewed publication, as well as articles focused on adults diagnosed with cancer were included. Articles that passed the initial screening procedure were further reviewed for inclusion and exclusion criteria. Articles without a sample that included patients diagnosed with cancer or if the chronic illness diagnosis within the sample was not specified were excluded; articles that did not examine attachment theory within the context of the patient-provider relationship were also excluded. Eleven articles were identified that were reviewed and discussed by EPK and JMH to obtain agreement on inclusion and data extraction. One article was excluded because the concept of attachment was discussed, yet not actually examined in the study.

### 2.2. Data analysis

The final 10 articles were uploaded to NVivo software for data extraction. Each article was uploaded as an individual case and nodes were created for each variable of interest including the year of publication, cancer diagnosis, stage of treatment, country of research, attachment measurement, attachment variable type (e.g., outcome, predictor), and summary of findings. Each article was coded for the

variables of interest by the first author (EPK). A framework matrix (i.e., aggregated results table) was exported from NVivo to facilitate examination and discussion of the coded data by other members of the research team. Coded data were clarified as needed until the study team reached agreement. The original framework matrix was then consolidated into a summary table (Table 1).

## 3. Results

### 3.1. Study characteristics

All ten studies were published after 2010, with the most recent study published in 2019 [48]. Half of the articles did not examine a singular malignancy type ( $n = 6$ ). Instead, the studies included patients with various tumor types, including prostate ( $n = 3$ ), intestinal ( $n = 4$ ), brain ( $n = 1$ ), gynecologic ( $n = 3$ ), and “mixed” or non-specified diagnoses ( $n = 2$ ) [48–52]. Four studies focused solely on breast cancer patients [53–56]. Attachment theory was utilized across the cancer treatment continuum; two studies focused on patients at the end of life (e.g., hospice, end-stage), while a other studies examined patients before or after cancer treatment including pre- or post-surgery ( $n = 4$ ) and after radiation therapy ( $n = 1$ ). Studies were conducted in Italy ( $n = 1$ ), United Kingdom ( $n = 3$ ), France ( $n = 1$ ), the Netherlands ( $n = 3$ ), Israel ( $n = 1$ ), and Poland ( $n = 1$ ).

### 3.2. Attachment theory and measures

Most studies examined attachment theory as a predictor or independent variable ( $n = 6$ ) [48,53,54,56–58]. No study examined attachment as an outcome or dependent variable, whereas three studies assessed attachment as a mediator or moderator variable [51,52,55]. Various measures of attachment were utilized in the included studies. The most common measurement of attachment was the Relationship Questionnaire ( $n = 4$ ), followed by the Relationships Scales Questionnaire ( $n = 3$ ), and the Experiences in Close Relationships Measure ( $n = 4$ ) [32,59,60]. One study utilized the Attachment Style Interview and one used the Revised Adult Attachment Scale – Close Relationships [61,62].

### 3.3. Impact of attachment style in perception of empathy, trust and working alliance with caregiver

Calvo et al. reported an improvement in patient-caregiver empathy, as well as patient-physician alliance relative to attachment style [49]. Specifically, the authors noted that patient attachment style impacted perception of reciprocal empathy among the caregiver and patient, as well as improved the working alliance. Indeed, patients with a secure attachment had a greater capacity to show empathic closeness with their caregivers and enjoyed a better working alliance with their physicians compared with patients characterized by a preoccupied attachment or dismissing-avoidant and fearful avoidant patients [57]. Bar-Sela and colleagues also examined the association between attachment orientation and working alliance for both physicians and nurses using self-reported questionnaires. Patient ( $n = 52$ ) scores indicating an avoidant attachment style were correlated with perception of a working alliance with the nurse ( $p < 0.05$ ), but not the physician ( $p$ -value not reported). Additionally, patient scores indicating anxious attachment style were associated with patient desire to discuss specific topics with both the nurse and physician including concerns regarding death (both  $p < 0.05$ ), daily routine ( $p < 0.05$ ,  $p < 0.01$ , respectively), future suffering (both  $p < 0.05$ ), and life expectancy (both  $p < 0.01$ ) [63].

