The association between attachment and delay in the diagnosis of cancer in primary care

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PhD thesis

The association between attachment and delay in the diagnosis of cancer in primary care

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PREFACE
OUTLINE OF THE THESIS

Chapter 1 introduces the reason for studying the association between attachment and delay in the early diagnosis of cancer in primary care and presents the overall and specific aims of the thesis. I present an introduction to the area of delay in the early diagnosis of cancer in primary care and attachment theory. Important concepts and the basis premises of the thesis are outlined. In Chapter 2, the subjects and methods of the studies are described. Chapter 3 outlines the results of our validation of the attachment measure (RSQ), results of associations between patients’ attachment style and the length of the patient interval and, finally, the results of the association between GPs’ attachment style and the GP interval. Chapter 4 discusses the methods of the studies. In Chapter 5, I discuss the main results. Chapter 6 summarises the main conclusions in relation to the aims. In Chapter 7, I address how we may focus future research. This chapter also contains the English and Danish summary. The appendices outline the invitation letter and questionnaires sent to the patients and GPs.
THE FOUR PAPERS OF THE THESIS


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<thead>
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<td>Adult Attachment Interview</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence Interval</td>
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<tr>
<td>CFA</td>
<td>Confirmatory Factor Analysis</td>
</tr>
<tr>
<td>CMA</td>
<td>Christina Maar Andersen</td>
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<td>CPR</td>
<td>Central Person Register</td>
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<td>CRS</td>
<td>The Danish Civil Registration System</td>
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<td>DCR</td>
<td>The Danish Cancer Registry</td>
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<td>EFA</td>
<td>Exploratory Factor Analysis</td>
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<td>GP</td>
<td>General Practitioner</td>
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<td>ICC</td>
<td>Interclass Correlations</td>
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<td>The Danish National Patient Registry</td>
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<td>The Patient Administrative System</td>
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<td>PRR</td>
<td>Prevalence Rate Ratio</td>
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<td>RSQ</td>
<td>Relationship Scale Questionnaire</td>
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<td>SD</td>
<td>Standard Deviation</td>
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CHAPTER 1:

INTRODUCTION
Cancer is one of the leading causes of death in the Western world claiming 8.2 million deaths worldwide in 2012 (1). According to the World Health Organization (WHO), the number of cancer cases is expected to rise considerably within the next two decades (1). To achieve better outcomes for cancer patients, early diagnosis is central (2). Several initiatives to improve cancer patients’ prognosis have been targeted at early diagnosis of cancer (3). In the early detection of cancer, general practice plays a vital role as general practitioners (GPs) are directly involved in the initial diagnosis of 85% of all cancer cases (4). Delays in the diagnostic interval of cancer (the concepts delay and intervals will be discussed in the next section) can be rooted in both the patient’s and the GP’s behaviour, e.g. if the patient postpones seeking medical help despite symptoms (5-8) or if the GP misdiagnoses the patient’s symptoms (9-11).

Although some research has been conducted into psychological factors that may affect the diagnostic interval of cancer such as lack of social support (12), fear of serious illness (13-15) and avoidance as coping strategy (16), an attachment perspective has not yet been applied. The attachment theory has much potential as an explanatory model since it describes how behaviours such as help-seeking and caregiving function in times of distress. Studies have shown that when individuals experience symptoms, their medical help-seeking behaviour is affected by their attachment style (17,18), even if this has not been examined for cancer-related symptoms. Attachment has also been associated with variation in general caregiving styles (19-25) and with healthcare providers’ interactions with patients (20,26). As the first of its kind, this project applied attachment theory to the area of delay in the diagnostic pathway of cancer. We looked at the effects of cancer patients’ attachment style and their GP’s attachment style on
the length of the patient’s cancer investigation period. Specifically, we investigated the following questions:

Is cancer patients’ attachment associated with the length of time from the patients’ first symptoms until the patients’ first consultation with their GP (the patient interval)?

Is GPs’ attachment associated with the probability of a long period from the patient’s first GP consultation until initiation of an investigation of potentially cancer-related symptoms (the GP interval)?
DELAY IN CANCER DIAGNOSIS

There is no standardised definition of delay, but three main time periods have been defined covering the whole period from the first symptom until diagnosis or treatment initiation (3): 1) patient interval referring to the time from the patient's first symptom until the first GP consultation; 2) Doctor interval referring to the time from the first encounter with a physician until initiation of an investigation of potentially cancer-related symptoms, e.g. biopsy, referral to imaging diagnostics, endoscopy or to other health care professionals; 3) system interval referring to the time from the start of GP-initiated investigation until the start of treatment, e.g. surgery, preoperative radiotherapy or palliative treatment (Figure 1). The patient and the system intervals seem to account for most of the delay in diagnosis and treatment of cancer. In 2007, the Danish government and the Danish Regions launched a new diagnostic strategy including among other things fast-track diagnoses and treatment for suspected cancers (27). These initiatives may reduce the length of the system interval, but as knowledge concerning the factors associated with a long patient and doctor interval is poor, formal initiatives aimed at reducing the length of the patient and the doctor intervals have not yet been undertaken. In this project, we only look at the patient and the doctor intervals. For the doctor interval, we only looked at the intervals where the GP had been involved in the cancer investigation, and this is referred to as the GP interval.
Delay in the patient interval

Delay in the patient interval has been an issue of concern for many years and was first raised in 1938 by Pack and Gallo (28). They defined a patient interval of 3 months or more as a long patient delay. This definition of a long patient delay is maintained in much of today’s research. Studies have shown that 20-30% of patients with symptomatic breast cancer and 25-39% of patients with head and neck cancer wait 3 months or more before seeking medical help for their symptoms (5-8). A study from 2014 examined delay in 1,999 cancer patients with 15 different kinds of cancers and found that overall 21% of cancer patients waited 3 months or more before seeking medical help ranging from 8.4% for breast cancer patients to 47.8% for prostate cancer patients (29). A recent review of a substantial amount of literature identified symptom type, non-recognition of symptom seriousness, fear of death and lack of social support as risk factors for a long patient delay (30). However, these factors taken together do not explain the total variation in patient delay. The review produced no consistent evidence that age, gender, educational level, marital status and socio-economic status had a significant impact on length of patient delay (30).
Delay in the GP interval

The GP-interval is very short for most cancer patients, but a substantial GP interval has been found for approximately one fourth of patients (31). Knowledge of GP characteristics associated with a long GP interval is very limited. A study by Hansen et al. (2011) investigated the associations between a long GP interval and the following GP characteristics: seniority, practice organisation, list size, continuing education, job satisfaction and burnout. None of the characteristics were revealed to be associated with a long GP interval (32). On the other hand, the quality of the patient-GP alliance has been shown to have implications for treatment outcomes across a range of medical problems (33-36). Furthermore, a study from 2011 found an association between physicians’ temporising communication strategies, such as telling patients not to worry or to continue to monitor symptoms, and a diagnostic delay of more than two months (37). These findings appear to underline that the way the GP interacts with and cares for the patient could affect the length of the GP interval.
Chapter 1: Introduction

WHAT IS ATTACHMENT?

The attachment theory was founded by the British psychiatrist John Bowlby (1907-1990) in the 1960s. It is an extensive theory of human relationships that offers explanations of how early interactions between an infant and its caregivers shape future social interactions with significant others. The primary notion of attachment theory is that humans form close emotional bonds for the purpose of survival.

The attachment system

Bowlby defined attachment as a behavioural system that insures proximity between dependent individuals and their primary caregivers (attachment figures). Although attachment is most evident during childhood, it remains important throughout life (38).

When an infant feels tired, scared or ill, the infant’s attachment system is activated and the infant displays attachment behavior such as crying which signals to the attachment figures that the infant needs protection, care or support (39). Complementary to the child’s attachment behavioural system, its attachment figures have a caregiving behavioural system which is activated whenever the child displays attachment behaviour and which encourages the caregivers to seek proximity to the child and to protect and care for it. The child and its attachment figures are linked through an emotional bond (39). The two behavioural systems are believed to have evolved owing to the evolutionary advantage of securing the safety of dependent or injured individuals and thereby insuring the survival of the species (38). Humans share these behavioural systems with other mammals (40,41), but these systems have a particular important role in humans because of our evolutionary development
which causes human offspring to be dependent on their primary caregiver for a much longer period than other mammals’ offspring (42).

The function of providing security for the child is referred to as providing a safe haven and secure base. As the small child ventures out in the near surroundings to explore things, the attachment figures provide a secure base from which the child can explore and a safe haven to return to whenever it needs to feel safe. The quality of the caregiving is determined for instance by the caregiver’s sensitivity toward the child’s need and will affect to which extent the child can use future attachment figures as a secure base and safe haven (43).

Internal working models

A central concept in attachment theory is the concept of working models. According to Bowlby, continuous interactions between a child and its attachment figures form mental representations (internal working models) about the self, the attachment figures and the relationship between the two (44). The internal working models hold information on the individual’s perception of him/herself (referred to as model of self or self-model) and the individual’s perception of other people (referred to as model of other or other-model) (45). Working models are assumed to influence individuals’ perception and memory of social events, and these processes are believed to function primarily unconsciously (44,46).

The role of the attachment relationship and attachment figures

Although the child can display attachment behaviour towards different people, this does not necessarily mean that there is an attachment relationship between them. In an attachment relationship, the emotional bond has to be (42):

- Constant over time.
• Directed towards a specific person.
• Of emotional relevance to the individual.
• Characterised by both persons seeking proximity to each other.
• Of a nature which implies that the persons feel discomfort by involuntary separation from the other.
• Of a nature which causes the attached person to seek comfort, safety and protection from the attachment figure.

If the child experiences comfort and security when it seeks proximity to the attachment figure, the attachment is secure, and the attachment is insecure if the contact does not increase the child’s experience of comfort and security. This stresses the fact that it is the child that is attached to the attachment figure and not the child and attachment figure who are attached to each other (42). The child can have more than one attachment figure, but usually one attachment figure is central to the child (47). It is important to emphasise that attachment is only one aspect of the relationship between a child and its parents. In the relationship between the child and its parents, the parents also fulfil the roles of playmate, teacher and role model (42).

When the child expresses emotions, the attachment figures’ acknowledgement and handling of these emotions will over time have an impact on the child’s affect regulation (48,49). Secure individuals have a flexible ability to accept and integrate both positive and negative emotions, whereas insecure individuals are either limited or severely aroused by negative emotions. Emotional regulation relies on the ability to discern others’ intentions and to understand oneself as having own emotional intentions (50).

The strange situation

Mary Ainsworth (1913-1999) is known as the other main contributor to the development of the attachment theory. She was the first to develop a way to
measure attachment. She developed the experimental procedure known as the *strange situation* (42) (as I will refer to this procedure later on, a short description of it is given). The purpose of the procedure is to observe the balance between the child’s exploration and comfort-seeking behaviour, and to observe the child’s ability to use his/her primary caregiver as a secure base. The experiment takes approx. 20 minutes and is carried out on children aged between 12 and 18 months (38). The child and his/her mother enter a room with two chairs and different toys. The child has time to get comfortable in the room with his/her mother. To stress the child enough to enable activation of the child’s attachment system, a stranger enters the room, and twice during the experiment the mother leaves the room without the child (42).

Ainsworth was able to identify three distinct ways (attachment styles) in which children react in the strange situation which, she concluded, were the result of early interactions with the mother. The attachment styles Ainsworth identified were secure, insecure avoidant and insecure ambivalent. The secure children would explore the room freely. These secure children were able to use their mother as both a secure base as well as a safe haven in times of distress. Insecure avoidant children did not explore a lot. They also tended to display little emotion when their mother left the room and avoided her when she returned. The insecure ambivalent children did not explore a lot either. However, these children were very distressed when their mother left the room and displayed ambivalence towards her when she returned (43). The strange situation procedure has since been used extensively in attachment research.

Attachment in adults

According to Bowlby, attachment is important throughout life, and adults will display attachment behaviour when experiencing distress. The reason for the continuity of attachment is attributed mainly to the internal working models (39).
The dynamic structure of the working models allows for new experiences of the attachment relationship to be incorporated, but the internal working models are also relatively resilient towards change (51,52). The working models are stable because the interactions between a child and his/her attachment figures are relatively stable over time. For instance, if a child has a caring and attentive mother, then a specific event in which the mother is not emotionally present will not change the child’s general experience of the mother as being available. However, if the mother changes more permanently as a result of depression, for example, the child’s internal working models will adapt to the new situation and make the child perceive the mother as less reliable and available. The child’s working models may be able to return to a representation of the mother as caring and attentive if the mother returns to her previous caregiving style (42). If there are no major changes in the attachment figures’ caregiving styles, the child’s internal working models will not need to adapt to new ways of experiencing caregiving in close relationships, and the child’s working models will remain stable. Children’s attachment styles are specific to actual relationships, but over time the experiences in the early attachment relations are generalised and internalised and become more of a trait of the individual (38). Another contributing factor to the continuity of the working models is that people with different attachment styles behave in certain ways that are reinforced by other people. Anxious-attached individuals may come across as fragile and helpless which may cause other people to treat them as such. Avoidant-attached individuals may come across as self-reliant and invaluable sending the signal that they do not need help. In that way the individual’s attachment style is perpetuated by the interaction with other people (42).

Consistency of attachment styles

Several studies have investigated how consistent attachment styles are throughout life (52-54). Water et al. (2000) assessed attachment by the strange
situation procedure for 50 participants at the age of one and measured attachment with the Adult Attachment Interview (AAI) in the same group 20 years later. They found that when looking at attachment categorised as secure versus insecure, the continuity of attachment was 78% (52). Change in attachment was related to negative life changes such as death of a parent, parents’ divorce or serious illness, or physical or sexual abuse. Of the secure individuals, 66% changed to insecure attachment if they had experienced one or more negative life changes compared with only 11% among the insecure individuals (52).

As a child matures and goes into adolescence, friends and peers can be assigned the role of attachment figures. In adulthood, romantic partners are generally considered the main attachment figures, and both parties are generally attached to each other (55,56).
MEASURING ADULT ATTACHMENT

Research into adult attachment began in the 1980s with two very distinct research areas – one focused on parenting and the other focused on romantic relationships. The line of research focusing on parenting was influenced by the work of Main and her colleagues. They looked at how adults’ current representations of their childhood relationship with their parents affected their own parenting behaviour and how this could affect the attachment pattern of their children. The second line of research focused on romantic relationships was initiated by Hazan and Shaver. They looked at how insecure attachment in romantic relationships would be associated with adolescent and adult loneliness (57). These two lines of research used very different approaches to measure adult attachment (interviews vs. questionnaires) (57). Differences between these approaches to measuring adult attachment will be explored in this section.

Interviews

The research focusing on parenting used interviews to uncover parents’ own childhood family relationships and looked for scorable features in the interview transcript that could confirm their infants’ attachment pattern already determined by the strange situation (57). The Adult Attachment Interview (AAI) was developed for this research (58). The AAI classifies adult attachment into four categories: 1) secure/autonomous, 2) avoidant/dismissing, 3) anxious/preoccupied and 4) “unclassifiable” category. Some individuals can also be classified as “unresolved” with respect to loss, trauma or abuse (59). Secure/autonomous attachment is the most frequent type of attachment and it has a prevalence of 58% in the general population (60). The remaining 42% is distributed on the following three groups: 23% avoidant/dismissing, 19% anxious/preoccupied attachment and 18% unresolved.
In the AAI, the interviewee is asked for descriptions of early relationships and attachment-related events and for the interviewee’s sense of the way these relationships and events have affected his/her personality (61). The interview is also coded for how coherent and integrated the interviewee’s story is and the language he/she uses. These aspects of the interview are assumed to reveal unconscious aspects of the individual’s attachment (62,63). Many other interviews like the Attachment Style Interview (ASI) and the Current Relationship Interview (CRI) have since been developed (59).

**Questionnaires**

Hazan and Shaver (1987) were the first to measure attachment styles in adults by self-reports. They argued that adult romantic relationships share important elements with the attachment relationships found in childhood. They developed a self-report questionnaire that was based on Ainsworth’s three childhood attachment styles (secure, insecure avoidant and insecure ambivalent) and measured three parallel attachment styles among adults (secure, avoidant and anxious). The questionnaire had descriptions of the three different attachment styles, and respondents were asked to choose the style that best described how they felt in close relationships (64). Since the development of the first self-report attachment questionnaire, many others have been developed (see Ravitz et al. for an overview) (59).

These first descriptions of adult attachment style did not distinguish between specific self- and other-models, although the different attachment styles were assumed to be based on these working models. Instead, the quality of the adult’s working models was inferred from their responses in the self-report (65).

Different attachment questionnaires have been developed to measure different attachment relationships with some measuring attachment in adult romantic relationships, peer relationships, relationship to parent, relationship to therapist,
and general attachment relationships (59). Many of the attachment scales have measured three attachment styles like the ones found in Hazan and Shaver’s questionnaire (59).

Later, Bartholomew argued that avoidance in adult intimacy should be differentiated into two different styles depending upon the person’s model of self. (45). Bartholomew based her model on Bowlby’s concept of internal working models, where individual differences in adult attachment can be systematised in terms of the intersection of two dimensions (positivity of self-model and positivity of other-model). Each of the two dimensions can be dichotomised as positive or negative, forming four attachment subscales (secure, preoccupied, dismissing, and fearful). Individuals with a secure attachment style have a positive self and other-model. Preoccupied individuals have a negative self-model and a positive other-model. Individuals with a dismissing attachment style have a positive self-model and a negative other-model, and fearful-avoidant individuals have a negative self and other-model (66) (Figure 2).

Figure 2. Model of Bartholomew’s and Horowitz four-category model.
Other attachment scales measure attachment dimensionally as the degree to which various dimensions of attachment are present. Adult attachment has been found to converge on two dimensions of insecurity: *attachment anxiety* and *attachment avoidance* (similar to Bartholomew’s model of self and model of other). Attachment anxiety measures the degree to which an individual perceives him-/herself as worthy or unworthy of others’ love and care and the degree to which the individual worries about being rejected by others. Attachment avoidance measures the degree to which an individual perceives others as being responsive or unresponsive and the degree to which the individual feels comfortable with intimacy and dependency on others (21).

Each different way to measure attachment (dimensionally, categorically or prototypically) has advantages and disadvantages (67). Categorical measuring of attachment, like Hazan and Shaver’s first self-report, makes it easy for the respondents to relate to the concept of attachment as the respondent has to choose the style that best describes how he/she feels in close relationships. However, for individuals displaying characteristics from more than one style, it might not be so easy to choose a single category. Measuring attachment dimensionally provides more information than measuring attachment categorically. However, when attachment is measured on two dimensions, the dimensional approach cannot express the intercept of the two dimensions. Bartholomew and Horowitz’s four-category model combines the categorical and dimensional ways of measuring attachment by the use of the prototype concept. The respondent gets a score on each of the four attachment styles measured dimensionally; and the subscale on which the respondent scores highest, is assumed to be the attachment style where the respondent’s behaviour resembles the prototypical behaviour at a high level (67). Of course, the different measuring approaches make it tricky to unambiguously compare the results of different studies because they use different measuring approaches.
ATTACHMENT AND HEALTH

The association between attachment and health has been studied in different areas of health care. In this section, I will give some examples of this, but the description is not a systematic review of all the research within this area.

Studies have investigated the association between patients’ attachment style and their medical behaviour. For example, patients’ attachment style has been associated with symptom-reporting and health care utilisation (68,69). Ciechanowski et al. (2002) found that patients with preoccupied or fearful attachment had a significantly larger number of physical symptoms than secure patients. They also found that patients with preoccupied attachment had the highest primary care costs and utilisation, whereas patients with fearful attachment had the lowest (68).

A study by Maunder et al. (2006) found associations between physicians’ perception of patient difficulty and the patients’ self-reported attachment style in an emergency department with only 2% of patients with a secure attachment style being experienced as difficult, whereas the prevalence of difficulty in patients with insecure attachment styles was 17% for preoccupied patients, 19% for dismissing patients, and 39% for fearful patients (70).

Patients’ attachment style has also been significantly associated with diabetes self-management and outcomes. A dismissing attachment style has been found to be associated with significantly lower levels of exercise, foot care, diet, adherence to oral hypoglycaemic medications, and with higher rates of smoking than a secure attachment style. These associations were mediated through the patient-provider relationship (71). Furthermore, patients with a dismissing attachment style and patients who rated their communication with their health-provider as poor had a significantly worse adherence to medications and glucose monitoring than patients with other attachment styles and patients who rated their communication with their health provider as satisfactory (72).
Other studies have looked at the association between insecure attachment and health outcomes such as incidence of bipolar disorder (73), alcohol addiction (74), severity of chronic whiplash disorder (75) and management of chronic pain (76-78). A large epidemiological cross-sectional study investigated associations between adult attachment and a wide range of health conditions among 5,645 individuals. The study found that avoidant attachment was positively associated with chronic back and neck problems, frequent or severe headaches, other forms of chronic pain, and ulcers. Anxious attachment was positively associated with a wider range of health conditions, including the same as those associated with avoidant attachment as well as stroke, heart attack and high blood pressure. However, secure attachment was found to be unrelated to the health conditions (79).