Among patients with breast ( $n = 76$ , 58.5%), prostate ( $n = 37$ , 28.5%), intestinal ( $n = 8$ , 6.2%) and cervical cancer ( $n = 9$ , 6.9%), Holwerda et al. reported that patients with insecure attachment ( $n = 45$ , 35%) had less satisfaction and trust in the relationship with their physician, as well as more general distress compared with securely

attached patients [50]. In a separate study, Harding et al. noted that breast cancer patients with a more positive attachment model of “self” (i.e. a positive appraisal of self worth, contributing to secure attachment) perceived more support from nurses compared with patients with a less positive model of “self.” [53] In another study of patients cared for at hospice, patients who were securely attached developed better relationships with their caregivers versus insecure patients [48]. In contrast, no difference in the perception of patient-doctor relationship was noted among dismissive versus preoccupied or fearful patients [48].

In one study, Hillen et al. created 8 videotaped scenarios of oncologic consultations, after which 345 patients were asked to view the videos and report their level of trust related to their encounters with their own oncologists. Of note, patients with a stronger external health locus of control tended to trust their oncologist more ( $p < 0.001$ ). In contrast, attachment avoidance or attachment anxiety were not related to trust in the oncologist; attachment avoidance did, however, decrease the positive effect of the oncologist communication on caring, honesty, and trust. High attachment avoidance ( $p = 0.003$ ) and attachment anxiety ( $p < 0.001$ ) were related to lower trust in caregivers [51]. In turn, lower levels of trust in caregivers may lead to more distress and anxiety during the treatment course among cancer patients [52].

Pegman et al. have suggested a greater alliance between patients and provider among securely rather than non-securely attached patients. Nevertheless, the authors concluded that patient attachment style contributed modestly to the variability in the alliance between breast cancer patients and their surgeons, thus suggesting further research on other potentially relevant individual patient characteristics [56]. For example, Clark et al. reported that history of childhood abuse was associated with higher chance of feeling incompletely supported by surgeons, as well as a greater difficulty in the patient-provider interactions as reported by caregivers [55]. Of interest, attachment styles mediated these associations.

### 3.4. Summary of findings

Overall, data from several studies have demonstrated that patients with secure attachment had a better working alliance with their physician and perceived more support from their provider than patients with an insecure attachment [48,53,56,57]. Of note, Zaporowska-Stachowiak, Stachowiak, and Stachnik reported a difference in the therapeutic alliance among secure and insecure patients, yet there were no differences detected among the three insecure subtypes [48]. Patients with insecure attachment reported less trust and satisfaction with their physician and higher levels of general distress than insecure patients [52,54,64]. These results were observed both in cross-sectional and longitudinal studies. Lastly, attachment style mediated the connection of patients who recalled abuse in their childhood and the perception of incomplete support from their cancer surgeon [55].

## 4. Discussion

Data from the current scoping systematic review suggest attachment theory is a useful framework to help understand the patient-provider relationship across the course of cancer care. Within the current review, a secure attachment was predictive of a better working alliance, more perceived support, less general distress, higher levels of trust and satisfaction with healthcare providers compared with patients who had an insecure attachment style [48,52–54,56,57,64]. While the current body of literature is promising, the data were limited. Using data from the current review, we offer a conceptual model that aligns attachment styles in patient-provider relationship types to be utilized in clinical practice, as well as future research.

Emanuel and Emanuel (1992) described four models of the patient-provider relationship that are widely accepted and cited within the scholarly literature; paternalistic, informative, interpretive, and

deliberative [65]. The first relationship type is the traditional “paternalistic” approach. Within the paternalistic model, the provider is very active and directive; this person is often seen as the expert, and thus, patients often follow the recommendations. The physician may not present all viable treatment options for consideration. For the informative model, the provider is more passive; the physician provides the patient with all of the information and options, often serving as an educator, while waiting for the patient to make a decision. Within the interpretive model, providers take an advising position to help patients understand their values and give patients the information they need to facilitate decision-making for the patient. The provider attempts to help the patient determine “what they actually want” based on their perceived values. Finally, the “deliberative” model is characterized by patients and providers that openly engage in a mutual discussion of treatment options and exploration of the patients moral and value systems associated with treatment. Within this context, the patient determines the best decision for him/herself [65].