Attachment has even been linked to mortality among diabetes patients. Ciechanowski et al. (2010) examined mortality among 3,535 patients with type 1 and 2 diabetes and found an increased risk of death among patient with a dismissing or fearful attachment (80).

Common for all these studies is that insecure attachment has been found to be a risk factor for the development of disease and chronic illness.
ATTACHMENT AND THE PATIENT-PHYSICIAN RELATIONSHIP

The patient-physician relationship is dyadic in nature with a patient seeking help and support in times of illness and a physician providing care and support for the patient. However, although the physician is not an attachment figure for the patient in a classic sense, the physician may fulfil certain attachment needs such as providing comfort and support in times of illness. In that respect it can be argued that the physician provides a safe haven for the patient. In the patient-physician relationship, we may expect that the patient’s attachment system guides help-seeking and behaviour in the consultation if the patient is anxious about the symptoms. Similarly, it would be expected that the GP’s caregiving system would guide the GP’s caregiving style in the consultation as a response to the patient’s attachment behaviour. In theory, however, if the patient is very stressed and upset, the GP’s attachment style may also be activated, and the GP may either accept or reject the patient depending on the GP’s attachment style.

Association between patient’s attachment and help-seeking

As we have already outlined, peoples’ attachment styles affect how they cope with distress and threats. Serious illness such as cancer can be seen as a threat to a persons’ health and, for some, even as a death sentence (81).

The influence of attachment on medical help-seeking in patients experiencing cancerous symptoms has not yet been examined. However, one study has examined the association between attachment and medical help-seeking in patients with acute coronary syndromes (18). The study showed that cardiac patients with an attachment style characterized by a negative image of others (dismissing and fearful attachment) were inclined to delay help-seeking longer than patients with a positive image of others (secure and preoccupied attachment) when being struck by a possible heart attack. Low levels of medical help-seeking have been revealed in college students with a self-reported negative image of others (17). Examining how help-seeking behaviour differs
among the four attachment styles, research finds that secure individuals seek help when needed and are confident that other people will provide help and support in stressful situations (66,82). Preoccupied individuals have been found to display a compulsive care-seeking style, which is assumed to be a consequence of their lack of confidence in their own capability to cope with stressful situations (83). They might amplify physical symptoms of chronic illness to evoke care from physicians (83). In contrast to this, dismissing individuals are compulsively self-reliant. They might be overly optimistic and minimise or deny their need for comfort and support (83). They are confident in their own capabilities to cope with stressful situations and distrust other individuals’ capabilities to help them (83). Fearful individuals are characterised by a double message of help-seeking and help-rejecting behaviour, also described as a “push-pull style” (83). Their lack of confidence in their own capabilities to cope with stressful situations increases their motivation to seek help; but at the same time, the distrust in other individuals results in distant behaviours such as expression of anger or hostility which often cause the provider to withdraw. The withdrawal of the provider reassures the fearfully attached individual that other persons cannot be trusted. Although the behaviour pattern characterising fearfully attached individuals seems highly undesirable in the patient-physician relationship, the specific attachment behaviour has supposedly been adaptive in her/his earlier attachment relationship.

Associations between attachment styles and caregiving

Tan, Zimmerman and Rodin (2005) propose that how successful a relationship is between a patient and a physician depends on the physician’s empathic responses to the patient’s specific attachment needs (84). Patients differ in the empathy, compassion and support that they need in relation to their attachment styles (71). Ciechanowski et al. (2004) found that the physician’s sensitivity to
the patient’s attachment style and needs improved the patient’s participation and autonomy in self-care which, in turn, improved treatment adherence (71). How the physician cares for the patient may be associated with the physician’s attachment style as the patient’s attachment behaviour may activate the physician’s caregiving system.

Dozier’s study examined the influence of health professionals’ attachment on their interactions with patients (20). Patients differ in how they present themselves to health professionals, e.g. clients who are dismissing tend to present themselves as invulnerable and clients who are preoccupied tend to present themselves as needy and dependent. The results of the study revealed that securely attached health professionals were able to attend and respond to the underlying needs of dismissing and preoccupied patients, whereas health professionals who were insecurely attached responded to the most obvious presentation of needs. The insecurely attached health professionals seemed to feel the pull of the patients’ attachment strategies and reacted accordingly; and this could be especially undesirable in relation to dismissing patients as they tend to push others away (20).

Research in attachment and caregiving in general has shown that differences in caregiving styles are associated with different attachment styles (19-25). Secure individuals provide care that is characterised by high sensitivity and physical comfort (i.e. proximity) and low levels of over-involvement (i.e. compulsive). In contrast, preoccupied individuals provide care that is characterised by low sensitivity and cooperation combined with high proximity and compulsive caregiving. This kind of caregiving may be intrusive, inconsistent and insensitive to the receiver’s need. Dismissing individuals provide the lowest levels of compulsive caregiving and proximity as well as low levels of sensitivity. Finally, fearful individuals provide care with low levels of sensitivity and proximity, but relatively high levels of compulsive caregiving (21,85,86). A study of attachment among GPs found that GPs with a positive model of self
seemed to be most ready to confront the patients’ ideas of their illness or treatment (26). Although the patient-physician relationship might not be viewed as an attachment relationship in a classic sense, the physician may fulfil some attachment needs such as providing care and relief in times of illness and distress.
THE INTRODUCTION AT A GLANCE

Delay in the diagnosis of cancer may have negative consequences for cancer patients’ prognosis, but little is known about the factors that influence the length of the patient and the GP intervals.

Patients may perceive serious symptoms as a threat, and this may activate their attachment system. Patients with different attachment styles have been found to differ in their help-seeking when they experience serious symptoms e.g. symptoms of heart attack.

A patient’s distress over serious symptoms may activate the GP’s caregiving system as a complementary response to the activation of the patient’s attachment system. Among health professionals, general caregiving has been found to differ according to different attachment styles; and healthcare professionals’ attachment styles have been found to influence their clinical work.

Knowledge is needed on how patients’ and GPs’ attachment styles may cause delay in the diagnostic process, and such knowledge will be important in interventions aimed at reducing delay in the diagnosis of cancer.
AIMS

Overall aims

The overall aim of this thesis was to explore how the association between cancer patients’ and their GP’s attachment style affects the length of the patient’s cancer investigation period.

Specific aims

The specific aims of the thesis were:

1. To describe the initial method used to assess GP characteristics such as their attachment style (Paper 1).
2. To assess the data quality and factorial structure of the Danish version of the attachment measure the Relationship Scale Questionnaire (RSQ) (Paper 2).
3. To examine the association between the patient’s attachment style and the length of the patient interval (Paper 3).
4. To examine the association between GP’s attachment style and the probability of the patient having a long or very long GP interval (Paper 4).
CHAPTER 2:

SUBJECTS AND METHODS
STUDY DESIGN

Study design

The study was a cross-sectional questionnaire study supplemented with registry data.

Population

The population consisted of two samples.

Sample 1 consisted of all incident cancer patients aged 18 years or older diagnosed with cancer during the period July 2012–December 2013 in the Central Denmark Region. Patients with non-melanoma skin cancers were excluded from the study. Patients were sampled based on administrative data. The study included only patients who had experienced symptoms in the time leading up to the cancer diagnosis and had consulted their GP because of these symptoms.

Sample 2 consisted of the included cancer patients’ GPs. Only GPs practicing in the Central Denmark Region were included in the study.

For the assessment of the data quality and factorial structure of the Danish version of the RSQ, a sample of 602 GPs and 611 cancer patients was used.

Settings

The Central Denmark Region is one of five regions in Denmark. The Central Denmark Region has approx. 1.3 million inhabitants (23% of the Danish population) (87) and approx. 7,000 new cases of cancer are diagnosed a year (88).
Description of the organization of general practice in Denmark

In Denmark, access to general practice is free of charge, and 98% of all citizens are listed with a GP. GPs have on average 1,561 patients (incl. children) listed for whom they provide primary care. During one year, a GP has 11,000 patient contacts on average (in person, telephone or e-mail consultation) (89). Danish GPs are self-employed and they hold contracts with the public funder on reimbursement, opening hours and required postgraduate education. Most Danish GPs also work out-of-hours shifts on a rota basis (89). In 2012 there were a total of 417 general practices in the Central Denmark Region of which 206 were group practices and 211 solo practices (90).

GPs are the first point of contact to the healthcare system and they function as gatekeepers to the more specialised healthcare system (89). As gatekeepers, GPs have to hinder overuse of the healthcare system, but they also have to act in the best interests of the patients. In general practice, it is important to establish a good patient-physician relationship, and most GPs have long-term relations with their patients (91).

Procedure

Patients were sampled based on registries (92) (sampling procedure described in detail on page 51); and they received an invitation letter, a questionnaire and a prepaid envelope. Patients who did not respond received a reminder after four weeks. Questionnaires returned by the patients were registered in the database; and if consent was given, a questionnaire was sent to the patient’s GP. In the patient questionnaire, the patient was asked to name the GP with whom the patient had had most contact in the time that led to the cancer diagnosis. The GP named by the patient was viewed as the patient’s GP. In cases where the patient did not name a GP, a questionnaire was sent to the general practice with which the patient was listed. In the practice, the GP who had been responsible for the
patient’s treatment and care was asked to fill out the questionnaire. GPs who did not respond to the questionnaire received a reminder after four weeks.

The GPs received €25 as remuneration for their participation. No remuneration or gifts were given to the patients.

Data entry

All the returned questionnaires (from both patients and GPs) were coded by CMA according to a predefined coding manual. The questionnaires were electronically scanned and verified by use of the TeleForm® software, version 8.0. (Cardiff software inc., San Marcos, CA, USA). A high accuracy has been documented for this procedure (93). However, a control procedure was performed to ensure no more than 1% error in the scanning and verification process. Based on a power calculation allowing for a maximum difference of 1% between the scanned and verified questionnaires and the data in the database, 51 patient questionnaires and 26 GP questionnaires were double checked. The control procedure was satisfactory as the error did not exceed 1% in the checked questionnaires.

Questionnaire data were then combined with register data (see section data from registers page 48).
DATA FROM QUESTIONNAIRES

Questionnaire packages for the patients and the GPs were developed in the period from December 2011 to July 2012. We used scales with a known psychometric performance and a manual for scoring. Similarly, scales broadly used within the literature were used to allow comparison with previous literature. If no scale could be identified for a given aspect, this aspect was included by single-items.

The patient questionnaire

The patient questionnaire served three main purposes: 1) to obtain information on important dates in the patient’s cancer pathway to enable us to calculate a patient interval, 2) to obtain information on the patient’s attachment style, and 3) to obtain information on the patient’s evaluation of his or her GP’s empathy in the consultation.

Scales in the patient questionnaire

The following scales were included in the patient questionnaire:

Attachment was assessed by the RSQ developed by Griffin and Bartholomew (67). The RSQ was chosen because it is based on Bowlby’s concept of working models and because it measures individuals’ attachment in general interactions as opposed to for instance romantic partnerships (59), which makes the scale more appropriate to use in a medical setting. The RSQ consists of 30 items measured on a 5-point Likert scale ranging from 1 (Not at all like me) to 5 (Very much like me). The RSQ measures four attachment styles which are derived from the intersection of two underlying dimensions “Model of self” and “Model of other”. Each of the two dimensions can be dichotomised as positive or negative,
forming the four attachment styles (secure, preoccupied, dismissing, and fearful (66). The RSQ is scored as four continuous variables that can be derived by computing the mean rating of the items for each subscale (67). The four attachment styles can also be grouped by placing an individual in the style on which he/she displays the highest score. Finally, the dimensions of positivity of self and positivity of other-model can be derived by the following equations based on the individual’s score on the four subscales:

Self-model: \[ ((\text{secure} + \text{dismissing}) - (\text{fearful} + \text{preoccupied})) \]

Other-model: \[ ((\text{secure} + \text{preoccupied}) - (\text{fearful} + \text{dismissing})) \]

Patients’ perception of their GP’s empathy was assessed by “Jefferson Scale of Patient Perceptions of Physician Empathy” (JSPPPE) (94). Before filling out these questions, the patient had to name the GP with whom they had had most contact in the time leading up to their diagnosis of cancer, and the patient was requested to have this GP in mind when filling out the questions.

The developers of the scale define physician empathy as, "a predominantly cognitive (as opposed to affective or emotional) attribute that involves understanding (as opposed to feeling) of the patient’s experiences, concerns, and perspectives, and a capability to communicate this understanding”. An intention to help by preventing and alleviating pain and suffering is an additional feature of empathy in the context of patient care (95,96).

The JSPPPE consists of five items measured on a 7-point Likert scale where 1 (Strongly disagree) and 7 (Strongly agree).

A total score is calculated by summing up all item scores with a higher score indicating that the patient perceives the GP to be more empathic. Measuring the patients’ JSPPE scores was not an objective in the present study, and analyses of this dimension are therefore not included here, but they will be included in future studies.
Single items in the patient questionnaire

Entry question

Single items were used in the questionnaire to uncover whether the patient had experienced symptoms related to their cancer, whether they had consulted their GP with these symptoms, or if their cancer was discovered through screening or tests for other illnesses. These questions were used for inclusion/exclusion purposes. However, after the first few questionnaires were sent out, we received many phone calls from patients who were confused about which box to tick off. We therefore changed the question and divided it into two parts. First, the patient had to answer whether he or she had experienced any symptoms or not in the time leading up to the cancer diagnosis. In the second part, the patient was asked to tick off one of two options concerning how their cancer pathway was initiated. Patients who had experienced symptoms were asked to indicate whether they had consulted their GP with these symptoms. Patients who had not experienced any symptoms were asked to indicate whether their cancer was found by screening or some other way, e.g. upon acute admission to hospital, by tests for other illnesses, or through out-of-hours services (see questionnaire in Appendix A). Only patients who had experienced symptoms and had consulted their GP with these symptoms were asked to fill out the rest of the questionnaire. The rest of the patients were asked to return the questionnaire to the Research Unit for General Practice without filling out the remainder of the questionnaire.

Patient interval

The patient interval was measured by two questions. These questions were based on the Aarhus Statement (3) and had been used in previous, similar studies (31,97-100). In the first question, the patients were asked to enter the estimated date they first experienced any symptoms of their cancer disease. In
the second question, the patients were asked for the precise date of their first consultation with their GP for these symptoms. The patients were also asked to report the exact number of days that went by from when they contacted their GP in order to schedule the consultation to the day of their consultation. In an additional item, the patients could rate whether they thought this time period was “appropriate”, “too long” or “do not know”.

Symptoms

The patients were asked to indicate which of 23 listed symptoms they had felt at the first consultation with their GP. This list has been used in other parts of our team’s research (101). Patients had an option to add any other symptoms that did not appear on the list. These additional symptoms were coded by CMA.

Cancer worries

In this item, the patients were asked to which extent they had been worried about having cancer in the time leading up to their first consultation with their GP.

Number of GPs

The patients were asked to indicate the number of GPs in the practice they had had contact with in the last 6 months before being diagnosed with cancer.

Consent

At the end of the questionnaire, the patients were asked to give permission to the research team to retrieve information about their diagnostic pathway from their GP. If the patient did not give permission, no questionnaire was sent to their GP (see the patient questionnaire in Appendix A). Questions on symptoms, cancer worries and number of GPs were not used in the analyses.
The GP questionnaire

The questionnaire sent to the GPs served three main purposes: 1) to obtain information on important dates in the patients’ diagnostic pathway to enable us to calculate the GP interval, 2) to obtain information on the GP’s attachment style, and 3) to obtain information on the GP’s evaluation of the interaction with the patient.

There were two different versions of the GP questionnaire: One with questions on attachment (Questionnaire B) and one without (Questionnaire A). Two different versions were used because some of the GPs had received the RSQ as part of a different study referred to as the “GP profile” (see Paper 1). The “GP profile” was a large questionnaire study among all GPs (835 of whom 602 participated) in the Central Denmark Region. The purpose of that study was to examine burnout and job satisfaction among GPs and to create a profile of psychological measures that could be examined in relation to clinical outcomes. The questionnaire included scales on burnout, job satisfaction, well-being, risk-taking, empathy, attachment style and questions on work and organisational factors (see Paper 1 for a thorough description of this study). This study was the initial attempt to measure GPs’ attachment style and it proved that the GPs were willing to fill out the RSQ. Those GPs who had not participated in this study received Questionnaire B, i.e. the questionnaire where the RSQ was included. Those GPs who had already answered the RSQ in the GP profile study received Questionnaire A, i.e. the questionnaire without the RSQ.

Scales in the GP questionnaire

The following scales were included in the GP questionnaire:

Attachment assessed by the RSQ in Questionnaire B (67).

The perception of difficulty in the doctor-patient relationship was measured with the Difficult Doctor–Patient Relationship Questionnaire (DDPRQ-10) (102).
The DDPRQ consists of 10 items scored on a 6-point Likert-scale which is derived from the original 30-item DDPRQ questionnaire. A strong association has been found between the DDPRQ-10-defined difficulty and patients’ mental disorder, multiple physical symptoms, functional impairment, unmet expectations and patients’ insecure attachment (70,102,103). The DDPRQ-10 can be scored as a continuous variable with a possible range of 10 to 60, or as a dichotomous variable using a cut-point of 30. The results of the DDPRQ-10 are not included in the analyses of this thesis, but they will be used in future studies.

Single items in the GP questionnaire

Confirmation of cancer diagnosis

First, the GP was asked to confirm the patient’s cancer diagnosis and to confirm his or her involvement in the patient’s diagnostic pathway. In cases where the GP or the practice reported that they had not been involved in the patient’s diagnostic pathway the cancer case was excluded from the analysis.

GP interval

The GP interval was measured through three questions. These questions were based on the Aarhus Statement (3) and have been used in other projects at the Research Unit for General Practice (27,31,32). The first question requested information on the precise date when the GP had the first consultation with the patient concerning the symptoms that turned out to be signs of the cancer disease. The second question asked for the precise date of initiation of the diagnostic procedures, and the third question asked for the precise date of referral to the secondary health care.

Knowledge of the patient

The GP was asked to characterise his/her knowledge of the patient prior to this illness from (Very good) to (Did not know the patient (this was the first contact)). An
additional question asked for the number of GPs in the practice with whom the patient had had contact within the past six months.

**Cancer suspicion**

The GP was also asked about his or her suspicion of cancer and whether the patient was referred to fast-track cancer diagnostics.

**Gut feeling**

Four items were developed to uncover the GP’s use of gut feelings. Following Stolper’s work (104) gut feeling was defined as “a physician’s intuitive feeling that something is wrong with the patient, although there is no apparent clinical indications for this, or a physician’s intuitive feeling that the strategy used in relation to the patient is correct, although there is uncertainty about the diagnosis”. The GPs were asked to rate the extent to which they had a gut feeling in each specific cancer case, whether this feeling affected their decision to refer the patient to further investigation and whether their gut feeling was a positive help. As for the last question, the GP was asked to evaluate which factors contributed to any gut feeling in each specific case. Questions on knowledge of the patient, cancer suspicion and gut feeling were not included in the analyses of the present study.

**Translation of the scales**

All the scales included in the patient and GP questionnaires were translated from English into Danish based on the WHO guidelines (105). The translation process included a forward-backward translation, expert panel discussion, pilot-test and cognitive interviews. The process is described in detail in Papers 1 and 2.
In addition to questionnaire information, data were also obtained from Danish registries. The included registries are described below.

The Danish Civil Registration System

The Danish Civil Registration System (CRS) was established in 1968 and includes complete information on all living persons in Denmark. All persons registered in the CRS are assigned a unique personal identification number, the CPR number, which is an abbreviation of Centrale Person Register number. The CPR number holds information on a person’s date of birth, gender and whether a person holds permanent Danish citizenship. The CPR number is used to link information across all national registers. Apart from information on the CPR number, the CRS holds information on name, gender, date of birth, place of birth, citizenship, identity of parents and continuously updated information on vital status, place of residence and spouse (106). We used this registry to retrieve the addresses of the identified patients.

The Danish National Patient Register

The Danish National Patient Register (NPR) was established in 1977 and holds information on somatic and psychiatric in- and out-patients from all Danish hospitals. The NPR holds information on a patient’s CPR number, hospital department, date and time of hospital arrival and departure, outpatient contact, treatment, operation, waiting status, diagnosis (according to the International Classification of Diseases (ICD 10)) and type of operation, examination, and treatment (107). The NPR receives information from the regional Patient Administrative Systems (PASs) which are updated by the hospitals for the previous month by the 10th of each month (92).
For this study, information on the patient’s CPR number and cancer diagnosis was retrieved through the NPR. The cancer diagnoses were categorised into the following cancer types: upper gastrointestinal (GI), lower GI, lung, melanoma, urinary, prostate, breast, and gynaecologic cancers. The remaining cancer diagnoses were categorised as “others”.

The Danish Cancer Registry

The Danish Cancer Registry was used to verify that the patient was an incident cancer patient (see the paragraph on sampling procedure for details page 51). The Danish Cancer Registry was established in 1942 and is a research register. This implies that it can be used only for research and statistical purposes. The registry holds information on a patient’s CPR number, age at diagnosis, ICD10 diagnosis, morphology, topography, stage, grade, tumour number and date of diagnosis (108).

The Danish National Health Services Registry

The Danish National Health Services Registry is a national register of all health professionals (general practitioners, medical specialists, dentists, physiotherapists, psychologists, etc.) contracted with the public healthcare system. The health professionals are assigned a provider number to manage payment for treatments by the National Health Service. Several health professionals can share a provider number. The Health Services Registry holds information on the names and addresses of all holders of a provider number and was used in this project to identify the addresses of the GPs and practices.
Statistics Denmark

The Danish Integrated Database for Labour Market Research (IDA), run by Statistics Denmark (109), provided information on the educational level, ethnicity, occupation and marital status of the patients which was used to examine differences between the whole study population and the included sample. Data on each patient could be linked by using the patient’s unique CPR number. Education was classified according to the UNESCO classification as 1) low (≤10 years), 2) middle (11–15 years) and 3) higher education (>15 years). Employment was classified as 1) self-employed/chief executive, 2) employed, 3) unemployed, 4) social welfare recipients, 5) recipients of other benefits, 6) retired and 7) others. Marital status was classified as 1) married/living in a registered partnership, 2) cohabitating and 3) being single. Ethnicity was categorised as 1) Danish, 2) immigrants from Western countries and 3) immigrants from non-Western countries, according to Statistics Denmark’s definition of Western and non-Western countries (110). Missing information on the registry-based variables ranged from 0% for the variables age, gender and diagnosis to 2.6% for data on educational level.
The sampling procedure used in this project has been applied in previous projects (see detailed information of the sampling procedure in Larsen, 2014) (92,111).

Incident cancer patients were included during a period of 18 months starting July 2012. Incident cancer patients had to fulfil three criteria: 1) cancer should be their primary diagnosis, 2) they should not have any prior history of cancer, and 3) they should only have one current cancer diagnosis.

Figure 3 shows the overall sampling procedure. The sampling procedure was based on an algorithm used to identify patients aged 18 years or older from the NPR with an incident cancer diagnosis (C00.0-C99.9 according to the ICD 10) in the Central Denmark Region (92). Patients were sampled each month on the 15th (sampling date) which meant that all patients who were registered with a cancer diagnosis in the period from the sampling date to the 1st of July 2012 were sent a questionnaire that month. Every month, we sampled patients from the sampling date and back to the 1st of July 2012 since some patients are registered at a later date than the date of their diagnosis and may otherwise be missed by the algorithm.

In the beginning of 2013, we changed the sampling procedure slightly by moving the sampling date back two months so that instead of sampling patients from the period 15th of January 2013 to 1st of July 2012, for example, we sampled the period 15th of November 2012 to July 2012. We did this as we were made aware that for a few patients, the diagnostic workup was not finished by the time they received our questionnaire.

The algorithm excluded patients who met the following criteria: 1) the patient had a diagnosis registered as “cancer obs. pro”, 2) cancer was not the primary diagnosis, 3) the patient was admitted before July 2012, 4) the patient had previous registered cancer-related contacts, 5) the patient was registered in the DCR with other cancer diagnoses than non-melanoma skin cancer (C44) and 6) the patient was registered in the NPR with other cancer diagnosis than C44 in 2011 since the DCR was not updated.
for 2011 (92). Information on prior cancer was primarily obtained from the DCR which was supplemented with information from the NPR when needed.

Patients with non-melanoma skin cancer were excluded if non-melanoma skin cancer was the patient’s primary cancer type because this cancer is benign. The monthly sampling continued for 18 months from July 2012 to December 2013. The patients’ addresses were found via the CRS and GPs’ addresses were identified in the Health Services Registry.
Figure 3. Overall sampling procedure

1. Patients registered in the NPR with cancer
2. Patients not registered in DCR/NPR list of prior cancer cases
3. Incident cancer patients identified
4. Patients identified in the Civil Registration System
5. Patients’ addresses identified
6. Questionnaire sent to patients
   - Patient named GP in questionnaire
     - GP’s address identified
     - Questionnaire sent to GP
   - Patient did not name GP in questionnaire
     - Address of patient’s general practice identified
     - Questionnaire sent to general practice
DATA ANALYSIS

Separate analyses were performed for the association between patients’ attachment and the patient interval and the association between the GPs’ attachment and the GP interval. Each set of analyses included only the patients and GPs who had filled out the questions on attachment and had reported ample information on dates.

Independent variable
Attachment was measured on the RSQ scale. All participants (both patients and GPs) obtained a score on each of the four subscales (secure, preoccupied, dismissing and fearful) ranging from 0-5 \((\frac{\text{sum of subscale items}}{\text{number of items in subscale}})\). As the relationship between the attachment dimensions and the intervals was not linear, each attachment subscale was divided into three groups based on the percentiles (e.g. “Low secure” <25\(^\text{th}\) percentile, “Middle secure” 25\(^\text{th}\) to 75\(^\text{th}\) percentile, and “High secure” >75\(^\text{th}\) percentile). In the analyses, the intermediate category was used as reference.

Dependent variable

Patient interval

The patient interval was calculated as number of days between the date of the patient’s first symptom and the date of the first consultation with the GP. Responses with a negative patient interval (n=79) were excluded from the analysis. Patient intervals exceeding 365 days (n=15) were set at the value of 365 days.

In cases of incomplete dates, the following strategies were used. Dates with missing information concerning month or year were excluded. When
specification of a particular day was missing, but month and year were stated, we replaced the missing day by information obtained from the other date reported (n=23). For instance, if the date of the first symptom was missing, but the date of the first consultation was complete, we inserted a day either the 1st, 10th or 20th of the month, whichever was before but closest to the day of the first consultation. Likewise, if the day (but not the month or year) of the first consultation was missing, we used either the 1st, 10th or 20th of the month, whichever was after but closest to the day of first symptom. This method most likely underestimated the length of the intervals, but it allowed for more complete intervals to be calculated. A total of 1,002 questionnaires had missing information concerning the month or year of the dates and were therefore excluded as no patient interval could be calculated.

**GP interval**

The GP interval was calculated as the number of days between the patient’s first consultation and the date of referral to secondary health care. For those GPs who had not given a date of referral, the initiation date of diagnostic procedures was used. Responses with a negative GP interval (n=17) were excluded from the analysis. GP intervals exceeding 365 days were set at the value of 365 days (n=27). A total of 55 cancer cases were excluded due to missing dates.

**The Danish version of the RSQ**

The analyses of the RSQ consisted of three parts. First, we assessed the data quality of the 17 items that constitute the four subscales. It was only possible to assess test-retest reliability for the GP data. Second, we conducted a confirmatory factor analysis (CFA) to validate the four-factor structure proposed by Bartholomew and Horowitz (1991) (66). Third, an exploratory factor analysis (EFA) was conducted to investigate alternative factor structures in case of rejection of the model. The data of the GPs and the patients were assessed
separately as the two samples differed on important aspects such as age, health status and socioeconomic position (see Paper 2 for details).

Statistical analyses

**Analyses of the patient and GP interval**

Attachment was presented as mean (SD), and patient and GP intervals were presented as medians with inter-quartile intervals (IQI) since data for the intervals were not normally distributed.

Descriptive analyses on the patients were performed to explore differences in gender, age, socioeconomic variables and cancer types between included patients and the total study sample to examine the generalizability of the sample of included patients. We also explored differences in age, attachment scores, patient interval and cancer types between included female and male patients. Differences were analysed using Chi-square test, t-test and two-sample Wilcoxon rank-sum test.

Descriptive analyses for the GPs were performed to explore differences in age, practice type and attachment scores between included female and male GPs. Differences in age and the GP interval were analysed using two-sample Wilcoxon rank-sum test as these variables were not normally distributed. Differences in the GPs’ scores on the four attachment subscales were analysed using a two sample t-test.

We investigated correlations between the different attachment measures using Spearman rank-order correlation coefficient since some of the attachment dimensions were not normally distributed.

Associations between patients’ attachment scores and the length of the patient interval were analysed using quantile regression models with attachment as the independent variable and length of the patient interval as the dependent variable. Two models were used: 1) unadjusted and 2) adjusted for the patients’
score on other attachment styles. We decided to adjust for other scores on attachment styles to get an estimate of the individual style. In the analyses where the four attachment styles were used, we adjusted for these styles; and in the analyses where the model of self and other were used, we adjusted for these two aspects. The analyses were done separately for male and female patients as they varied in types of cancer disease, length of their patient interval and attachment scores.

Associations between attachment and GP intervals were analysed using generalised linear models with attachment as the independent variable and the GP interval as the dependent variable. As 62% of the GPs were involved in more than one cancer case, the analyses were clustered for GPs. Since our aim was to explore the association between GPs’ attachment and the probability of their patients having a long GP interval, we categorised the GP interval in two different ways: (a) Long GP interval ≥ 75th percentile and (b) Very long GP interval ≥ 90th percentile. The 75th percentile was identified as 13 days for female patients and 18 days for male patients. The 90th percentile was identified as 76 days for female patients and 69 days for male patients.

Seven models for each categorisation of the GP interval (75th and 90th percentiles) were examined: (a) unadjusted analysis, (b) adjusted for GPs’ other attachment scores. The remaining five models were all adjusted for the GPs’ other attachment scores and the following: (b) the patients’ score on the self-model, (c) the patients’ score on the other-model, (d) the patients’ cancer type, (e) the GPs’ gender and (f) same gender of the patient and the GP.

Throughout the thesis, estimates are given as 95% confidence intervals (95%CI) when relevant.
Validation of the Danish version of the RSQ

Data quality of the RSQ was assessed in terms of mean with standard deviation, median and percentage of missing data for each of the 17 items. Floor and ceiling effects, internal consistency, Cronbach’s α, the average inter-item correlation and test-retest reliability were calculated for each of the four subscales. To assess the goodness of fit for the CFA and the EFA, the following six indices were used (112,113):

2. Comparative fit index (CFI).
3. Tucker-Lewis Index (TLI).
4. The root mean square error of approximation (RMSEA).
5. Standardised root mean square residual (SRMR).
6. Weighted root mean square residual (WRMR).

In the CFA, we allowed inter-correlation among the four latent factors. We used a maximum likelihood method in the EFA using eigenvalue-one criterion with oblique rotation to allow for correlation among the latent factors (113).
APPROVALS AND ETHICS

According to Danish law, approval by the National Committee on Health Research Ethics was not required for the study as no biomedical intervention was performed. The study was approved by the Danish Data Protection Agency (J. no. 2011-41-6632) and the Danish Health and Medicines Authority.

Ethical considerations

Even though the study needed no ethical approval from the National Committee on Health Research Ethics, the project group made several ethical considerations before the study was conducted.

As cancer is a serious condition and since there is a small risk of registration errors in the registries, care was taken in formulating the invitation letter to the patients. The letter emphasised that the patient was registered with a cancer diagnosis in the Danish National Patient Registry, but that there could be errors in the registry. The letter encouraged the patient to contact the project group in case he/she believed that there was an error in the registry.

The timing of sending the questionnaires to the patients was also considered. Since there was a small risk of errors in the registries and some patients might need to contact their GP or the project group the questionnaires were sent out on a Monday. This procedure ensured that the questionnaires were received well before the weekend.

To address that some patients would not like their GP to participate in the study, the patient questionnaire contained a check box where the patient could prohibit the research team from contacting their GP.
CHAPTER 3:

RESULTS IN SUMMARY

This chapter offers a brief summary of Papers 1-4. A more detailed description of the results is presented in the individual papers. As Paper 1 only describes the study in which attachment style was collected for some of the GPs, the results of this paper will only briefly be presented in this chapter.

<table>
<thead>
<tr>
<th>Paper</th>
<th>Study results presented</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Initial assessment of GPs’ attachment style</td>
</tr>
<tr>
<td>2</td>
<td>Data quality and factorial structure of the Relationship Scale Questionnaire (RSQ)</td>
</tr>
<tr>
<td>3</td>
<td>Association between patients’ attachment and the length of the patient interval</td>
</tr>
<tr>
<td>4</td>
<td>Association between the patients’ probability of a long/very long GP interval and their GPs’ attachment</td>
</tr>
</tbody>
</table>
INITIAL ASSESSMENT OF GPS’ ATTACHMENT STYLE

Paper 1
In Paper 1, we presented results from a study investigating GP and practice characteristic (GP profile). The study investigated different psychological measures such as attachment, burnout, well-being, job satisfaction and risk-taking. This was the first time we tried to assess the GPs’ attachment styles.

In this paper, we assessed the data quality of the different psychological measures among 602 GPs who returned the questionnaire. The findings on data quality and the validation of the RSQ among both patients and GPs are presented in Paper 2. The GP sample included in the validation is based on this sample of GPs.
The data quality and factorial structure of the RSQ were examined among 602 GPs and 611 cancer patients. The missing values, i.e. the number of participants who did not answer all items, ranged from 1.2 to 2.5% for the GPs and from 1.2 to 3.4% for the patients.

The data quality was examined for the 17 items in the RSQ that explore the four attachment styles. No floor or ceiling effects were found in the four subscales for GPs or patients. The inter-item correlations ranged from 0.10 to 0.35 for the GPs and from 0.19 to 0.46 for the patients. Cronbach’s α ranged from 0.34 to 0.70 for the GPs and from 0.40 to 0.68 for the patients.

The test-retest reliability was measured using intraclass correlations (ICC) and was conducted among 76 GPs. The test-retest reliability ranged from 0.56 for the preoccupied subscale to 0.72 for the fearful subscale.

For the confirmatory factor analysis, all the goodness-of-fit tests for GPs and patients showed poor comparative fit between the present factor structure and the original four-factor structure.

An exploratory factor analysis was conducted and suggested a three-factor solution for both GPs and patients. The three factors were named independence, closeness and anxiety and covered attachment themes similar to those found in other studies (114,115). For the patients, item 9 loaded equally high for closeness and anxiety. Based on the factor structure, this item was assigned to Anxiety. All items except item 22 were assigned to the same factors for both groups; item 22 was assigned to the factor closeness for the GPs, but to the factor independence for the patients.

The three factors accounted for 55.9% of the variance among the GPs and for 51.7% among the patients. For the patients, Cronbach’s α for the derived factors ranged from 0.61 to 0.74, and the inter-item correlation ranged from 0.35 to 0.49.
For the GPs, Cronbach’s $\alpha$ ranged from 0.66 to 0.80, and the inter-item correlation ranged from 0.25 to 0.53. No floor or ceiling effect was found for the three factors, either for patients or for GPs.
A total of 4,509 cancer patients were eligible for inclusion and received a questionnaire. Of these 10.8% were included in the analyses. The included patients differed from the whole study population by being younger, higher educated and more often married and employed. The included patients also more often had lower GI, breast and gynaecological cancer (Table 1).

The median patient interval for all the patients was 14 days (IQI: 2-47), and it differed significantly between female patients (median: 10 (IQI: 1-36)) and male patients (median: 17 (IQI: 5-67)).

For the patients, we found an association between their attachment style and the length of their patient interval in days. The adjusted analyses showed differences in the direction of association between male and female patients.

For male patients, a low score on fearful attachment was associated with a shorter patient interval than a middle score on fearful attachment. Furthermore, for male patients both a low and a high score on secure attachment were associated with a longer patient interval than a middle score on secure attachment. For male patients with a high score on secure attachment, the patient interval at the 90th percentile was increased by 7 months compared to patients with a secure attachment score in the middle. For female patients a high score on secure was also associated with a longer patient interval at the 90th percentile compared to those with a middle score (Table 2).

For female patients with a high score on dismissing attachment, the patient interval at the 90th percentile was increased with almost 4.5 months compared to patients with a dismissing attachment score in the middle. A high score on dismissing was, however, associated with a shorter patient interval for men from the 75th percentile.
Moreover, for female patients both a low and high score on positive self-model were associated with a longer patient interval than a middle score on positive self-model (Table 2).

Additional analyses
We chose to perform additional analyses for the association between the three factors (independence, closeness and anxiety) found by the EFA and the length of the patient interval. These analyses were not presented in the paper.

For female patients, a low score on anxiety was associated with a shorter patient interval, while a high score was associated with a longer interval. A low score on independence was associated with a shorter patient interval for both female and male patients.

A positive, highly significant correlation was seen between independence and dismissing attachment ($r=0.90$). Anxiety was positively correlated with fearful attachment ($r=0.70$). Furthermore, a strong, positive correlation was seen between closeness and other-model ($r=0.71$) (see Table 4 for details).
Table 3.1

Descriptive data of age, gender, marital status, and socio-demographic variables for the whole study sample and the included sample of patients.

<table>
<thead>
<tr>
<th>Variable</th>
<th>All N = 4,509</th>
<th>Included patients N = 486</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-49</td>
<td>2,105 (46.7%)</td>
<td>227 (46.7%)</td>
</tr>
<tr>
<td>50-69</td>
<td>1,948 (43.2%)</td>
<td>180 (37.0%)</td>
</tr>
<tr>
<td>70+</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2,291 (50.8%)</td>
<td>231 (47.5%)</td>
</tr>
<tr>
<td>Female</td>
<td>2,218 (49.2%)</td>
<td>255 (52.5%)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/ Registered partnership</td>
<td>2,746 (61.1%)</td>
<td>326 (67.1%)</td>
</tr>
<tr>
<td>Cohabiting</td>
<td>307 (6.8%)</td>
<td>32 (6.7%)</td>
</tr>
<tr>
<td>Single</td>
<td>1,439 (32.0%)</td>
<td>128 (26.3%)</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employed/chief executive</td>
<td>227 (5.1%)</td>
<td>31 (6.4%)</td>
</tr>
<tr>
<td>Employed</td>
<td>1,331 (29.6%)</td>
<td>189 (38.9%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>36 (0.8%)</td>
<td>2 (0.4%)</td>
</tr>
<tr>
<td>Social welfare recipients</td>
<td>36 (0.8%)</td>
<td>5 (1.0%)</td>
</tr>
<tr>
<td>Recipients of other benefits</td>
<td>55 (1.2%)</td>
<td>6 (1.2%)</td>
</tr>
<tr>
<td>Retired</td>
<td>2,760 (61.4%)</td>
<td>250 (51.4%)</td>
</tr>
<tr>
<td>Others</td>
<td>47 (1.1%)</td>
<td>3 (0.6%)</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danish</td>
<td>4,354 (96.6%)</td>
<td>476 (97.9%)</td>
</tr>
<tr>
<td>Western immigrants</td>
<td>141 (3.1%)</td>
<td>9 (1.9%)</td>
</tr>
<tr>
<td>Non-Western immigrants</td>
<td>11 (0.2%)</td>
<td>1 (0.2%)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 10</td>
<td>1,635 (37.2%)</td>
<td>138 (28.9%)</td>
</tr>
<tr>
<td>11-15</td>
<td>1,954 (44.5%)</td>
<td>231 (48.4%)</td>
</tr>
<tr>
<td>&gt;15</td>
<td>801 (18.3%)</td>
<td>108 (22.6%)</td>
</tr>
<tr>
<td><strong>Cancer type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper GI</td>
<td>270 (6.0%)</td>
<td>37 (7.6%)</td>
</tr>
<tr>
<td>Lower GI</td>
<td>617 (13.7%)</td>
<td>73 (15.0%)</td>
</tr>
<tr>
<td>Lung</td>
<td>459 (10.2%)</td>
<td>37 (7.6%)</td>
</tr>
<tr>
<td>Melanoma</td>
<td>315 (7.0%)</td>
<td>26 (5.4%)</td>
</tr>
<tr>
<td>Urinary</td>
<td>254 (5.6%)</td>
<td>22 (4.5%)</td>
</tr>
<tr>
<td>Prostate</td>
<td>655 (14.5%)</td>
<td>40 (8.2%)</td>
</tr>
<tr>
<td>Breast</td>
<td>782 (17.3%)</td>
<td>104 (21.4%)</td>
</tr>
<tr>
<td>Gynaecological</td>
<td>256 (5.7%)</td>
<td>43 (8.9%)</td>
</tr>
<tr>
<td>Other</td>
<td>901 (20.0%)</td>
<td>104 (21.4%)</td>
</tr>
</tbody>
</table>