To create a model of how attachment styles can inform PCC relative to the patient-provider relationship, the four relationship types were organized on an axis with two dimensions to mirror the dimensions of avoidance and anxiety associated with attachment styles (Fig. 1). For patient-provider relationship styles, the dimensions in Fig. 2 include information giving, knowledge sharing and provider involvement. The relationship types are distributed on the axis based on their original description in Emanuel and Emanuel (1992). For example, the paternalistic model is low in information giving, high in provider involvement; informative is high information giving, low provider involvement; interpretive is high information giving, high provider involvement; and deliberative is low information giving, low provider involvement [65]. By organizing the patient-provider relationship styles in this manner, the styles can be transposed and aligned with patient-provider styles. For example, a patient who has a secure attachment style may be the best candidate for a deliberative patient-provider relationship. As such, the model provides an accessible visual for use in clinical care. Additionally, the model allows for tangible examples of patient attachment-related behaviors that providers can use in the clinical encounter, which may increase provider awareness of potential challenges with the patient [19,23]. In turn, such a tool may support provider understanding of difficult or resistant patients [19,23].

To this point, a patient with an insecure preoccupied attachment style (high anxiety, low avoidance) may more often report symptoms of distress and seek care from the provider versus other patients with different attachment styles. Such patients may benefit from the provider setting clear boundaries with regards to their therapeutic relationship. In turn, in this setting, the physician should consider being more directive, without overwhelming the patient. Thus, patients with an insecure preoccupied/anxious attachment style may benefit from a patient-provider relationship that is more paternalistic. The attachment behaviors may also signal to the provider that the insecure attachment behavior may be attributable to patient anxiety and fear, which could impede communication in treatment-related discussions [40]. The provider may act as a “secure base” for the patient by recognizing and attending to the patient anxiety to improve the collaborative conversation [43]. Fig. 3 demonstrates the alignment patient attachment styles with patient-provider relationship types. This mental model describes potential attachment-related behavior and how the potential caregiver can tailor their approach to better engage the patient to provide optimal PCC.

Connecting attachment styles to patient-provider relationships addresses current gaps in the literature. For example, previous research aimed to assess patient decision-making preferences to inform treatment-related conversations [6,66,67]. Many patients are not, however, cognizant of and/or have not considered their decisional preferences. Screening for attachment instead of decision preferences could give providers a roadmap of behaviors that their patient may exhibit. In turn, these attachment styles may suggest how providers can