*p-values<0.05, **p-values<0.01 for chi-square test between the socio-demographic variables
### Table 2

Patient-interval for the female patients in calendar days for the 50th, 75th and 90th percentile displayed by patient’s attachment

<table>
<thead>
<tr>
<th>Attachment</th>
<th>50th percentile</th>
<th>75th percentile</th>
<th>90th percentile</th>
<th>Direction of the association across percentiles</th>
<th>Adjusted analysis</th>
<th>Female cancer patients (N=244)</th>
<th>Direction of the association across percentiles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50th percentile estimate 95%CI</td>
<td>75th percentile estimate 95%CI</td>
<td>90th percentile estimate 95%CI</td>
<td>50th percentile estimate 95%CI</td>
<td>75th percentile estimate 95%CI</td>
<td>90th percentile estimate 95%CI</td>
<td>50th percentile estimate 95%CI</td>
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<tr>
<td>Secure attachment</td>
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<tr>
<td>Low</td>
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<tr>
<td>Middle</td>
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<tr>
<td>High</td>
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<tr>
<td>Preoccupied attachment</td>
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<td>Middle</td>
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<tr>
<td>Dismissing attachment</td>
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<tr>
<td>Fearful attachment</td>
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<tr>
<td>Positive self-model</td>
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<tr>
<td>Positive other-model</td>
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<td>High</td>
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</tr>
</tbody>
</table>

**Note:** Bold = significant level of \( p \leq 0.05 \)

68
Table 3
Patient interval for the male and female patients in calendar days for the 50th, 75th and 90th percentile displayed by patient’s three attachment factors found by exploratory factor analysis. Note: Bold = significance level of \( p < 0.05 \)

<table>
<thead>
<tr>
<th>Attachment Factor</th>
<th>N (%)</th>
<th>50th percentile estimate 95%CI</th>
<th>75th percentile estimate 95%CI</th>
<th>90th percentile estimate 95%CI</th>
<th>Direction of association across percentiles</th>
<th>Male patients</th>
<th>N (%)</th>
<th>50th percentile estimate 95%CI</th>
<th>75th percentile estimate 95%CI</th>
<th>90th percentile estimate 95%CI</th>
<th>Direction of association across percentiles</th>
<th>Female patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>229</td>
<td>-14 (-24; -5)</td>
<td>ref.</td>
<td></td>
<td>-5 (-9; -1)</td>
<td>- -</td>
<td>250</td>
<td>-19 (-28; -9)</td>
<td>ref.</td>
<td>-49 (-57; -41)</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td></td>
<td>-56 (-66; -46)</td>
<td>ref.</td>
<td></td>
<td>-73 (-79; -67)</td>
<td>0 --</td>
<td></td>
<td></td>
<td>ref.</td>
<td>11 (2; 21)</td>
<td>-15 (-21; -9)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>0 (-10; 10)</td>
<td>ref.</td>
<td></td>
<td>-21 (-29; -13)</td>
<td>0 --</td>
<td></td>
<td></td>
<td>ref.</td>
<td>-1 (-5; 3)</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>Closeness</td>
<td>233</td>
<td>4 (-6; 13)</td>
<td>ref.</td>
<td></td>
<td>7 (-4; 18)</td>
<td>+ +</td>
<td>252</td>
<td>7 (-2; 17)</td>
<td>ref.</td>
<td>30 (24; 35)</td>
<td>+ +</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>-6 (-10; -1)</td>
<td>ref.</td>
<td></td>
<td>26 (20; 32)</td>
<td>+ +</td>
<td></td>
<td></td>
<td>ref.</td>
<td>-10 (-21; 2)</td>
<td>-12 (-18; -6)</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td></td>
<td>72 (64; 80)</td>
<td>ref.</td>
<td></td>
<td>-3 (-13; 7)</td>
<td>- -</td>
<td></td>
<td></td>
<td>ref.</td>
<td>-2 (-15; 11)</td>
<td>-24 (-32; -16)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>-15 (-23; -7)</td>
<td>ref.</td>
<td></td>
<td>7 (-1; 15)</td>
<td>+ +</td>
<td></td>
<td></td>
<td>ref.</td>
<td>17 (4; 29)</td>
<td>93 (84; 102)</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>227</td>
<td>-4 (-16; 8)</td>
<td>ref.</td>
<td></td>
<td>23 (15; 30)</td>
<td>+ +</td>
<td>251</td>
<td>-2 (-13; 7)</td>
<td>ref.</td>
<td>-2 (-15; 11)</td>
<td>-24 (-32; -16)</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>-6 (-16; 4)</td>
<td>ref.</td>
<td></td>
<td>15 (6; 23)</td>
<td>- -</td>
<td></td>
<td></td>
<td>ref.</td>
<td>-2 (-15; 11)</td>
<td>-24 (-32; -16)</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td></td>
<td>-15 (-23; -7)</td>
<td>ref.</td>
<td></td>
<td>72 (64; 80)</td>
<td>- -</td>
<td></td>
<td></td>
<td>ref.</td>
<td>17 (4; 29)</td>
<td>93 (84; 102)</td>
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<tr>
<td>High</td>
<td></td>
<td>72 (64; 80)</td>
<td>ref.</td>
<td></td>
<td>-3 (-13; 7)</td>
<td>+ +</td>
<td></td>
<td></td>
<td>ref.</td>
<td>-2 (-15; 11)</td>
<td>-24 (-32; -16)</td>
<td></td>
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</tbody>
</table>

### Adjusted analysis for patients’ other attachment measure(s)

| Attachment Factor | N (%) | 50th percentile estimate 95%CI | 75th percentile estimate 95%CI | 90th percentile estimate 95%CI | Direction of association across percentiles | Male patients | N (%) | 50th percentile estimate 95%CI | 75th percentile estimate 95%CI | 90th percentile estimate 95%CI | Direction of association across percentiles | Female patients |
|-------------------|-------|--------------------------------|--------------------------------|--------------------------------|-------------------------------------------|---------------|-------|--------------------------------|--------------------------------|--------------------------------|-------------------------------------------|                 |
| Independence      |       |                                |                                |                                |                                           |               |       |                                |                                |                                |                                           |                 |
| Low               | 225   | -12 (-17; -6)                  |ref.                            |                                | -5 (-12; 2)                               | - -           | 244   | -15 (-21; -8)                  |ref.                            | -28 (-72; 15)                  | - -           |                   |
| Middle            |       | -24 (-38; -9)                  |ref.                            |                                | -77 (-84; -70)                            | + +           |       |                                |ref.                            | 17 (5; 30)                    | -7 (-33; 18)   |                   |
| High              |       | 1 (-13; 16)                   |ref.                            |                                | 38 (-45; -32)                             | + +           |       |                                |ref.                            | 18 (6; 31)                    | 30 (54; 114)   |                   |
| Closeness         | 225   | 1 (-13; 16)                   |ref.                            |                                | 7 (-23; 37)                               | - -           | 244   | -5 (-19; 8)                    |ref.                            | -12 (-106; 82)              | + +           |                   |
| Low               |       | -2 (-10; 5)                   |ref.                            |                                | -10 (-19; 4)                              | - -           |       |                                |ref.                            | -7 (-20; 7)                   | -36 (-69; -3)  |                   |
| Middle            |       | -7 (-20; 6)                   |ref.                            |                                | -10 (-19; 4)                              | - -           |       |                                |ref.                            | -7 (-20; 7)                   | -36 (-69; -3)  |                   |
| High              |       | -10 (-19; 4)                  |ref.                            |                                | -10 (-19; 4)                              | - -           |       |                                |ref.                            | -7 (-20; 7)                   | -36 (-69; -3)  |                   |
| Anxiety           | 225   | -3 (-42; 37)                  |ref.                            |                                | 19 (12; 27)                               | - -           | 244   | -1 (-15; 12)                   |ref.                            | 54 (9; 117)                   | + +           |                   |
| Low               |       | -4 (-16; 7)                   |ref.                            |                                | 30 (21; 39)                               | - -           |       |                                |ref.                            | 54 (9; 117)                   | + +           |                   |
| Middle            |       | -8 (-18; 3)                   |ref.                            |                                | 30 (21; 39)                               | - -           |       |                                |ref.                            | 54 (9; 117)                   | + +           |                   |
| High              |       | 30 (21; 39)                   |ref.                            |                                | 30 (21; 39)                               | - -           |       |                                |ref.                            | 54 (9; 117)                   | + +           |                   |

Chapter 3: Results in summary
Table 4
Correlation between the different attachment measures for the patient data

<table>
<thead>
<tr>
<th></th>
<th>Secure</th>
<th>Preoccupied</th>
<th>Dismissing</th>
<th>Fearful</th>
<th>Self-model</th>
<th>Other-model</th>
<th>Independence</th>
<th>Closeness</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preoccupied</td>
<td>0.10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dismissing</td>
<td>-0.28</td>
<td>-0.33</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fearful</td>
<td>-0.40</td>
<td>0.006</td>
<td>0.51</td>
<td>1</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Self-model</td>
<td>0.40</td>
<td>-0.65</td>
<td>0.36</td>
<td>-0.40</td>
<td>1</td>
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<tr>
<td>Other-model</td>
<td>0.60</td>
<td>0.47</td>
<td>-0.83</td>
<td>-0.73</td>
<td>-0.08</td>
<td>1</td>
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<td></td>
<td></td>
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<tr>
<td>Independence</td>
<td>-0.31</td>
<td>-0.23</td>
<td>0.90</td>
<td>0.55</td>
<td>0.23</td>
<td>-0.78</td>
<td>1</td>
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<tr>
<td>Closeness</td>
<td>0.58</td>
<td>0.68</td>
<td>-0.46</td>
<td>-0.32</td>
<td>-0.20</td>
<td>0.71</td>
<td>-0.32</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-0.50</td>
<td>0.42</td>
<td>0.19</td>
<td>0.70</td>
<td>-0.71</td>
<td>-0.38</td>
<td>0.13</td>
<td>-0.11</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Bold = significance level of $p<0.05$
Paper 4

Questionnaires were sent to GPs or general practices for a total of 1,812 cancer cases. Of these cases, 759 were included in the analyses. Table 4 displays the characteristics of the 759 cancer cases included in the analyses of the association between the GPs’ attachment and the patients’ probability of having a long/very long GP interval. These patients differed from the whole study population of patients (4,509) by being younger, higher educated, more often married and employed, and more often had lower GI and gynaecological cancer (Table 5).

Significant associations between the GPs’ attachment and the patients’ probability of having a long GP interval (≥75th percentile) were found only for male patients. The probability of having a long GP interval was significantly lower for male patients with a GP scoring either low or high on preoccupied attachment than among male patients with a GP scoring in the middle of preoccupied attachment (Table 6).

The probability of having a very long GP interval (≥90th percentile) was significantly lower for male patients if their GP scored high on preoccupied attachment than if their GP scored in the middle. For female patients, the probability of having a very long GP interval was significantly higher if their GP scored low on preoccupied than if their GP scored in the middle or if their GP scored high on fearful attachment compared with in the middle. For female patients there was a tendency towards a lower probability of having a long/very long GP interval if the GP scored high on secure attachment. There was a slight tendency for an association in the opposite direction for male patients (Table 6).

The analyses adjusted for the effect of the patients’ cancer type, the GP’s gender and same gender of the patient and the GP showed no effect of these factors on the association between the GP’s attachment style and the patients’ probability of having a long/very long GP interval. These analyses are displayed in Table 7 and 8.
Additional analyses

We chose to perform additional analyses for the association between the three factors (independence, closeness and anxiety) found by the EFA and the patients’ probability of having a long/very long GP interval. These analyses were not presented in the paper.

For the three factors, a significant association was found only between the patient’s probability of a very long GP interval and the GP’s high score on anxiety for female patients (Table 9).

The three factors correlated with the other attachment styles (Table 10).
Chapter 3: Results in summary

Table 5
Descriptive data of included cancer cases for the analyses of the association between the GPs’ attachment and the patients’ probability of a long/very long GP interval

<table>
<thead>
<tr>
<th>Variable</th>
<th>All N = 4,509</th>
<th>Included cancer cases N = 759</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Age**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-49</td>
<td>2,105</td>
<td>46.7</td>
</tr>
<tr>
<td>50-69</td>
<td>1,948</td>
<td>43.2</td>
</tr>
<tr>
<td>70+</td>
<td>456</td>
<td>10.1</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2,291</td>
<td>50.8</td>
</tr>
<tr>
<td>Female</td>
<td>2,218</td>
<td>49.2</td>
</tr>
<tr>
<td>Marital status*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/ Registered partnership</td>
<td>2,746</td>
<td>61.1</td>
</tr>
<tr>
<td>Cohabiting</td>
<td>307</td>
<td>6.8</td>
</tr>
<tr>
<td>Single</td>
<td>1,439</td>
<td>32.0</td>
</tr>
<tr>
<td>Occupation**</td>
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<td></td>
</tr>
<tr>
<td>Self-employed/chief executive</td>
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<td>5.1</td>
</tr>
<tr>
<td>Employed</td>
<td>1,331</td>
<td>29.6</td>
</tr>
<tr>
<td>Unemployed</td>
<td>36</td>
<td>0.8</td>
</tr>
<tr>
<td>Social welfare recipients</td>
<td>36</td>
<td>0.8</td>
</tr>
<tr>
<td>Recipients of other benefits</td>
<td>55</td>
<td>1.2</td>
</tr>
<tr>
<td>Retired</td>
<td>2,760</td>
<td>61.4</td>
</tr>
<tr>
<td>Others</td>
<td>47</td>
<td>1.1</td>
</tr>
<tr>
<td>Ethnicity</td>
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<tr>
<td>Danish</td>
<td>4,354</td>
<td>96.6</td>
</tr>
<tr>
<td>Western immigrants</td>
<td>141</td>
<td>3.1</td>
</tr>
<tr>
<td>Non-Western immigrants</td>
<td>11</td>
<td>0.2</td>
</tr>
<tr>
<td>Education*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 10</td>
<td>1,635</td>
<td>37.2</td>
</tr>
<tr>
<td>11-15</td>
<td>1,954</td>
<td>44.5</td>
</tr>
<tr>
<td>&gt;15</td>
<td>801</td>
<td>18.3</td>
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<td>Cancer type**</td>
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</tr>
<tr>
<td>Upper GI</td>
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</tr>
<tr>
<td>Lower GI</td>
<td>617</td>
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<td>Lung</td>
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<td>10.2</td>
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<td>Melanoma</td>
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<td>Urinary</td>
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<td>Prostate</td>
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<tr>
<td>Breast</td>
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<tr>
<td>Gynaecologic</td>
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<tr>
<td>Other</td>
<td>901</td>
<td>20.0</td>
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</tbody>
</table>

*p-values<0.05, **p-values<0.01 for chi-square test between the socio-demographic variables
Table 6

Association between GPs’ attachment and the probability of a long GP interval for male cancer patients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male cancer cases (n=368)</th>
<th>Female cancer cases (n=377)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75th percentile</td>
<td>90th percentile</td>
<td>75th percentile</td>
<td>90th percentile</td>
</tr>
<tr>
<td>Secure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.2</td>
<td>1.4</td>
<td>1.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Middle</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>(0.7;1.7)</td>
<td>(0.5;2.8)</td>
<td>(0.4;1.2)</td>
<td>(0.2;1.5)</td>
</tr>
<tr>
<td>Preoccupied</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>0.6</td>
<td>0.6</td>
<td>1.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Middle</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.5</td>
<td>0.2</td>
<td>0.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Dismissing</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.3</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Middle</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>(1.0;2.4)</td>
<td>(0.7;3.5)</td>
<td>(0.7;1.9)</td>
<td>(0.3;2.1)</td>
</tr>
<tr>
<td>Fearful</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.1</td>
<td>1.0</td>
<td>1.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Middle</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.8</td>
<td>0.9</td>
<td>1.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Self-model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.0</td>
<td>0.9</td>
<td>1.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Middle</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>(0.6;1.4)</td>
<td>(0.2;1.5)</td>
<td>(0.8;1.7)</td>
<td>(0.4;1.8)</td>
</tr>
<tr>
<td>Other-model</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.0</td>
<td>1.3</td>
<td>1.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Middle</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>(0.7;1.7)</td>
<td>(0.5;2.6)</td>
<td>(0.4;1.1)</td>
<td>(0.3;1.4)</td>
</tr>
</tbody>
</table>

Note: Bold = significance level of $p<0.05$; PRR=Prevalence Rate Ratio
Association between GPs’ attachment and the probability of a long GP interval for male cancer patients. All the analyses were adjusted for the GP’s other attachment score.

<table>
<thead>
<tr>
<th>Male cancer cases</th>
<th>Adjusted for patients’ cancer types (N=368)</th>
<th>Adjusted for GP gender (N=368)</th>
<th>Adjusted for same gender of patient and GP (N=368)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>75th percentile PRR (95%CI)</td>
<td>90th percentile PRR (95%CI)</td>
<td>75th percentile PRR (95%CI)</td>
</tr>
<tr>
<td>Secure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.2 (0.8;1.8)</td>
<td>1.4 (0.7;2.8)</td>
<td>1.2 (0.8;1.8)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
</tr>
<tr>
<td>High</td>
<td>1.1 (0.7;1.7)</td>
<td>1.2 (0.6;2.8)</td>
<td>1.1 (0.7;1.7)</td>
</tr>
<tr>
<td>Preoccupied</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>0.6 (0.4;0.9)</td>
<td>0.6 (0.2;1.3)</td>
<td>0.6 (0.4;1.0)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.5 (0.3;0.9)</td>
<td>0.2 (0.05;0.8)</td>
<td>0.5 (0.3;0.9)</td>
</tr>
<tr>
<td>Dismissing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.3 (0.9;1.9)</td>
<td>1.2 (0.6;2.4)</td>
<td>1.3 (0.9;1.9)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
</tr>
<tr>
<td>High</td>
<td>1.4 (0.9;2.3)</td>
<td>1.4 (0.6;3.2)</td>
<td>1.5 (1.0;2.4)</td>
</tr>
<tr>
<td>Fearful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.1 (0.7;1.6)</td>
<td>1.1 (0.5;2.3)</td>
<td>1.1 (0.7;1.6)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.8 (0.5;1.3)</td>
<td>0.9 (0.4;2.1)</td>
<td>0.8 (0.5;1.3)</td>
</tr>
<tr>
<td>Self-model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.0 (0.6;1.5)</td>
<td>0.9 (0.4;1.9)</td>
<td>1.0 (0.6;1.5)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.9 (0.6;1.4)</td>
<td>0.6 (0.2;1.5)</td>
<td>0.9 (0.6;1.4)</td>
</tr>
<tr>
<td>Other-model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.0 (0.6;1.5)</td>
<td>1.3 (0.6;2.7)</td>
<td>1.0 (0.7;1.7)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
<td>ref. ref.</td>
</tr>
<tr>
<td>High</td>
<td>1.1 (0.7;1.7)</td>
<td>1.2 (0.5;2.7)</td>
<td>1.1 (0.7;1.7)</td>
</tr>
</tbody>
</table>

Note: Bold = significance level of \( p<0.05 \); PRR=Prevalence Rate Ratio
Table 8
Association between GPs’ attachment and the probability of a long GP interval for female cancer patients. All the analyses were adjusted for the GP’s other attachment score.

<table>
<thead>
<tr>
<th>Female cancer cases</th>
<th>Adjusted for patients’ cancer types (n=377)</th>
<th>Adjusted for GP gender (n=377)</th>
<th>Adjusted for same gender of patient and GP (n=377)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75&lt;sup&gt;th&lt;/sup&gt; percentile PRR (95%CI)</td>
<td>90&lt;sup&gt;th&lt;/sup&gt; percentile PRR (95%CI)</td>
<td>75&lt;sup&gt;th&lt;/sup&gt; percentile PRR (95%CI)</td>
</tr>
<tr>
<td><strong>Secure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.0</td>
<td>0.8</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>(0.7;1.4)</td>
<td>(0.4;1.5)</td>
<td>(0.4;1.6)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref.</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>(0.4;1.2)</td>
<td>(0.2;1.5)</td>
<td>(0.4;1.2)</td>
</tr>
<tr>
<td><strong>Preoccupied</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.3</td>
<td>2.1</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>(1.0;1.9)</td>
<td>(1.1;3.9)</td>
<td>(1.0;1.9)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.6</td>
<td>1.5</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>(0.3;1.1)</td>
<td>(0.6;3.5)</td>
<td>(0.3;1.1)</td>
</tr>
<tr>
<td><strong>Dismissing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>(0.8;1.7)</td>
<td>(0.6;2.3)</td>
<td>(0.8;1.7)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>1.2</td>
<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>(0.7;2.0)</td>
<td>(0.3;2.0)</td>
<td>(0.7;1.9)</td>
</tr>
<tr>
<td><strong>Fearful</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.2</td>
<td>1.9</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>(0.8;1.7)</td>
<td>(0.9;3.9)</td>
<td>(0.8;1.7)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>1.1</td>
<td>2.4</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>(0.7;1.7)</td>
<td>(1.1;5.2)</td>
<td>(0.7;1.7)</td>
</tr>
<tr>
<td><strong>Self-model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.0</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>(0.6;1.5)</td>
<td>(0.4;1.8)</td>
<td>(0.6;1.5)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>1.1</td>
<td>0.9</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>(0.8;1.7)</td>
<td>(0.4;1.8)</td>
<td>(0.8;1.7)</td>
</tr>
<tr>
<td><strong>Other-model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.0</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>(0.7;1.4)</td>
<td>(0.5;1.8)</td>
<td>(0.7;1.4)</td>
</tr>
<tr>
<td>Middle</td>
<td>ref</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>High</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>(0.4;1.1)</td>
<td>(0.3;1.4)</td>
<td>(0.4;1.1)</td>
</tr>
</tbody>
</table>

Note: Bold = significance level of p<0.05; PRR=Prevalence Rate Ratio
Table 9
Probability of a long/very long GP interval for the male and female patients displayed by patients’ three attachment factors found by exploratory factor analysis

<table>
<thead>
<tr>
<th>Attachment Factor</th>
<th>Unadjusted analyses</th>
<th>Adjusted for GPs’ other attachment measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male cancer cases</td>
<td>Female cancer cases</td>
</tr>
<tr>
<td></td>
<td>N (%)</td>
<td>75&lt;sup&gt;th&lt;/sup&gt; percentile PRR (95%CI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75&lt;sup&gt;th&lt;/sup&gt; percentile PRR (95%CI)</td>
</tr>
<tr>
<td>Independence</td>
<td>374</td>
<td>0.7 (0.5;1.1)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>1.0 (0.7;1.6)</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>ref.</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>1.0 (0.6;1.5)</td>
</tr>
<tr>
<td>Closeness</td>
<td>372</td>
<td>0.9 (0.6;1.3)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>0.9 (0.5;1.5)</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>ref.</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>ref.</td>
</tr>
<tr>
<td>Anxiety</td>
<td>374</td>
<td>0.8 (0.6;1.3)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>0.9 (0.6;1.4)</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>ref.</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>ref.</td>
</tr>
</tbody>
</table>

Note: Bold = significance level of $p<0.05$; PRR=Prevalence Rate Ratio
Table 10
Correlation between the different attachment measures for the GP data

<table>
<thead>
<tr>
<th></th>
<th>Secure</th>
<th>Preoccupied</th>
<th>Dismissing</th>
<th>Fearful</th>
<th>Self-model</th>
<th>Other-model</th>
<th>Independence</th>
<th>Closeness</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preoccupied</td>
<td>0.12</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dismissing</td>
<td>-0.41</td>
<td>-0.36</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fearful</td>
<td>-0.55</td>
<td>-0.06</td>
<td>0.55</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-model</td>
<td>0.47</td>
<td>-0.59</td>
<td>0.27</td>
<td>-0.44</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other-model</td>
<td>0.70</td>
<td>0.50</td>
<td>-0.84</td>
<td>-0.76</td>
<td>-0.008</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independence</td>
<td>-0.22</td>
<td>-0.13</td>
<td>0.52</td>
<td>0.44</td>
<td>0.05</td>
<td>-0.48</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closeness</td>
<td>0.46</td>
<td>0.48</td>
<td>-0.40</td>
<td>-0.38</td>
<td>-0.04</td>
<td>0.60</td>
<td>-0.36</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-0.22</td>
<td>0.15</td>
<td>0.02</td>
<td>0.23</td>
<td>-0.29</td>
<td>-0.12</td>
<td>0.08</td>
<td>-0.15</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Bold = significance level of $p<0.05$
CHAPTER 4:

DISCUSSION OF METHODS
INTERNAL VALIDITY

Design

The study was a cross-sectional study of a cohort of incident cancer patients in the Central Denmark Region. Data for the study were collected retrospectively.

The cross-sectional design of the study makes it descriptive as causality cannot be determined (116). However, despite their limitations, cross-sectional studies are increasingly being used to study the effects of exposures assumed to remain constant (117). Although attachment is believed to be relatively stable over time, an individual’s attachment styles may change as a result of stressful life events (51,52). This raises the questions of how stable the cancer patients’ attachment style was. It is very likely that a cancer diagnosis may affect a person’s internal working models. As the whole course of cancer may force the person to rely on others for emotional and instrumental support, this could change the person’s perception of his/her own abilities to handle stressful situations. Also, depending on how others react to the person’s different needs, this may change the person’s view of how available and forthcoming others are. We would therefore expect less stability in the patients’ attachment style than in the GPs’ attachment style as a result of the crisis they may experience due to their cancer diagnosis.

The questions on dates for calculating the length of the patient and GP interval were asked retrospectively which increases the risk of recall bias; a prospective design would therefore have been preferable. A prospective design would also have allowed for measurement of the patients’ attachment style before they received a cancer diagnosis which would have allowed us to examine the reliability of the patients’ attachment style. However, as only 6-10 of the patients on the GPs’ lists are diagnosed with cancer each year, a prospective design would not have been feasible.
Validity of the questionnaires

The content validity of the patient questionnaire and the GP questionnaire was assessed by cognitive interviews.

Patient questionnaire

The patient questionnaire was distributed among a small group of cancer patients at the Oncological Department, Aarhus University Hospital; and the patients were interviewed afterwards. This procedure was carried out to determine whether the patients understood the questionnaire items and to assess their understanding of what the questionnaire was measuring. These patients did not have difficulties in filling out the questionnaire or understanding the questions and the content of the questionnaire.

However, after the project was started and the first questionnaires were sent out, we learned that several patients were confused by the entry question. The objective of this entry question was to include only patients who had experienced symptoms and who had consulted their GP with these symptoms. We therefore changed this question; and although this seemed to alleviate the problem, it did not solve the problem completely. One of the unveiled problems with the revised question was the patients’ understanding or memory of whether they had experienced symptoms. Some patients would indicate in the entry question that they had not experienced symptoms in the time period leading up to their cancer diagnosis, but would, nonetheless, tick off one or more symptoms from the symptom list when asked to indicate which symptoms they had when consulting their GP. It is difficult to know whether this discrepancy arose because the patients did not understand the questions or if the list of symptom prompted their memory, or whether they did not view the experienced changes in their body as symptoms when completing the entry question. This indicates, however, that the entry question did not measure what we intended it to do. One way to solve this problem might have been to present the symptom list as the first question in the questionnaire and then subsequently
ask the patient whether he/she had consulted the GP for one or more of the listed symptoms. We might have picked up this problem sooner if we had performed a more extensive assessment of the questionnaire’s content validity. The questionnaire was assessed by only a small number of patients because most of the questions addressing the patient’s cancer pathway had been tested in other studies at the research unit. However, in the previous studies, a questionnaire was sent to the GP before a questionnaire was sent to the patient. In the GP questionnaire of the previous studies, the GP was asked to indicate whether the patient was eligible and of interest for the study. A change in the Danish Health and Medicines Authority’s patient protection meant that this procedure was no longer an option in the present study.

The GP questionnaire

The content validity of the GP questionnaire was assessed among a small group of GPs. The GPs filled out the questionnaire, and cognitive interviews were conducted to assess the GPs’ understanding of the questionnaire. The assessment among the GPs revealed no difficulties in their understanding of the items and concepts in the questionnaire. Most of the questions had been used in other studies as well.

The RSQ

The validity of the RSQ was examined in Paper 2 where we assessed both the quality and the validity of the scale. A confirmatory factor analysis was conducted, but could not confirm the four proposed attachment styles which questions the construct validity of the scale. The content validity of the four attachment styles was examined by Bartholomew and Horowitz (1991) when the theory of the four-category model was introduced. The underlying dimensions (self- and other-model) of the four attachment styles were validated by self-report measures of self-concept and interpersonal functioning, where each attachment style was associated with a distinct profile (66)
The convergent validity of the four attachment styles of the RSQ has been examined by assessing how convergent the four attachment styles assessed by self-report are compared with interviews. Griffin and Bartholomew (1994) found that the four attachment styles found by the RSQ correlated with the four attachment styles found by interviews with convergent validity coefficients ranging from 0.25 to 0.47. Measurement of the convergent validity between the self- and other-model measured by the RSQ and the self- and other-model identified by interviews showed convergent validity coefficients ranging from 0.37 for self-model and 0.48 for other-model. These coefficients are modest and show that there are differences between self-reported attachment and attachment identified by interviews (67). Overall this indicates validity problems with the RSQ, which calls for caution in the interpretation of the results.

**Processing of the questionnaire data**

To ensure high quality in the questionnaire data, CMA coded the questionnaires guided by a predefined coding strategy, and the coding was double-checked before the questionnaires were scanned. CMA and a research assistant scanned and verified the questionnaires. The quality of this procedure was checked and found satisfactory as there was no more than 1% error between the scanned and the verified data (see section on data entry page 40).

**Selection bias**

The sampling algorithm was based on data from the NPR. The latest overall evaluation of the NPR in 1993 showed that a correct diagnosis was indicated for 73% of all the patients (118). Since 1993 different diagnosis specific evaluations have been performed which have confirmed that there are some misclassifications in the NPR (119-121). Although the accuracy of the registry is
relatively high, a misclassification percentage of 27% calls for some concern about the validity of the registry.

In the study, 38 questionnaires (3.7%) were returned from the GP with a note that the patient had a different cancer diagnosis than the one we were informed about. In 55 cases, we were informed by the patient or the GP that the patient did not have a cancer diagnosis. This confirmed that there were some errors of diagnosis for the patients who had been sampled via the registers. The sampling of incident cancer patients was based on an algorithm used in previous studies which has shown a positive predictive value of 92.4% (92). Therefore, the procedure ensured that almost all incident cancer patients fulfilling the inclusion criteria were eventually included in the study.

Since only 486 (10.8%) of the sampled patients could be included in the analyses of the patient interval and 759 (16.8%) in the analysis of the GP interval, it is important to consider if there may be a selection bias among the included patients. The patients who were not included in the analyses differed from the sample of included patients in both the patient dataset and the GP dataset by being older, more often single, lower educated, retired and more often diagnosed with lung or prostate cancer. Of the non-included patients, 594 (13%) had died before the questionnaires were sent out. These patients were older, lower educated, more often single and retired and more often diagnosed with cancer of the lungs or upper GI than the included patients, and they hence resembled the other patients who were not included in the analyses. We have no estimation of whether those patients who were not included in the analyses had shorter or longer patient intervals than the included participants. However, a recent study by Hvidberg, Pedersen, Wulff and Vedsted (2014) found that people with a low educational level and a low household income were more likely to have a lower awareness of cancer symptoms, cancer risk factors and the growing risk of cancer with age. Moreover, people outside the labour force
tended to be less aware of these factors than people within the labour force (122). Based on these findings, it could be assumed that the non-included patients would have had longer patient intervals as a result of their lower cancer awareness compared with those who were included. Insofar this assumption is true, the high number of patients who were not included in the analyses may have given rise to underestimation of the results of this study. It is also possible that the patients were not included in the analyses differed from included patients in terms of their attachment style.

Selection bias regarding attachment may exist in so far as patients and GPs with a negative model of other (dismissing and fearful attachment style) did not want to participate in the study. Patients and GPs with a negative other-model may strongly have disliked the idea about disclosing very personal information in a questionnaire. In the patients, this tendency may have been reinforced as we actually asked them to name a specific GP in the questionnaire which might have given them the impression that their identity was exposed. This could increase the risk of a type II error meaning that we would miss the association between a negative model of other and a long patient/GP interval even if it existed in reality. However, 55% of the included patients and 25% of the included GPs had an attachment style associated with a negative model of other. The percentage was much higher among the patients than we would have expected based on figures from the normal population (see page 25). Among patients with a negative model of other, the vast majority was dismissingly attached. The very low number of fearfully attached patients and fearfully attached GPs may indicate that individuals with a fearful attachment chose not to participate.

When the GP questionnaire was sent out to the GPs during the project period, a few GPs reacted strongly to items of the RSQ. These GPs felt that the questions were too personal and not appropriate in a questionnaire focused on their clinical work. Since the RSQ was not filled out for 127 cancer cases, it is possible
that we did not introduce the attachment questions well enough in the questionnaire or the questions may have been upsetting for some GPs depending on their own attachment history. As only 18 GPs did not fill out the RSQ for the initial assessment of the GPs’ attachment style (Paper 1), it is likely that the GPs found it more acceptable to answer questions on attachment styles in relation to a more general assessment of themselves than in relation to a specific clinical case. Most of the eligible GPs were assessed in the initial study (GP-profile). We therefore do not believe that our results were affected too much by those GPs who did not want to fill out the RSQ.

A number of invited GPs decided not to participate, and it can only be guesswork as to whether these GPs’ patients had longer or shorter GP intervals than the patients of those GPs who decided to participate. We have speculated, but have found no reason to believe that GPs with cases characterised by long GP intervals would choose not to disclose information on these prolonged investigative processes. Nonetheless, if it was the case, this would probably have underestimated the result found in this study.
Information bias

In this section, I discuss the information bias of the registries and the questionnaires.

The registries

As discussed under the section on selection bias evaluations of the National Patient Registry (NPR) show that not all patients have the correct diagnosis in the NPR (118). This indicates information bias in the registry with incorrect information being registered for some patients. This type of information bias may be due to incorrect registration of diagnostic codes in the system, e.g. if a specific diagnosis is registered using an incorrect code. However, these registration errors are most likely non-differential.

The questionnaires

Two time intervals were analysed in the questionnaires: 1) the patient interval and 2) the GP interval. The accuracy of the patient and GP interval might be affected by information and recall bias. A total of 1,002 patients had missing information on the dates so that a patient interval could not be calculated. The number of excluded patients is high and the size of this number may reflect either difficulty in understanding the questions or that the patients could not remember when they had experienced their first symptom or the date of first consultation with their GP. A total of 79 patients reported a negative patient interval, which indicates that some patients misunderstood the questions. However, it is also very likely that some patients had difficulty remembering the dates. Research shows that only half of all cancer patients experience a red-flag symptom such as a lump or rectal bleeding (123). If patients experience vague symptoms such as tiredness or bowl problems, it may be more difficult for them to state an exact date of when the symptoms set in and when the patient first consulted the GP with these symptoms. It is difficult to guess whether this would result in longer or shorter intervals to be reported.
Within the first six months of inclusion, we became aware that the diagnostic workup for a few patients was not finished at the time they received the questionnaire. Receiving a letter telling the patient that he/she was diagnosed with cancer before being told so by a physician will definitely cause distress for the patient, and we decided to push back the monthly sampling date by two months to avoid this in future sending outs. The inclusion of a two-month period may have increased the risk of recall bias as the time from diagnosis to receiving a questionnaire was extended for some patients. However, as the monthly sampling procedure included all patients registered with a cancer diagnosis from the sampling date back to the date of the study start (1st of July 2012), the inclusion period for the patients already varied. We therefore do not believe that the two extra months increased the risk of recall bias considerably.

The data on the GP interval may be more accurate than the data on the patient interval because the information could be found in the patient’s medical record although the GP’s retrospective recording of information from the electronic medical record might be affected by their knowledge of the patient’s cancer status. Only 55 questionnaires were excluded due to missing dates for the GP interval. In some instances, the GP did not report a referral date, and in these cases we chose to use the date of first diagnostic procedures instead as this indicated clinical action taken by the GP. Although this may have underestimated the length of the GP interval, it increased the power of the analyses. As GPs can consult medical records for information, it is likely that the recall bias was more outspoken for the patient interval than for the GP interval. There might, however, be a discrepancy between patients’ and GPs’ evaluation of the time of onset of the patients’ cancer symptoms. A patient with many years of lung problem such as asthma or frequent pneumonia might estimate the onset of a lung cancer at an earlier date than the GP. This discrepancy can both under- and overestimate the length of the patient- and/or GP interval.
Pushing the monthly sampling date back two months for the patients may also increase the risk of non-responses from the GPs since the GPs may have experienced difficulty in clearly remembering the patient’s pathway. However, data were based on the GP’s electronic records, and a comparison of the monthly response rates of the GPs obtained before and after the inclusion of the two months period revealed no difference.

Since the questions on attachment asked how the patient/GP generally experience close relationships, recall bias was not expected. However, in the questionnaire some patients wrote that they were single/widowed. Since it is not possible to know if these patients filled out the questions with less close relationships in mind or whether they thought of previous close relationships, there might be a small risk of recall bias. It is also possible that some patients and GPs chose to modify their answers on the attachment questions as some of the questions are very personal.

Confounding and the influence of other variables

In both the patient and GP data, we performed separate analyses for female and male patients/cancer cases as there were gender differences in the length of the patient/GP intervals and because some cancer types are gender-specific.

We chose to control the analyses for the participants’ score on the other attachment styles to get a clear estimate of the influence of the individual attachment dimension. We tested for multicollinearity and found the correlations between the four attachment styles to range from $r=0.006$ to $r=0.51$ for the patients and from $r=0.06$ to $r=0.55$ for the GPs. This indicates that there was no multicollinearity between the attachment measures; but the moderate correlations show that there are some interrelationships between the measures. If we did not control for the other attachment score, this may have affected our estimates; but at the same time, an individual has a score on each attachment
dimensions, and this complexity is removed by controlling for other attachment scores.

In the examination of the association between GPs’ attachment and the GP interval, we adjusted the analyses for the patients’ self- and other-model, the patient’s cancer type, the GP’s gender and same gender of the patient and GP. We chose to adjust the analyses for these co-variables as they may be associated with GP attachment (e.g. GP gender), the quality of the consultation or both. It is, however, possible that the analyses were affected by residual, unmeasured or unknown confounding.

Alternative methods

In this study, we used a register-based sampling algorithm to identify eligible patients. Alternatively, we could have asked GPs to sample patients. As registries have a known margin of error, this alternative sampling procedure could have prevented that questionnaires were sent to patients who did not have a cancer diagnosis or who had not finished their diagnostic workup. However, using GPs to sample patients would have required massive personnel resources in the GP practice; and the success of the sampling would depend on the GP’s ability and willingness to participate. Therefore, the sampling procedure used in this study seems to be a feasible and valid way to sample patients.

Since we encountered a few patients who had not finished their diagnostic workup by the time they received the questionnaire, we pushed the monthly sampling date back two months. This added time period did not seem to affect the response rate, and it would therefore be advisable to add this extra period in future studies. As discussed earlier, another way to avoid this problem would have been to send a questionnaire to the GPs before sending one to the patient. However, a change in the Danish Health and Medicines Authority’s patient protection meant that this procedure was no longer an option and that patients
now had to consent to their GP’s disclosure of information about their health situation. This meant that we sent questionnaires out to patients who did not meet our inclusion criteria, and also that we did send questionnaires to a few patients who had erroneously been registered with a cancer diagnosis.
To examine the association between patients’ attachment style and the length of their patient interval, we applied a quantile regression model. This method allows an investigation of the association between attachment and the length of the patient interval at different points in the distribution of the patient interval. By using quantile regression, we could investigate the association between a patient’s attachment and the length of the patient interval at the tail of the patient interval, more exactly at the 50th, 75th and 90th percentile.

A quantile regression model could also, in principle, have been used for the GP data. However, as 62% of the GPs were involved in more than one cancer case, we wanted to cluster the analysis for GPs which a quantile regression model does not allow. Also, as half of all the GP intervals had a length of zero days, a quantile regression would not be the best model. Instead, we chose to use a generalised linear model and to categorise the GP interval so that we could still examine the association between the GP’s attachment and the tail of the GP interval.
EXTERNAL VALIDITY

Generalizability

The sample of included patients represented only a tenth of the total study population which questions the generalizability of the results. The included patients in the analyses of the patient and the GP intervals were younger, better educated, more often married and employed and more often had breast, gynaecologic and lower GI cancer. These differences in the included samples call for caution in generalizing the results to other cancer populations. Care should also be taken not to generalize these results to countries in which the GP does not act as a gatekeeper in the healthcare system and in which patients are not registered with a particular GP. It is difficult to know whether similar results would be found for consultations between patients and other healthcare providers with whom the patient might not have a continuous relationship.
In this chapter, I will discuss the result of Papers 1-4. Paper 1 only describes the study in which attachment style was collected for some of the GPs and it will therefore only be discussed briefly.
INITIAL ASSESSMENT OF GPS’ ATTACHMENT STYLE

The initial assessment of GP characteristics (GP profile) described in Paper 1 showed that GPs responded well to the questionnaire (response rate 72.1%). This indicates that GPs support research into how their characteristics may affect their work and well-being. The fact that the GPs’ attachment style was assessed in two different ways may have affected the GPs’ response on the RSQ. This will be discussed in details in the general discussion of this chapter (page 112).
In our assessment of the Danish version of the RSQ, a CFA could not confirm the proposed four attachment style structure (secure, preoccupied, dismissing and fearful). To our knowledge, no other studies have been able to confirm the four attachment styles. This begs the questions either how valid the scale’s measurement of the four attachment styles is or how valid the four-categories theory based on the working models is or both.