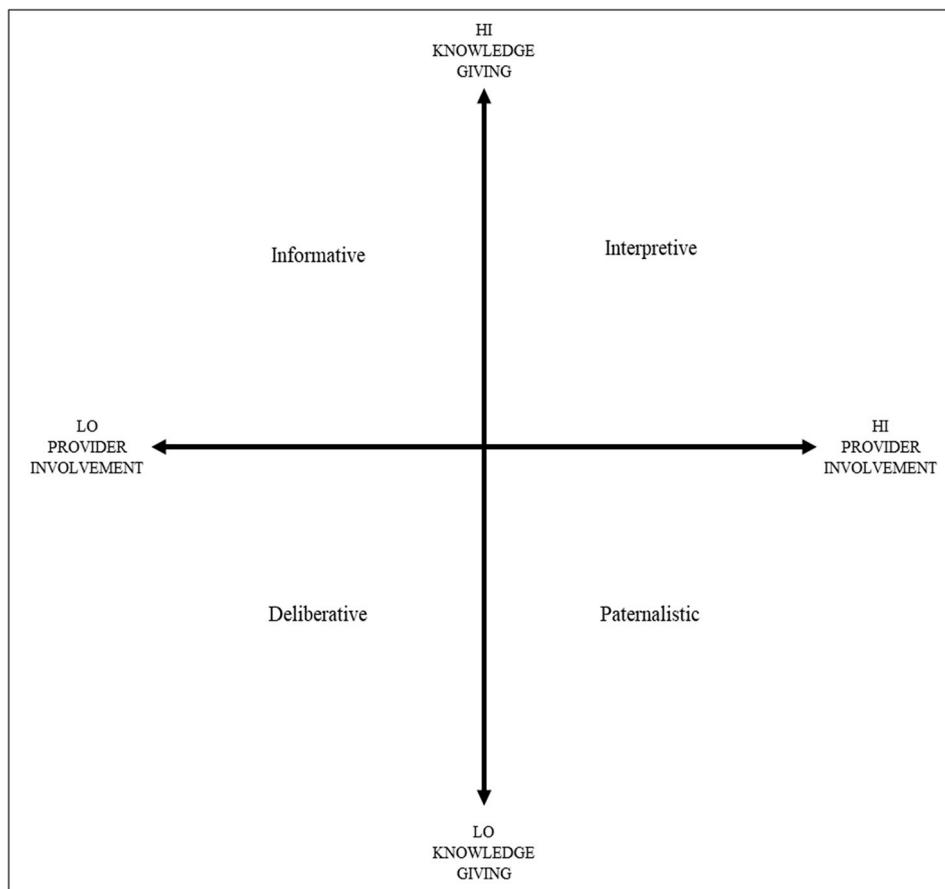


Fig. 2. Adapted conceptual model of attachment styles applied to Emanuel & Emanuel's models of patient-provider relationships.

alter their approach to meet best the needs of the patient. Indeed, attachment and decision-making styles have been related and, depending on the attachment style, some patients may prefer their physician to have a more directive approach when making treatment-related decisions [10,20,68].

The premise behind Maunder and Hunter's original work highlighted how "Healthcare is better, and ultimately the health of patients is better, when it is provided in a way that is well matched to each patient's interpersonal style." (p.182) [69] In the work by Maunder and Hunter, the authors described prototypic patterns of adult attachment across seven dimensions: key behavioral observations, patterns in intimate relationships, patterns of social support, affect regulation, trait descriptors, patterns of mentalization, and narrative coherence [70]. While this conceptualization can be helpful for clinicians, the alignment of attachment style and patient-physician relationship styles is both descriptive and prescriptive for clinicians, meaning it provides a model for how to adapt their patient-centered approach to match the patient's interpersonal style, including their individual strengths and vulnerabilities. This simplicity is particularly important in the cancer treatment decision making context where patients and providers often have limited time to make life-altering decisions. The current model was also inspired by Emotionally-Focused Therapy (EFT), one of the most empirically-supported theories of change in the field of couple and family therapy that is rooted in the principles of attachment theory [71]. In EFT, it is important that the provider is well-trained and knows how to shift their interpersonal approach so they do not engage in the negative interaction styles that may be inhibiting the inter/intrapersonal growth of their client, while still meeting their needs and developing a strong working alliance [72]. The current model could help providers tailor PCC specifically in the cancer context. Although PCC is the current "gold standard" of cancer care, current evidence suggests that PCC, including

shared-decision making, are rarely utilized in oncologic care [14]. Providers cite feelings of being ill-equipped to engage the patient in SDM. The current proposed conceptual model provides caregivers a simple framework with tangible, concrete suggestions regarding how to address patient needs without focusing on additional communication training for the provider. Identification of patient attachment style by providers may also inform their understand of the role of the spouse/-caregiver across the cancer continuum. For example, romantic/significant other relationships can predict healthcare utilization, symptom reporting and other health-related outcomes important in cancer care [23,73,74]. An attachment framework can help researchers and clinicians understand why that may occur.