On the question on the validity of the scale, it could be argued that the four attachment styles cannot be found by a CFA as each attachment style is based on items on both the person’s self- and other-model (67). Hence, each subscale/attachment style is based on two latent variables (perception of self and perception of others), and it is questionable whether the items measuring the two latent variables will correlate strongly enough to produce a single factor in a CFA. A natural step would therefore be to try to confirm the two dimensions of self and other by a CFA. This is, however, challenging since the way the self- and the other-model is derived in the RSQ involves all the same items for both models. The challenge in creating two independent dimensions for self- and other-model lies in the interdependence between the dimensions, meaning that a person’s perception of him/herself depends on his/her perception of other people (67).

On the question of the validity of the self- and other-model, Pietromonaco and Barrett (2000) reviewed the research on the area (65). They found that there was ample support from self-report and interview studies that people with different attachment styles differ in their views of themselves in the theoretically expected way (positive view for secure and dismissing people and negative view for preoccupied and fearful people). The research also supported that secure people hold more positive views of others. However, the support for the insecure attachment styles and their associated view on others was more inconsistent,
and it seemed to depend on whether views of others were assessed at a general or a specific level (65). It seems that more research is needed to establish to which degree people’s attachment styles are based on the underlying dimensions of their model of self and other and, if so, how best to measure these dimensions.

Since we found no support for the four attachment styles by CFA, we chose to conduct an EFA which revealed a three-factor structure. The three factors were named independence, closeness and anxiety, and they were similar to factors found in other studies (114,115). However, these other studies included all the 30 items of the RSQ, whereas we chose to include only the 17 items that are consistent with the four-category theory. Some discrepancy in the factors to which some of the items were assigned was also observed between our and the other studies. The three factors found in this study need to be confirmed by a CFA in other populations.
Despite the problems regarding the quality of the RSQ, we found associations between cancer patients’ attachment style and the length of the patient interval. In this section, I will only discuss the main findings (see Paper 3 for more details).

For male patients and female patients at the 90th percentile of the patient interval, an association was seen between a high score on secure attachment style and a longer patient interval. This result was in the opposite direction of what we expected. According to the theory and research on patients’ help-seeking, secure individuals seek help when they need it. One explanation for this could be that if a secure person is alarmed by a symptom and feels distress, he or she may seek help and comfort from an attachment figure (e.g. their spouse) instead of consulting the GP. Another explanation could be that secure individuals do not get so easily alarmed by symptoms and therefore do not feel the need to seek help. This may be even more so for men as the association was more pronounced for men.

A high score on dismissing attachment style increased the length of the patient interval in female patients, but decreased the length in male patients from the 75th percentile. We had expected to see an association between a high score on dismissing attachment and a longer patient interval as a result of dismissing individuals’ self-reliance and preference for handling things on their own (124). This was only confirmed for the female patients. The direction was in the opposite direction for male patients. One explanation for this may be that if a male patient experiences symptoms, he may choose to consult his GP instead of sharing his concerns with family and friends as it may be easier to maintain an emotional distance to the GP. This may be more difficult for female patients if, as a result of generally more frequent consultations in general (125) they have a
more established relationship with their GP (this is discussed in more details in on page 102).

For female patients, a high score on model of self was associated with a longer patient interval similar to the association found for female patients with a high score on dismissing attachment. As individuals with a dismissing attachment have a positive self-model, these results could be an expression of a high level of self-reliance and downplay of symptoms among female patients with a high score on self-model.

For female patients, we found that a high score on the factor anxiety (the factor found by the EFA) was associated with a longer interval. Anxiety measures both anxiety about being abandoned and anxiety about getting too close to and trusting other people, and this combination of anxiety may result in the patient delaying help-seeking because he or she is anxious about trusting the GP and being rejected. Although a high correlation exists between anxiety and fearful attachment (r=0.70), we found no association between fearful attachment and a longer patient interval for female patients. The items that constitute fearful attachment are more related to anxiety of getting too close to and trusting others than anxiety about being abandoned. It is possible that a combination of both anxieties may create more of a barrier for patients to seek help when needed.

In this study, we found associations between the patients’ attachment and the length of their patient interval. We found gender differences in these associations; and general gender differences in the use of general practice may explain some of these differences. Some of the complexity in the results may be due to the quality of the scale, i.e. the extent to which it measures the four attachment styles. Some of the complexity may also be due to the stressful situation the patients were in when we measured their attachment style. Although attachment styles are assumed to be relatively stable over time, a
cancer diagnosis may result in changes in the individual’s internal working models (this is discussed in details on page 80).
In this study, we found associations between cancer patients’ probability of having a long/very long GP interval and their GP’s attachment style. In this section, I will only discuss the main findings (see Paper 4 for more details).

Many of the associations between the GPs’ attachment styles and the patients’ probability of having a long/very long GP interval went in opposite directions for male and female patients. This indicates that other factors are affecting the association between GPs’ attachment style and their patients’ probability of having a long/very long GP interval. We believe that one factor contributing to these discrepancies in probability between female and male patients is related to general differences in women and men’s use of general practice. As mentioned in the last section, women generally use general practice more than men (125), and they may therefore have established a closer relationship with their GP than men.

Studies of video recordings in general practice have shown that the GP’s expression of empathy and willingness to help affects the patient’s trust in the GP and the quality of the information the patient gives in the consultation (126-128). As only half of all cancer patients display alarm symptoms (123), the GP is dependent on the information given by the patient.

This could explain the discrepancy we found between male and female patients who had a GP with a high score on secure attachment. Female patients tended to have a lower probability of having a long/very long GP interval whereas male patients tended to have a slightly higher probability of having a long/very long GP interval. As women may have a better relationship with their GP, they may share more information in the consultation which generally furthers faster investigation of possible cancer-related symptoms.

On the other hand, some GPs may be more wary if a male patient presents with symptoms that could be cancer-related and may act more promptly, especially if
the GP is more anxious about his/her own ability to cope with stressful situation. This could support the results we found for patients with a GP scoring high on preoccupied attachment. The GP’s high score was associated with a lower probability of a long/very long GP interval for male patients, whereas the association was more complex for female patients. We also found a tendency towards a lower probability of a long/very long GP interval for male patients if their GP scored high on fearful attachment or anxiety (the factor found by the EFA). A tendency for an association in the opposite direction was found for female patients.

The results of this study indicate that the GP’s attachment does influence the length of the GP interval and that the differences in this influence between male and female patients may be related to men and women’s different use of general practice.
GENERAL DISCUSSION

Overall we found that patients’ attachment styles affect the length of the patient interval and that the GPs’ attachment styles affect the patients’ probability of having a long/very long GP interval. We see some of the same patterns in the patients’ and the GPs’ attachment and the associated length of the intervals. For example, for male patients their own high score on secure attachment style was associated with a longer patient interval; but we also found a higher probability of a long/very long GP interval for male patients with a GP scoring high on secure attachment. This could possibly be a reflection of secure individual’s positive belief in themselves and others (129), which could cause a generally positive expectation to life with less focus on negative things. We do not know if this is so, but it may be hypothesised that the secure male patient may underestimate the seriousness of his symptoms. GPs with a high score on secure attachment style may also underestimate the risk of cancer when encountering male patients.

Concerning dismissing attachment, the results of the analyses showed opposite directions for the patient and GP interval for male patients. Male patients with a high score on dismissing attachment had a shorter patient interval, whereas male patients of GPs with a high score on dismissing attachment had a higher probability of having a long/very long GP interval. This difference in patients’ and GPs’ behaviours may reflect that dismissing individuals generally prefer emotional distance (129). In the consultation, a dismissing GP may not be able to create an alliance in which most male patients would feel comfortable sharing information about their symptoms. The dismissing patient may see the GP as a resource to fixing his symptoms and consult the GP as a way to solve the problem at hand and may even prefer an emotional distanced GP as this allows the patient to make instrumental use of the GP and to avoid activating his attachment system.
Chapter 5: Discussion of results

For female patients, we found that a high score on other-model was associated with a shorter patient interval, and also that a high score on other-models among GPs was associated with a lower probability for a long/very long GP interval. This could reflect that individuals with a positive model of other see other people as available and responsive (65). Such patients therefore seek help faster (i.e. short patient interval), and a positive model of other may represent a wish to help other people if they need it why patients of GPs with a high score on model of other have a shorter GP interval. This pattern was only seen among female patients which could be an expression of a more established relationship between female patients and their GP because women generally make more frequent use of general practice (125) as discussed earlier.

A concurrent pattern was also found for female patients and a high score on anxiety with those patients having a longer patient interval and patients of GPs with a high score on anxiety having a higher probability of having a long/very long GP interval. A high score on anxiety may indicate both anxiety towards being rejected by others and also anxiety of being too close to others. Patients with a high score on anxiety may delay seeking help as their anxiety related to their dependence on others and possibly being let down by them, e.g. their GP, may cause them to delay seeking help. These anxieties may also explain why patients of GPs with a high score on anxiety have a higher probability of a long/very long GP interval as the GP’s discomfort with other people needing them may cause them to reject the patients’ emotional needs and thereby affect the quality of the relationship between them. The fact that the pattern is only seen for female patients may again be an expression of a more established relationship between female patients and the GP and women’s propensity to express more fear and distress than men (130) in the consultation.

Some of the associations between patients’ attachment style and the patient interval and the associations between the GPs’ attachment style and the GP interval were of a very complex nature. Some of this complexity may be due to
the fact that the patient-GP relationship is not a traditional attachment relationship, and only some of the patients’ attachment needs are met. For the GPs, we expected that their caregiving system may be activated by the patients’ distress. This may also be the case in some consultations; but as the GP does not have a close personal relationship with the patient, the GP may be able to keep a professional distance in the consultation. The setting of the consultations in general practice is also very structured, with specific elements such as history taking and physical examination, which may make it easier for GPs to keep a professional attitude towards the patients no matter what type of attachment is characteristic for the GP and the patient. Attachment has, however, been found to play an important role in other professional relationships such as the therapeutic alliance (131-133). In the therapeutic relationship, the therapist can, however, function as both a safe haven where the patient can get support and care if distressed, and as a secure base from which the client can explore different aspects of his/her life (134). The medical setting does not encourage an in-depth exploration of the patient’s feelings and thoughts about the present matter, and this may add to the complexity found in our results.

It is possible, though, that some GPs have their attachment systems activated if they meet patients who are deeply distressed. A GP with a preoccupied attachment style may easily be distressed by their patients’ distress as their attachment system is easily aroused (135). We also saw that male patients of GPs with a high score on preoccupied attachment had a low probability of a long/very long GP interval, which may indicate that these GPs refer the patients faster as a reaction to an aroused attachment system and their low confidence in their own ability to deal with stressful situations. It could be that some of the complexity found in the association between the GP’s attachment style and the patient’s probability of having a long/very long GP interval could be a result of the interaction between the patient’s and the GP’s attachment styles. In the
analyses, we found a trend that the probability of a long/very long GP interval was influenced by the patient’s model of self and other which indicates that the interaction between the patient’s and the GP’s attachment styles may be important.

An existing relationship between a patient and a GP may also influence the patient’s help-seeking behaviour. If the patient has experienced being rejected by the GP, the patient may delay seeking help for later concerns.

Furthermore, the poor validity of the RSQ may cause some of the complexity found in the results. If the patients’ and the GPs’ attachment styles were measured with a more valid measure, the associations may have been clearer. The RSQ measures attachment in general interactions. Some uncertainty therefore exists as to whether the participants filled out the questions thinking of how they generally are in close relationships or whether they filled out the questions with a specific attachment figure (e.g. to their spouse) in mind (65), and how this may have impacted the results.

Moreover, as discussed earlier some of the complexity found in the associations between cancer patients’ attachment style and the length of the patient interval may be due to the stressful situation the patients were in when we measured their attachment style.

For the majority of the GPs, information concerning their attachment style was retrieved through a questionnaire package on job satisfaction and burnout. For the rest of the GPs (i.e. the GPs who did not take part in the study on job satisfaction and burnout), their attachment style was measured through a questionnaire on the GP interval for a specific cancer patient. These different ways of collecting the GPs’ attachment styles may have given rise to systematic biases in the responses to the RSQ. Although we asked the GPs to fill out the RSQ with their close relationships in mind, we cannot rule out that the GPs who filled out the questionnaire in relation to the questionnaire on the GP interval
were influenced by how the consultation had been with that specific patient. It is, however, not possible to know how this may have affected the results.

The studies in this thesis showed that patients’ attachment styles affect the length of the patient interval and that the GPs’ attachment styles affect the patients’ probability of having a long/very long GP interval. These associations are complex, and it is therefore difficult to give specific recommendation about how GPs should treat patients with specific attachment styles. It is important to stress that insecure attachment styles are not pathologic, but an expression of an individual’s adaptation to challenging interactions, especially early caregiving experiences. This knowledge and an awareness of one’s own attachment style and how this may affect one’s behaviour may help GPs create a safe atmosphere in the consultation where they can show due empathy towards the patient’s attachment needs. If the patient feels that the GP is available and empathic towards his/her underlying needs, he/she may provide better information about experienced symptoms and decrease the likelihood of delay.
CHAPTER 6:

MAIN CONCLUSIONS
Referring to the aims of this study stated in the introduction, the following conclusions can be drawn.

Initial assessment of GPs’ attachment style

The first aim was to describe the initial method used to assess GP characteristics such as their attachment style (Paper 1).

Conclusion: This study demonstrated that it was possible to measure GPs’ characteristics such as their attachment styles.

The Danish version of the RSQ

The second aim was to assess the data quality and validity of the Danish version of the attachment measure “the Relationship Scale Questionnaire” (RSQ) by confirmatory factor analysis (paper 2).

Conclusion: The data quality of the RSQ was high with very few missing values and no ceiling or floor effects. The internal consistency and the inter-item correlations were low to moderate. The reliability was acceptable for the fearful subscale, but not for the other three subscales. The four proposed attachment styles (secure, preoccupied, dismissing and fearful) could not be confirmed by confirmatory factor analysis (CFA). An explanatory factor analysis (EFA) suggested a three-factor solution. These factors were named independence, closeness and anxiety; and they resemble similar factors found by other studies examining the factorial structure of the RSQ. The three factors need to be explored and confirmed in future studies.

The following analyses and conclusions should be seen in the light of the poor validity of our attachment measure (the RSQ).
Patient interval

The third aim was to examine the association between patients’ attachment style and the length of the patient interval (paper 3).

Conclusion: Associations were found between cancer patients’ attachment style and the length of the patient interval. For male patients and female patients at the 90th percentile, there was an association between a high score on secure attachment style and a longer patient interval. A high score on dismissing attachment score increased the length of the patient interval in female patients, but decreased the length in male patients from the 75th percentile.

Analyses with the three factors found in the exploratory factor analysis (EFA) showed an association between a low score on independence and a shorter patient interval for all patients. For the factor anxiety, a low score was associated with a shorter patient interval for the female patients, while a high score was associated with a longer interval.

GP interval

The fourth aim was to analyse how the GP’s attachment style affects the probability of the patient having a long or very long GP interval (paper 4).

Conclusion: The study demonstrated an associated between the GP’s attachment style and the probability of cancer patients having a long/very long GP interval. Clear gender differences were found in the association between the GP’s attachment style and the probability of having a long or very long GP interval. For male patients, the probability of having a long GP interval was significantly lower if their GP scored either low or high on preoccupied attachment. Moreover, the probability of a very long GP interval was significantly lower if the male patients’ GP had a high score on preoccupied attachment than a middle score on preoccupied attachment. For female patients the probability of having a very long GP interval was high with GPs scoring low on the preoccupied subscale or high on the fearful subscale.
General conclusion and clinical implications

The studies in this thesis showed that the patient’s attachment style affects the length of the patient interval and that the GP’s attachment style affects the patient’s probability of having a long/very long GP interval. These associations are complex, and it is therefore difficult to give specific recommendation about how GPs should treat patients with specific attachment styles. Knowledge of attachment theory and how attachment may affect patients’ and GPs’ own behaviours in the clinic could help GPs better understand some of the psychological processes that may affect the patients’ reasons for encounter and their own work in the consultation. A deeper theoretical understanding of some of the reasons why patients react differently to a threat like cancer and an ability to empathize with the patients’ underlying need for security may lead to the GP being perceived as being more responsive to patients’ diverse needs. This may, in turn, both enhance patients’ willingness/motivation to attend the GP for a given symptom and improve the quality of the patient-GP relationship in the consultation. For example, a patient with a fearful attachment may seek help, but at the same time be very critical towards the GP. If GPs understand that such behaviour is an expression of distress, it may be easier to make a strictly professional assessment of the risk of disease and to empathize with the patient’s situation, and the GP may avoid taking their behaviour and criticism personally. A good patient-GP relationship may reduce the probability of delay by demonstrating to patients that the GP is available and will help them when they need it. Finally, the GP’s own professional development may be stimulated by a more theory-driven self-assessment of personal characteristics that may influence the consultation process.
CHAPTER 7:

PERSPECTIVES AND FUTURE RESEARCH
As we could not find the proposed four attachment styles by confirmatory factor analysis, more research is needed to refine our measurement tools, and the three factors that were found by exploratory factor analysis need to be confirmed in future studies.

In this thesis, we demonstrated that the patient’s attachment style affects the length of the patient interval. We also showed that the GP’s attachment style affects the probability of their patients having a long/very long GP interval and that some of these associations were affected by the patient’s attachment measure (model of self and other). From a clinical point of view, a further, natural step would be to explore the interaction between the patient’s and the GP’s attachment style and the length of the whole interval, although this may be statistically challenging. Of course, the ultimate aim is to explore whether the length of the patient and GP interval may be shortened in intervention studies based on attachment theory and efforts to improve timely access and the consultation process.

The interaction between the patient and the GP could also be measured by other variables such as the patient’s evaluation of the GP’s empathy in the consultation or the GP’s evaluation of how difficult the consultation was. Patients may see the GP as more empathic if the GP supports the patient’s underlying needs and this may, in turn, positively affect the quality of the relationship between them. For example, a dismissing patient may feel that the GP is empathic if the GP supports the patient’s self-reliance, whereas a preoccupied patient may feel that the GP is empathic when the GP is emotionally available. In this project, we also measured the GP’s evaluation of the difficulty in the interaction with the patient as patient difficulty has been associated with insecure attachment. It is possible that the probability of the
patient having a long/very long GP interval is mediated through the GP’s evaluation of difficulty in the interaction.

Since we found that the GP’s attachment style affects the length of their patients’ GP interval and since research has shown that the GP’s attachment affects interventions with patients (26), it would be interesting to investigate how the GP’s attachment style affects other parts of the clinical work, for instance referral rates and drug prescriptions, and how GPs cope with their work in general practice. Pines (2004) has shown that insecure attachment is related to burnout among students and nurses (136), but this association has not been examined in GPs.

Since insecure attachment has been associated with disease and chronic illness, a further exploration of cancer patients’ attachment styles and other health outcomes would be valuable. Using data from this study and from Danish registries, future studies may explore associations between patients’ attachment styles and the number of hospital admissions or mortality, for instance. Also, previous studies have shown that patients with different attachment styles differ in terms of their use of general practice (68), but it is unknown whether their patterns of healthcare utilisation change in the time leading up to their cancer diagnosis.
The association between attachment and delay in the diagnosis of cancer in primary care
The association between attachment and delay in the diagnosis of cancer in primary care


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ENGLISH SUMMARY
Introduction

The World Health Organization (WHO) considers cancer one of the leading causes of death in the Western world. Cancer is most often diagnosed in general practice, and early diagnosis is essential for improving the patient’s prognosis. The diagnosis of cancer may be delayed both by the patient’s and the GP’s behaviour, e.g. if the patient postpones help-seeking despite symptoms or if the GP misdiagnoses the patient’s symptoms.

The diagnostic process can be divided into:

- The patient interval, which is the time between the patient’s experience of the first symptom until the patient seeks medical help.
- The GP interval, which is the time from the patient’s first symptom presentation to the GP’s referral to specialist or hospital investigation.
- The system interval, which is the time from start of GP-initiated investigation until start of treatment. In this project, we investigate only the patient and the GP interval.

Knowledge of patient and GP characteristics that may affect early detection of cancer is poor although such knowledge is essential to the design of interventions aimed at preventing delay. Attachment theory may inform such interventions by explaining how behaviours like help-seeking and caregiving function in times of distress.

Aims

The aims of this thesis were:

1. To describe the initial method used to assess GP characteristics such as their attachment style (Paper 1)
2. To assess the data quality and factorial structure of the Danish version of the attachment measure the Relationship Scale Questionnaire (RSQ) (Paper 2).
3. To examine the association between the patient’s attachment style and the length of the patient interval (Paper 3).

4. To examine the association between the GP’s attachment style and the probability of the patient having a long or very long GP interval (Paper 4).

Method

The project was conducted as a cross-sectional study using registry data and questionnaires. The sample was newly diagnosed incident cancer patients over 18 years old from the Central Denmark Region and their general practitioners. A total of 4,509 patients were invited to participate in the project over a period of 18 months.

The patients were sampled through Danish registries, and they received a questionnaire assessing the patient interval and their attachment style. If patients consented, a questionnaire with questions on the GP interval and GP attachment styles was sent to the patient’s GP. Some GPs had already filled out questions on attachment from an initial study and these GPs received a questionnaire without the questions on their attachment style.

The data quality of the Danish version of the RSQ was assessed by mean, median and missing values for each item, floor and ceiling effects, average inter-item correlations and Cronbach’s α for each subscale. Test-retest was assessed by intra-class correlation (ICC) among 76 GPs. To assess the factorial structure of the RSQ, a confirmatory factor analysis was performed. As the four attachment styles could not be confirmed, an explorative analysis was conducted.

To explore the association between patients’ attachment and the length of the patient interval, quantile regression analyses were used. The probability of patients having a long/very long GP interval was assessed by a generalised
linear model. A long and a very long GP interval were defined as 25% and the 10% percentiles with the longest GP interval, respectively. The attachment scores for analyses of the patient as well as the GP interval were divided into three categories (low, middle and high) based on the 25th and 75th percentiles. The middle category was used as reference.

Results

Paper 1 showed that it was possible to assess the GPs’ psychological characteristics such as their attachment style.

Paper 2 presents a Danish version of the RSQ. The data quality of the scale was generally good, except for low-to-moderate internal consistency and inter-item correlation coefficients. CFA in GPs and cancer patients demonstrated a poor fit. The test-retest reliability was acceptable for one of the subscales (fearful), but not for the other three. EFA demonstrated a three-factor structure for both GPs and cancer patients. The internal consistency of the three factors proposed by the EFA was low to moderate. These three factors were named independence, closeness and anxiety, and these attachment themes were similar to the factors found in other studies.

Paper 3 showed associations between patients’ attachment styles and the length of the patient interval. For male patients and female patients at the 90th percentile, an association was seen between a high score on the secure subscale and a longer patient interval. A high score on the dismissing subscale increased the length of the patient interval in females, ranging from an additional 8 (95% CI: -11;26) days at the 50th percentile to 129 (95% CI: 53;112) at the 90th percentile; but decreased the length in men, ranging from 4 (95% CI: -13;5) days less at the 75th percentile to 68 (95% CI: -87;-49) days less at the 90th percentile.
In Paper 4, we found clear gender differences in the association between the GP’s attachment and the probability of having a long GP interval. For female patients, the probability of having a very long GP interval was high when the GP scored low on preoccupied or fearful attachment, while a tendency for a low probability with GPs who scored high on secure attachment was seen. For male patients, the probability of having a long/very long GP interval was low when the GP scored low or high on preoccupied.

Conclusion

In conclusion, the thesis demonstrated that attachment theory and the methods used to assess attachment styles may benefit from further development. In spite of this, we found that patients’ and GPs’ attachment styles seem to be associated with the length of the intervals in cancer diagnosis in primary care. Clear gender differences were observed in the associations between attachment and the length of the patient and the GP intervals. Some of the associations were complex; and may be rooted in general gender differences in use of general practice. As a result of the complexity of the results, it is not possible to give clear guidance as to how GPs may treat patients with different attachment styles. Still, it is beyond doubt that GPs may, indeed, find benefit from a heightened awareness, in theory as well as practice, of how their own and the individual patient’s attachment style may affect their clinical work, notably in the early phases of cancer diagnostics.
Baggrund

Kræft er ifølge Verdens sundhedsorganisationen (WHO) en af de førende dødsårsager i den vestlige verden. Diagnostik af kræft foregår oftest i almen praksis, og tidlig diagnostik kan sandsynligvis forbedre kræftpatienters prognose. Forsinkelser i udredningen af kræft kan skyldes både patientens og lægens adfærd, f.eks. hvis patient udsætter at søge hjælp trods alvorlige symptomer eller lægen misdiagnosticerer patientens symptomer.

Den diagnostiske proces kan opdeles i tre intervaller:

- **Patientintervallet** er tiden fra patienten oplever det første symptom, til patienten søger lægehjælp.
- **Lægeintervallet** er tiden fra patientens første symptompræsentation, til lægen henviser patienten til videre udredning.
- **Systemintervallet** er tiden fra henvisning til sekundærsektoren til start af behandling. I dette projekt er fokus kun på patient- og lægeintervallet.

Viden om patient- og lægekarakteristika, som kan påvirke tidlig udredning af kræft, er mangelfuld. Denne viden er dog vigtig i udformningen af interventioner med henblik på at forebygge forsinkelse i patientens udredningsforløb. Tilknytningsteorien kan muligvis bruges som et vigtigt bidrag på området, da teorien beskriver, hvordan adfærd som hjælpeesøgning og det at yde hjælp udspiller sig i stressfulde situationer.

Formål

Formålene med denne afhandling var:

- At beskrive den første måling af lægekarakteristika såsom lægernes tilknytningsstil (artikel 1).
- At vurdere datakvaliteten og faktorstrukturen i den danske udgave af the Relationship Scale Questionnaire (RSQ) (artikel 2).
- At undersøge sammenhængen mellem patienters tilknytningsstil og længden af patientintervallet (artikel 3).
At undersøge sammenhængen mellem lægens tilknytningsstil og patientens risiko for at få et langt eller meget langt lægeinterval (artikel 4).

Metode


Quantile regressionsanalyser blev brugt til at undersøge sammenhængen mellem patienters tilknytningsstil og længden af deres patientinterval. Patienternes sandsynlighed for at have et langt/meget langt lægeinterval blev undersøgt ved hjælp af GLM (general linear model). Et lang og meget lang GP interval blev defineret som henholdsvis 25 % og 10 % percentilerne med det længste GP interval. For analyserne både for patient- og lægeintervallet blev
tilknytningsstilene delt op i tre kategorier (lav, middel og høj) i forhold til 25 % og 75 % percentilerne. Middelkategorien blev brugt som reference.

Resultater

I artikel 1 blev den første måling af lægernes tilknytningsstil beskrevet.

I artikel 2 blev den danske version af RSQ’en præsenteret. Datakvaliteten af skalaen var generelt godt, bortset fra lav til moderat intern konsistens (internal consistency) og inter-item korrelation. Den konfirmatoriske faktoranalyse kunne ikke genfinde de fire underskalaer i RSQ’en, hverken for patienterne eller lægerne. En eksplorativ faktoranalyse viste en tre-faktor struktur for både patienterne og lægerne. Den interne konsistens for de tre fundne faktorer var lav til moderat. De tre faktorer blev navngivet independence (selvstændighed), closeness (nærhed) og anxiety (angst) og dækkede over samme temaer, som er fundet i andre studier.

I artikel 3 blev der fundet sammenhænge mellem patienters tilknytningsstil og længden af deres patientinterval. For mandlige patienter og kvindelige patienter ved 90 % percentilen var der en sammenhæng mellem en høj score på secure tilknytning og et langt patientinterval. En høj score på dismissing tilknytning øgede længden af patientintervallet for kvindelige patienter med 8 (95 % CI: -11;26) dage mere ved 50 % percentilen til 129 (95 % CI: 53;112) dage mere ved 90 % percentilen. For mandlige patienter blev patientintervallet dog kortere med 4 (95 % CI: -13;5) dage mindre ved 75 % percentilen til 68 (95 % CI: -87;-49) dage mindre ved 90 % percentilen.

I artikel 4 fandt vi sammenhænge mellem lægernes tilknytningsstil og patientens sandsynlighed for at have et langt/meget langt lægeinterval. For kvindelige patienter var sandsynligheden for et meget langt lægeinterval højere,
hvis lægen scorede lavt på *preoccupied*- og *fearful*-tilknytning i forhold til, hvis lægen havde en middel score. Der var også en tendens imod en lav sandsynlighed for et meget langt lægeinterval for kvindelige patienter, hvis lægen scorede højt på *secure*-tilknytning. For mandlige patienter var sandsynligheden for et langt/meget langt lægeinterval lav, hvis lægen scorede lavt eller højt på *preoccupied*-tilknytning.

Konklusion

Denne afhandling viste, at der fortsat er behov for metodeudvikling i relation til tilknytningsteorien og metoder til at måle tilknytning. Trods dette påvistes, at forskellige karakteristika i patienters og lægers tilknytning ser ud til at være forbundet med længden af intervallerne i patientens kræftdiagnosticering i almen praksis. Der var klare kønsforskelle i sammenhængene mellem tilknytning og længden af patient- og lægeintervallerne. Nogle af sammenhængene var komplekse, hvilket foruden metodeproblemer i måling af tilknytning måske kunne skyldes generelle kønsforskelle i brug af almen praksis. På grund af resultaternes kompleksitet er det svært at give klare retningslinjer for, hvordan læger bør behandle patienter med forskellige tilknytningsstil. Det kan imidlertid være værdifuldt med en større teoretisk og praktisk opmærksomhed på, hvordan lægens egen og patientens tilknytningsstil kan påvirke lægens kliniske arbejde og den tidlige fase af kræftdiagnostik.
APPENDIX A

PATIENTS’ INVITATION LETTER AND QUESTIONNAIRE
Kære <navn>

Vi er en forskerguppe ved Aarhus Universitet, der undersøger kraftpatienters sygdomsforløb. Fra det såkalte Landspatientregister har vi fået oplyst, at du er registreret med en kræftdiagnose.

Allerkort vil vi understrege, at elektroniske registre desværre kan indeholde fejl. Skulle registreringen af dig være en fejl, undskylder vi meget, og vi vil bede dig om at kontakte os, så fejlen kan noteres.

Vi vil bede om din hjælp ved at udfylde vedlagte spørgeskema. Du er meget velkommen til at udfylde skemaet sammen med en af dine påtrædende.

Spørgeskemaet tager ca. 10-15 min. at udfylde. Spørgeskemaet giver digmulighed for at besvare nogle spørgsmål omkring dine oplevelser om dit forløb hos din egen læge. Dette vil kunne gave fremtidige kraftpatienters undersøgelser.ylt forløb.

Vi ved, at dette er en svær tid for dig, men vi håber, at du kan og vil hjælpe os med undersøgelsen. Du kan kontakte den projektansvarlige, Christina Maar Andersen, på tlf.: 40 33 58 44 (bedst mellem kl. 9-15), hvis du har spørgsmål til indholdet af skemaet eller har behov for hjælp til at udfylde det.


Vi håber, du vil hjælpe os, og vi ser frem til at modtage dit skema.

Med venlig hilsen

Christina Maar Andersen
Cand.psych.
Projektansvarlig

Peter Vedsted
Professor, ph.d.

Anette Fischer Pedersen
Cand.psych., ph.d.

Frede Olsen
Professor, dr. med.
Kære <<Navn>>

Vi henvendte os til dig for at bede dig deltage i en undersøgelse om forløbet frem til din kræftdiagnose. Da vi ikke har hørt fra dig, tillader vi os hermed at kontakte dig igen. Hvis du allerede har udfyldt og indsendt spørgeskemaet, skal du bare smide dette brev væk, og i så fald undskylder vi ulemphan.

Det er vigtigt, at så mange patienter som muligt deltager, og derfor har vi brug for din hjælp. Alle besvarelser har stor betydning for undersøgelsen, som vil kunne gavne fremtidsige kræftpatienter. Vi vil minde om at det naturligtvis er frivilligt, om du vil besvare spørgeskemaet.


Det tager ca. 10-15 min. at udfylde spørgeskemaet. Du er meget velkommen til at udfylde skemaet sammen med en af dine pårørende. Du er også meget velkommen til at kontakte den projektansvarlige, Christina Maar Andersen, på tlf. 40 33 58 44 (bedst mellem kl. 9-15), hvis du har spørgsmål til indholdet af skemaet eller har brug for hjælp til at udfylde det.

Vi håber, du vil hjælpe os, og vi ser frem til at modtage dit svar.

Med venlig hilsen

Christina Maar Andersen
Cand. psych.
Projektansvarlig

Peter Vedsted
Professor, Ph.D.

Anette Fischer Pedersen
Cand. psych., Ph.D.

Fred Giesen
Professor, dr.med.
### De første spørgsmål handler om symptomerne på din kærlighedsdygt og din første kontakt med sundhedsvæsenet.

Har du oplevet et eller flere symptomer i forløbet op til din kærlighedsdygt blev opdaget?

- JA  Besvar spørgsmål A og **ikke** spørgsmål B
- NEJ  Besvar spørgsmål B og **ikke** spørgsmål A

**Spørgsmål A:**

Hvordan startede det forløb, der ledde frem til, at lægerne fandt ud af, at du havde kærlighed?

- Ved at jeg henvendte mig til min praktiserende læge med disse symptomer. Forberedt ventilet med at udfylde spørgebogens.
- Ved akut indlæggelse eller ved kontakt til vagtlinjen uden tidligere henvendelse til min praktiserende læge med disse symptomer. Stop og returnér ventilet spørgebogens i vedlagte frankerede svarekort.

**Spørgsmål B:**

Hvordan startede det forløb, der ledde frem til, at lægerne fandt ud af, at du havde kærlighed?

- Ved, at jeg deltog i en fellesundersøgelse (screening). Stop og returnér ventilet spørgebogens i vedlagte frankerede svarekort.
- På anden vis f.eks. ved akut indlæggelse, kontakt til vagtlinjen eller ved et rutinetjek eller kontrol for anden dygt. Stop og returnér ventilet spørgebogens i vedlagte frankerede svarekort.

Hvornår havde du første konsultation hos din praktiserende læge omkring symptomer/ubehag, som, du mener, var forbundet med din kærlighedsdygt?

Hvis du ikke husker den præcise dato, kan du skrive en cirkulærdato eller nøjes med at skrive måned og år.

<table>
<thead>
<tr>
<th>Dag</th>
<th>Måned</th>
<th>År</th>
</tr>
</thead>
</table>

Hvor mange dage før denne konsultation kontaktede du din praktiserende læge med hensyn på at få en tid?

- [ ]  dage (skriv 0, hvis du fik en tid samme dag)

Var længden af den periode, der gik, fra du kontaktede din praktiserende læge, og til du så læggen i konsultation eller ved hjemmevisesøg...

- Passende
- For langt
- Ved ikke
<table>
<thead>
<tr>
<th>Symptomerne på din kræftsygdom og forløbet frem til diagnosten</th>
</tr>
</thead>
</table>

Hvilke symptomer/hvilket ubehag havde du, da du havde første koncentration hos din praktiserende læge
omkring symptomer/ubehag forbundet med din kræftsygdom?

Sæt gerne flere krydser.

- Vægttab
- Knude (inkl. havet, lymfeknude)
- Smert
- Blødning fra endetarm/blod i afføring
- Besværet/hyppig vandladning
- Blødning fra urinveje/blod i urin
- Ændringer af modermærke
- Unormal blødning fra underliv
- Blodigt opspyt
- Hoste
- Træthed
- Synkebesvær
- Føber
- Åndenhed
- Svimmelhed
- Kas ked
- Hovedpine
- Appetitløshed/kvalme
- Halsbrand/svind i maven
- Synsforsyrlser
- Øget svedtendens
- Ændringer i brystet (indtræknings af brystvorte, ømhed, blødning, formændring)
- Ændringer i afføringsmængder
- Andre, beskriv gerne:
Om symptomerne på din kraftsygdom og forløbet frem til diagnosen

Set i bakkeøjlet, hvornår vurderer du, at du første gang oplevede symptomer på din kraftsygdom?

Hvis du ikke husker den præcise dato, kan du skrive en cirkledato eller nøjes med at skrive måned og år.

[Dag] - [Måned] - [Årstal]

Har du på noget tidspunkt i tiden op til din første henvendelse til din praktiserende læge været bekymret for, at du kunne have kæft?

Slet ikke Lidt En del Meget Ved ikke

Hvor mange forskellige læger i din lægepraksis/lægehus har du haft kontakt med inden for det seneste halve år?

☐ 1
☐ 2
☐ 3
☐ 4
☐ 5 el. flere

De næste spørgsmål handler om din oplevelse af din praktiserende læge. Det skal understreges, at din læge ikke får kendskab til dine svar.

Tænk på dine seneste kontakter med din praktiserende læge, som du har haft mest kontakt med i tiden, der førte frem til diagnosen af din kraftsygdom. Skriv venligst navnet på denne læge.

Lægner navn:

Besvar derefter de følgende spørgsmål ved at angive, hvor enig eller uenig du er i hvert af de følgende udsagn om din læge.

Min læge...

kan se tingene fra mit perspektiv (samt tingene, som jeg ser dem).

Meget

enig

Meget

enig

spørger til, hvad der sker i min hverdag.

17/05
## Om symptomerne på din kraftsygdom og forløbet frem til diagnosen

<table>
<thead>
<tr>
<th>Min læge ...</th>
<th>Meget genlig</th>
<th>Meget enlig</th>
</tr>
</thead>
<tbody>
<tr>
<td>virker interesseret i mig og min familie.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>forsår mine følelser og bekyndringer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>er en forstående læge.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hvordan man har det med nære relationer kan have en betydning for, hvordan man generelt påvirker og påvirkes af andre mennesker som f.eks. lægen.

Alle de følgende spørgsmål er standardisere spørgsmål, der ofte bruges i forskning; enkelte spørgsmål kan derfor virke irrelative, men vi beder dig af hensyn til undersøgelsens kvalitet venligst svare på alle spørgsmål.

Læs venligst følgende udsagn og angiv, hvor godt du mener, udsagnene passer på dig hæft. at beskrive dine følelser om nære relationer. Sæt venligst kun et kryds ved hvert udsagn.

<table>
<thead>
<tr>
<th>Jeg finder det svært at være afhængig af andre mennesker.</th>
<th>Passer slet ikke på mig</th>
<th>Passer nogenlunde på mig</th>
<th>Passer temmelig meget på mig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Det er meget vigtigt for mig at føle mig uafhængig.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Det er nødt for mig at komme følelsesmæssigt tæt på andre.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg vil gerne involvere mig fuldstændigt i et andet menneske.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg er bekymret for at blive såret, hvis jeg tillader mig selv at blive for tæt knyttet til andre.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Om symptomerne på din kraftsygdom og forløbet frem til diagnosen

<table>
<thead>
<tr>
<th></th>
<th>Passer det ikke på mig</th>
<th>Passer nogenlunde på mig</th>
<th>Passer temmelig meget på mig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeg har det godt uden at have tætte følelsesmæssige relationer.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jeg er ikke sikker på, at jeg altid kan stole på, at andre er der for mig, når jeg har brug for dem.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jeg ønsker at være følelsesmæssigt helt tæt på andre.</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>Jeg er bekymret for at blive alene.</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>Jeg har det godt med at være alængelig af andre.</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>Jeg er ofte bekymret for, at mine partnere (nuværende og tidligere) ikke virkelig elsker mig.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Jeg synes, det er svært at stole helt på andre.</td>
<td>☐</td>
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<tr>
<td>Jeg er bekymret for, at andre skal blive for tæt knyttet til mig.</td>
<td>☐</td>
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</tr>
<tr>
<td>Jeg ønsker at have tætte følelsesmæssige relationer.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jeg har det godt med, at andre mennesker er alængelige af mig.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jeg er bekymret for, at andre ikke værdsætter mig lige så meget, som jeg værdsætter dem.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Item</td>
<td>Passer slet ikke på mig</td>
<td>Passer nogenlunde på mig</td>
<td>Passer temmelig meget på mig</td>
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<tr>
<td>----------------------------------------------------------------------</td>
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<td>--------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Andre er der aldrig, når man har brug for dem.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mit ønske om at involvere mig fuldstændig i andre, skæmmer dem</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>sommerstænder væk.</td>
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<td></td>
</tr>
<tr>
<td>Det er meget vigtigt for mig at føle mig selvstændig og at kunne</td>
<td></td>
<td></td>
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<tr>
<td>klare mig selv.</td>
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</tr>
<tr>
<td>Jeg bliver nervøs, når nogen bliver for tæt knyttet til mig.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg er ofte bange for, at mine partnere (skilligere og nuærværende)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ikke ønsker at blive hos mig.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg foretrækker, at andre ikke er afhængige af mig.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg er bekymret for at blive forløbet.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg føler i nogen grad ubehag ved at være tæt knyttet til andre.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg synes,Andre er tillægsholdende med at blive så tæt knyttet til</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mig, som jeg kunne ønske.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg foretrækker ikke at være afhængig af andre mennesker.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg ved, at andre er der for mig, når jeg har brug for dem.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeg er ofte bekymret for, at andre ikke vil acceptere mig.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The association between attachment and delay in the diagnosis of cancer in primary care

Om symptomerne på din kærlighed og forløbet frem til diagnosen

<table>
<thead>
<tr>
<th>Passer det</th>
<th>Passer nogenlunde</th>
<th>Passer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ikke på mig</td>
<td>på mig</td>
<td>meget på mig</td>
</tr>
</tbody>
</table>

Ofte vil mine partnere (nuværende og tidligere) gerne have, at jeg er tættere knyttet til dem, end jeg har det godt med.