The current study has several limitations that should be considered when interpreting the summary and description of the data. Articles that were included needed to be in the English language, which could have limited the search. There was, however, no other geographical exclusion criteria and all of the included articles were published outside of the United States. Some topics that overlapped with attachment theory (e.g. trust) were not included in this review. The exclusion of these topics may have limited the understanding of relationships between these important components within the patient-provider relationship. In addition, there were other areas of healthcare in which an attachment lens had been applied, which were also excluded from the scoping review (e.g., family practice, endocrinology). While attachment theory has been used as a framework for developing psychotherapeutic interventions, including those to support couples coping with cancer, these studies were beyond the scope of this review.

## 5. Conclusion

To improve PCC within the context of cancer, providers need to

**Table 1**  
Summary of published articles applying attachment theory to the patient-provider relationship in the context of cancer care.

Authors	Year	Journal	Cancer stage	Cancer type	Country	Sample size	Methods	Attachment style variable type	Attachment measure	Covariates	Outcome(s)	Key findings
Pegman et al.	2011	Patient Education and Counseling	Patients to receive mastectomy or wide local excision*	Breast	United Kingdom	133	Cross-sectional survey	Independent	RQ & RSQ	None	Patient-surgeon relationship (alliance)	Securely attached patients reported stronger total alliance than non-secure patients
Bar-Sela et al.	2018	Oncology Nursing Forum	Advanced, receiving active treatment	"Cancer"	Israel	52	Descriptive survey	Neither-descriptive/correlational study	ECR	None	Working alliance with nurse, physician, and type of sharing**	Anxious and avoidant attachment styles were significantly correlated with the working alliance for nurses but not physicians and with type of topics patients want to discuss with the staff
Clark et al.	2011	General Hospital Psychiatry	Patients to receive mastectomy or wide local excision*	Breast	United Kingdom	100	Cross-sectional survey	Mediator	RQ & RSQ	Age, general health, maternal and paternal care	Physician perception of relationship difficulty	Attachment mediated the relationship of abuse with patient perceptions of incomplete support, but not the relationship with surgeon ratings of difficulty
Harding et al.	2015	Journal of Advanced Nursing	Diagnosed < 3 years Underwent wide local excision or a mastectomy	Breast	United Kingdom	153	Between-subjects cross-sectional	Independent	RQ & RSQ	Patient age and distress	Patient perception of nurse support	Patients with a more secure attachment felt more supported by nurses
Brédart et al.	2015	Psycho-oncology	Stage 0/ noninvasive to stage III/ with axillary nodes involvement	Breast	France	283	Longitudinal survey (baseline, 8 months)	Independent	ECR	Sociodemographic variables, clinical data, distress	Health information needs	Attachment style was not a significant predictor of health information needs
Holwerda et al.	2012	Acta Oncologica	Recently diagnosed Expected survival > 1 year	Breast, GI, cervical, prostate	Netherlands	130	Longitudinal survey (baseline, 9 months)	Independent	Attachment Style Interview	Physical status, comorbidity	Trust, satisfaction, distress	Insecurely attached patients had less trust/satisfaction with their physician, and more general distress than securely attached patients.
Zaporowska-Stachowiak et al.	2019	Journal of Health Psychology	Advanced	"Cancer"	Poland	110	Cross-sectional survey	Independent	Revised Adult Attachment Scale	None	Patient-doctor relationship quality	Securely attached patients had better relationships with doctors than insecure patients. There was no difference in the quality of the patient-doctor relationship among insecure attachment types.
Hillen et al.	2013		All survivors	GI, breast, enitourinary,	Netherlands	344	2 × 2 × 2 factorial	Independent /Moderator	ECR	Sociodemographic variables	Trust	Attachment avoidance/anxiety were not related

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Table 1 (continued)

Authors	Year	Journal	Cancer stage	Cancer type	Country	Sample size	Methods	Attachment style variable type	Attachment measure	Covariates	Outcome(s)	Key findings
		Journal of Psychosomatic Research		gynecologic, lymph nodes/ bone marrow			vignette design					to trust. Attachment avoidance moderated the positive effect of the oncologists' communication on trust. High attachment avoidance/anxiety were related to weaker trust.
Hinnen et al.	2014	General Hospital Psychiatry	Recently diagnosed Expected survival > 1 year	Prostate, breast, GI, cervical	Netherlands	119	Longitudinal survey (baseline, 9, 15 months)	Independent	ECR	Age, gender comorbidity	Emotional distress, physical limitations	Lower levels of trust were associated with more emotional distress and more physical limitations in more anxiously attached patients.
Calvoa et al.	2014	Journal of Psychosocial Oncology	End-stage	Skin, brain, GI, prostate, breast, colon, pancreatic, lung	Italy	37	Longitudinal survey (baseline, 1 week)	Independent	RQ	None	Empathy, alliance	Secure patients reported the highest scores of alliance, followed by the preoccupied, fearful, and avoidant.

Note. RQ = Relationship Questionnaire; RSQ = Relationship Scales Questionnaire; GI = gastrointestinal; ECR = Experiences in close relationships inventory; \*-Excluding patients with recurrence/metastases, \*\*-descriptive/correlational study, so variables may not be interpreted as outcomes.

<p style="text-align: center;"><b>Avoidant=Informative</b></p> <p><b>Patient attachment-related behavior:</b> Likely distant and self-reliant; will often under-report symptoms and suggest they are “fine”; does not want to rely on others.</p> <p><b>Provider Approach:</b> Do not misinterpret this patient as “easy-going”; be pro-active to confirm appointments and closely monitor adherence to treatment; make extra efforts to acknowledge patient’s desire to be independent and autonomous and incorporate that into treatment conversations and planning.</p>	<p style="text-align: center;"><b>Fearful/Avoidant=Interpretive</b></p> <p><b>Patient attachment-related behavior:</b> This patient may be particularly sensitive and aware of disingenuous interactions; they likely have difficulty forming good relationships; patient may be highly defensive.</p> <p><b>Provider approach:</b> Attend to patient fears and negative emotions; if patient feels abandoned by provider, that is likely to have a negative impact on the therapeutic relationship; patient may need more information to establish clear expectations for treatment. Patient’s with this attachment style are more likely to have experienced abuse and/or trauma, and this should be considered. Additional psychosocial supports (e.g., oncology social workers) are recommended.</p>
<p style="text-align: center;"><b>Secure=Deliberative</b></p> <p><b>Patient attachment-related behavior:</b> Patient will have a stress reaction to illness but is self-aware and can express emotion and communicate needs with their physicians</p> <p><b>Provider Approach:</b> Express empathy, spend less time on helping patient understand their value system as they are likely already aware, patient can actively engage in treatment decision-making after they have processed through their emotions. Patient likely to have multiple positive supports and this could be an important resource.</p>	<p style="text-align: center;"><b>Anxious=Paternalistic</b></p> <p><b>Patient attachment-related behavior:</b> Patient feels compelled to regularly seek care and attention from the healthcare team; may utilize behaviors to keep providers engaged in their care, like overexaggeration of symptoms; may have challenges respecting personal boundaries as patient has little self-awareness of the impact of their behaviors.</p> <p><b>Provider Approach:</b> These patients more likely to be considered difficult. Provider should make extra efforts to set clear, firm boundaries for care; provider may want to reconsider offering direct lines of contact to the patient as this resource may be overwhelmed; instead provider can consider more proactive forms of communication or expanding the direct care team to help soothe and manage the patient.</p>

Fig. 3. Aligned patient attachment style and patient-provider relationship model, example attachment-related behavior, potential provider approach.

understand patient preferences for interpersonal interactions, yet this information may not be easily obtained from simply asking patients about their preferences. Attachment styles offer a framework for providers to understand patient behaviors and needs, thereby allowing for adjustment of the approach to developing a therapeutic relationship with the patient. Attention to varying attachment styles may help improve PCC, as well as increase the chance of a successful patient-provider relationship, which will can positively impact the medical encounter and treatment outcomes.

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**Declaration of competing interest**

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