Jeg synes, det er forholdsvis nemt at blive tæt knyttet til andre.

Indhentning af oplysninger

I undersøgelsen ønsker vi at indhente oplysninger fra din praktiserende læge om dit forløb. Hvis du ikke vil give tilladelse til, at vi indhenter oplysninger fra din praktiserende læge, bedes du sætte kryds i boksen her:

Det skal igen understreges, at din læge ikke får kendskab til dine svar.

Hvis vi må kontakte dig med henblik på afklaring af eventuelle uklarheder i din besvarelse, bedes du venligst skrive dit telefonnummer nedenfor:


På næste side kan du skrive eventuelle kommentarer eller råd til, hvordan du mener, sundhedsvæsenet kan forbedre indsatsen.
**Om symptomerne på din kraftsygdom og forløbet frem til diagnosen**

**Nedenfor er du velkommen til at tilføje eventuelle kommentarer**

---

<table>
<thead>
<tr>
<th>Forbeholdt brug</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/05</td>
</tr>
<tr>
<td>8</td>
</tr>
</tbody>
</table>
APPENDIX B

GPS’ INVITATION LETTER AND QUESTIONNAIRE
Du bedes tjekke, at det er dit navn, der står på dette brev, før du udfylder spørgeskemaet. Vi anbefaler, at du river dette brev af skemaet, før du retumerer det til os.

Kære «Navn»

Almen praksis har gennem de seneste år sat en helt ny dagsorden for udredningen af kræft i Danmark. Det skyldes bl.a. en målrettet klinisk indsats i almen praksis og praksis’ solide deltagelse i en række undersøgelser hos Forskningsenheden for Almen Praksis om de præhospitalre forløb.

Fra mange praktiserende læger hører vi, hvor svært det er at udbege præcist de patienter, der har cancer, og at det mange gange er også en forværrelse og i læge-patient-relatinationen, man får mitanlen. Derfor vil vi undersøge, hvilken betydning den såkaldte "maveforværrelse" og læge-patient-relatinationen har for udredningen af kræft.

I projektet inkluderes samtlige nydiagnosticerede cancerpatienter i Region Midtjylland over en 1-års periode (ca. 3500 patienter), hvilket i gennemsnit er 6-7 cancerpatienter pr. praktiserende læge. Du din praksis vil derfor modtage flere breve fra os i denne periode. Cancerpatienterne identificeres via Landspatientregisteret. Derudendes ligeledes et spørgeskema til patienten.

Vi har via Landspatientregisteret registreret, at «Patientens navn» har fået diagnostisken «Patientens diagnose». Patienten angiver dig som værende den læge, der har haft ansvar for forløbet, og vi vil derfor gerne bede dig om at bidrage med din visen om udredningsforløbet for denne patient.

Besvarelse af spørgeskemaet **forstøres med et beløb på 183.86 kr.**, svarende til et tidsforbrug på 15 min. Projektet har fået et økonomisk støtte fra PLO og DSAM's Udvig vedr. Multipraksisundersøgelsen.

Din besvarelse vil ikke kunne henføres til dig som person, når data behandles, eller når resultaterne af undersøgelsen oppebevilles, og i databasehandlingen er data anonymiseret. For at sikre en høj datakvalitet er det vigtigt, at så mange læger som muligt besvarer spørgeskemaet. Det er naturligvis frivilligt, om du vil besvare spørgeskemaet. Her du spørgsmål i forbindelse med undersøgelsen, er du velkommen til at kontakte den projektansvarlige, Christina Maar Andersen, på tlf.: 40 53 58 44 eller e-mail: c.maar.andersen@alm.au.dk.

På forhånd tak for hjælp!

Christina Maar Andersen
Cand. psych.
Projektansvarig

Peter Vedsted
Professor, ph.d.

Anette Fischer Pedersen
Cand. psych., ph.d.

Friede Olesen
Professor, dr.med.
Du bedes tjekke, at det er dit navn, der står på dette brev, før du udfylder spørgeskemaet. Vi anbefaler, at du river dette brev af spørgeskemaet, før du returnerer skemaet til os.

Kære «Navn»

Vi henvendte os til dig for at forberede dig for at tage i deltag i en undersøgelse om uddragningen af kræft. Da vi ikke har hørt fra dig, tillader vi os hermed at kontakte dig igen. Hvis du allerede har udfyldt og indsendt spørgeskemaet, skal du bare smide dette brev væk, og i så fald undskylder vi urejser.


Vi beder dig deltage i undersøgelsen ved at bivare vedlagte spørgeskema. Udfyldelse af skemaet honoreres med 135,86 kr. for dit tidsforbrug, svarende til 15 min. For at kunne udbetalde dit honorar, bedes du oplyse dødnummer på sidste side i spørgeskemaet. Projektet har fået økonomisk støtte fra FLO og DSAVs forvaltning. Vi betaler praksisundersøgelse.

Det er naturligvis frivilligt, om du vil bivare spørgeskemaet, men alle besvarelser har stor betydning for undersøgelsens kvalitet. Din besvarelse vil ikke kunne henføres til dig som person, når data behandles, eller når resultaterne af undersøgelsen offentliggøres. Dette gælder også for deltagelsen i undersøgelsen. For at beskytte din privatlivsbilag, vil du i udvalget i undersøgelsen forblive anonym.

Vi beder dig returnere spørgeskemaet tilbage vedlagte frankeret svarkort. Er du i tvivl om noget, er du velkommen til at kontakte den projektansvarlige, Christina Maar Andersen, på tlf.: 40 33 58 44 eller e-mail: c.maar.andersen@alm.au.dk.

På fornødent tak for hjælpen!

Med venlig hilsen

Christina Maar Andersen
Cand.psych.
Projektansvarlig

Peter Vedsted
Professor, ph.d.

Anette Fischer Pedersen
Cand.psych., ph.d.

Frede Ciesen
Professor, dr.med.
Generelle oplysninger

Spørgeskemaet bedes udfyldt af den læge i praksis, fuldrevet er slettet til. Hvis brevet er slettet til praksis, bedes spørgeskemaet udfyldt af den læge, der har haft flest kontakter med patienten. Patientens navn og kæfttype fremgår af fuldrevet.

Patientens diagnose

1. Du bedes bekræfte, om patienten har kæft.

☐ Patienten har nævnte kæfttype → Fortsæt med spørgsmål 3

☐ Patient har kæft, men ikke nævnte kæfttype → Fortsæt med spørgsmål 2

☐ Patienten har Ikke kæft → Returen venligst spørgeskemaet i vedlagte frankerede sjæltuvor

2. Hvis patienten har en anden type kæft, end der står i fuldrevet, oplys venligst hvilken type

(benyt venligst blok bogstaver): ____________________________

Forbeholdt lading
### Praksis' involvering i udredningen af patienten

3. Var du/praksis involveret i udredningen af patientens kraftsygdom?

- [ ] Ja, jeg/praksis var helt eller delvist involveret (inkl. screening foretaget i praksis). Uddyb venligst.
  - Patienten blev udredt på baggrund af symptomer. Udfyld venligst resten af spørgeskemaet.
  - Patienten blev diagnosticeret ved screening (cyr. skrab). Returnér venligst spørgeskemaet i vedlagte frankerede svark麂ert.
  - Andet: ___________________________ Udfyld venligst resten af spørgeskemaet.

- [ ] Nej, jeg/praksis var ikke involveret (efterså du har sat kryds ved en af de nedenstående svarmuligheder, bedes du venligst returnere spørgeskemaet i vedlagte frankerede svark麂ert).
  - Patienten blev diagnosticeret på hospital i forbindelse med anden sygdom (tilfældigt fund).
  - Patienten blev indlagt akut og har ikke været i praksis med symptomer på kraft.
  - Patienten var tilknyttet en anden praksis.
  - Patienten deltog i screening uden praksis' involvering.
  - Andet: ___________________________
Forløb fra første symptom til behandling

4. Hvordan vil du karakterisere dit kendskab til patienten før aktuelle sygdom?
   - Mager godt
   - Godt
   - Nogenlunde
   - Ikke særligt godt
   - Kenkte ikke patienten (første kontakt)

5. Hvor mange lige i din praksis (inklusive dig selv) har patienten haft kontakt med inden for det sidste halve år (eksklusiv telefonkontakt)?
   - 1
   - 2
   - 3
   - 4
   - 5 eller flere

6. Hvilkene dato henvendte patienten sig første gang i praksis med symptomer, der, med den viden du har i dag, kunne skyldes patientens aktuelle kraftsygdom?
   - Dag: ___
   - Måned: ___
   - Årstal: 20___

7. Hvilkene dato oplevede patienten ifølge din/praksis’ journal første gang symptomer, der, med den viden du har i dag, var symptomer på patientens aktuelle kraftsygdom?
   - Dag: ___
   - Måned: ___
   - Årstal: 20___

Hvis du ikke kan oplyse den præcise dato, vil vi bede dig om at angive dit skøn over, hvor længe patienten havde symptomer, inden han/hun henvendte sig til dig/praksis:
   - Antal uger: ___
   - Kan ikke fastsættes
8. Hvordan tolkede du/praksis patientens symptomer, første gang patienten præsenterede dem?

- Jeg/praksis fik mistanke om kæft.
- Jeg/praksis fik mistanke om alvorlig sygdom, men ikke specifikt kæft.
- Jeg/praksis fik ikke umiddelbart mistanke om kæft eller anden alvorlig sygdom.

9. Hvilken dato startede du/praksis specifik uddragning af patientens sygdom (blodprøver, billed-diagnostik, biopsi, endoskopi, etc.), hvor du/praksis stadig havde ansvaret for det videre forløb?

<table>
<thead>
<tr>
<th>Dag</th>
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<th>Årstal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>[20]</td>
</tr>
</tbody>
</table>

- Kan ikke fastsættes
- Patienten blev ikke specifikt uddragt

10. Hvilken dato henviste du/praksis første gang patienten til undersøgelse/vurdering hos privatpraksiserende speciallæge eller på hospital, hvor du/praksis videregav ansvaret for det videre forløb?

<table>
<thead>
<tr>
<th>Dag</th>
<th>Måned</th>
<th>Årstal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>[20]</td>
</tr>
</tbody>
</table>

- Kan ikke fastsættes
- Patienten blev ikke henvist

11. Blev patienten primært henvist til et kæftpakkeforløb af dig/praksis (inkl. den uspecifikke pakke "Alvorlig sygdom, der kan være kæft" (oekkult cancer))?

- Ja - hvilket kæftpakkeforløb? ———— Gå ventligst til spørgsmål 13
- Nej

Forbeholdt ledning
12. Hvis patienten ikke blev henvist via et kraftpakkeforløb - var der i din/praksis’ første henvendelse til privatpraktiserende speciallæge eller hospital tydelig angivelse af kraftmislækkelse?

☐ Ja - specifik kraftdiagnose obs. pro.
☐ Nej - henvendingsdiagnosen var:

☐ Patienten blev ikke henvist (valgte at se tiden an), men patienten blev senere akut indlagt.
☐ Ved ikke

De næste spørgsmål drejer sig om den såkaldte “movefornemmelse”.
Movefornemmelse forstås her som en læges intuitive foremmelse af, at noget er galt med patienten, selv om der ikke er tydelige kliniske indikationer på dette, eller som en læges intuitive foremmelse af, at den anvendte strategi i forhold til patienten er korrekt, selv om der er usikkerhed om diagnosen.

13. I hvilken grad brugte du din movefornemmelse i det diagnosticke forløb for denne patient?

☐ Slet ikke  
☐ I ringe grad
☐ I nogen grad
☐ I høj grad
☐ I meget høj grad

Gå videre til spørgsmål 17

14. I hvilken grad havde din movefornemmelse indvirkning på din beslutning om at henvise patienten til videre udredning?

☐ Slet ikke
☐ I ringe grad
☐ I nogen grad
☐ I høj grad
☐ I meget høj grad

15. I hvilken grad var movefornemmelse en positiv hjælp i forløbet for denne patient?

☐ Slet ikke
☐ I ringe grad
☐ I nogen grad
☐ I høj grad
☐ I meget høj grad

- [ ] Den aktuelle sygehistorie (ansønnen)
- [ ] Patientens udseende/physiske fremtoning
- [ ] Det samlede kliniske indtryk
- [ ] Dit kendskab til patienten
- [ ] Patientens og/eller de pårørende bekymringer
- [ ] Tidligere erfaringer med en lignende sygehistorie (*"mænstergenkendelse"*)
- [ ] Andet, beskriv gerne med dine egne ord:

__________________________________________________________

(Forbeholdt kodning)

### De næste spørgsmål handler om dig selv

17. Køn:  [ ] Mand  [ ] Kvinde

For at give os mulighed for at koble flere af dine besvarelser i denne undersøgelse bedes du ventlig oplyse din fødselsdag - dvs. dag og måned.

18. Fødselsdato:  [ ] - [ ]

Dag  Måned
I det følgende spørges vi til din oplevelse af kontakten med den pågældende patient. Spørgsmålene skal forsøge at afdekke, hvorvidt patientkontakten var vanskelig, og hvorvidt dette kan have betydning for længden af udredningsforløbet. Selvom du ikke oplevede kontakten med denne patient som vanskelig, beder vi dig venligst svare på spørgsmålene.

Alle de følgende spørgsmål er standardiserede spørgsmål, der ofte bruges i forskning; enkelte spørgsmål kan derfor virke irrelevant, men vi beder dig af hensyn til undersøgelsens kvalitet venligst svare på alle spørgsmål.

19. Hvor meget ser du frem til næste konsultation med denne patient efter at have set patienten sidst?
   - Slet ikke
   - Lidt
   - Noget
   - En hel del
   - Meget
   - Virkelig meget

20. Oplevede du, at denne patient var "frustrerende"?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

21. Oplevede du, at denne patient var manipulerende?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

22. Hvor sværægt var det at kommunikere med denne patient?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

23. Hvor frustreret var du over denne patients ev. diffuse klager?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

24. Oplevede du, at denne patient havde selvedelæggende adfærd (f.eks. modarbejdede egne interesser)?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

25. Håber du indenst inde, at denne patient ikke kommer igen?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

26. Hvor afløp fortalte du dig, da du var sammen med denne patient?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

27. Hvor tidskrævende var det at tage sig af denne patient?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

28. Hvor entusiastisk følte du dig i forhold til at tage dig af denne patient?
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐
   - ☐

Husk at udfyde næste side, hvis du ønsker henvisning for dit tidsforbrug.
For at vi kan udbetale honoraret for dit tidsforbrug, bedes du udfylde nedenstående.


Ydernummer: [ ] [ ] [ ] [ ] [ ]
The association between attachment and delay in the diagnosis of cancer in primary care

<table>
<thead>
<tr>
<th>Generelle oplysninger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spørgeskemaet bedes udfyldt af den læge i praksis, følgebrevet er siltet til. Hvis brevet er siltet til praksis, bedes spørgeskemaet udfyldt af den læge, der har haft flest kontakter med patienten. Patientens navn og kræfttype fremgår af følgebrevet.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patientens diagnose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Du bedes bekræfte, om patienten har kræft.</td>
</tr>
<tr>
<td>☐ Patienten har nævnte kræfttype</td>
</tr>
<tr>
<td>☐ Patient har kræft, men ikke nævnte kræfttype</td>
</tr>
<tr>
<td>☐ Patienten har IKG kræft</td>
</tr>
</tbody>
</table>

| 2. Hvis patienten har en anden type kræft, end der står i følgebrevet, oplysn venligst hvilken type |
| (bemærk venligst blokovejleder): |
| ☐ | |
| ☐ | Fortbeholdt lødning |

<table>
<thead>
<tr>
<th>Praksis’ involvering i udredningen af patienten</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Var du/praksis involveret i udredningen af patientens kræftsygdom?</td>
</tr>
<tr>
<td>☐ Ja, jeg/praksis var helt eller delvist involveret (inkl. screening foretaget i praksis). Uddyb venligst.</td>
</tr>
<tr>
<td>☐ Patienten blev udrædt på baggrund af symptomer. Uddyb venligst resten af spørgeskemaet.</td>
</tr>
<tr>
<td>☐ Patienten blev diagnoseret ved screening (cyt. skrab). Returnér venligst spørgeskemaet i vedlagte frankerede svarekort.</td>
</tr>
<tr>
<td>☐ Andet: ☐ Uddyb venligst resten af spørgeskemaet.</td>
</tr>
<tr>
<td>☐ Forbeholdt lødning</td>
</tr>
</tbody>
</table>

| ☐ Nej, jeg/praksis var ikke involveret (afslør at du har set kryds ved en af de nedenstående svaremuligheder, bedes du venligst returnere spørgeskemaet i vedlagte frankerede svarekort). |
| ☐ Patienten blev diagnoseret på hospital i forbindelse med anden sygdom (tilfældigt fund). |
| ☐ Patienten blev indlagt akut og har ikke været i praksis med symptomer på kræft. |
| ☐ Patienten var tilknyttet en anden praksis. |
| ☐ Patienten deltog i screening uden praksis’ involvering. |
| ☐ Andet: ☐ Forbeholdt lødning |

1
# Forløb fra første symptom til behandling

## 4. Hvorfor vil du karakterisere dit kendskab til patienten før aktuelle sygdom?

- [ ] Meget godt
- [ ] Godt
- [ ] Noget lidt
- [ ] Ikke særligt godt
- [ ] Kendte ikke patienten (første kontakt)

## 5. Hvor mange lærer i din praksis (inklusiv dig selv) har patienten haft kontakt med inden for det sidste halve år (eksklusiv telefonkontakt)?

- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5 el. flere

## 6. Hvilkene dato henvendte patienten sig første gang i praksis med symptomer, der, med den viden du har i dag, kunne skyldes patientens aktuelle kraftsygdom?

<table>
<thead>
<tr>
<th>Dag</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- [ ] Kan ikke fastsættes

## 7. Hvilkene dato oplevede patienten ifølge din/praksis' journal første gang symptomer, der, med den viden du har i dag, var symptomer på patientens aktuelle kraftsygdom?

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hvis du ikke kan oplyse den præcise dato, vil vi bede dig om at angive det skøn over, hvor længe patienten havde symptomer, inden han/hun henvendte sig til dig/praksis:

<table>
<thead>
<tr>
<th>Antal uger</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

- [ ] Kan ikke fastsættes

## 8. Hvordan tolkede du/praksis patientens symptomer, første gang patienten præsenterede dem?

- [ ] Jeg/praksis fik mistanke om kraft.
- [ ] Jeg/praksis fik mistanke om alvorlig sygdom, men ikke specifikt kraft.
- [ ] Jeg/praksis fik ikke umiddelbart mistanke om kraft eller anden alvorlig sygdom.
The association between attachment and delay in the diagnosis of cancer in primary care

9. Hvilken dato startede du/praksis specifik udredning af patientens sygdom (bloedprove, billed-diagnostik, biopsi, endoskoopi, etc.), hvor du/praksis stadig havde ansvaret for det videre forløb?

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

☐ Kan ikke fastsættes

☐ Patienten blev ikke specifikt udradt

10. Hvilken dato henviste du/praksis første gang patienten til undersøgelse/vurdering hos privatpraksiseringe speciellege eller på hospital, hvor du/praksis videregav ansvaret for det videre forløb?

<table>
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</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

☐ Kan ikke fastsættes

☐ Patienten blev ikke henvist

11. Blev patienten primært henvist til et kraftpakkeforløb af dig/praksis (inkl. den uspecifikke pakke "Alvorlig sygdom, der kan være kraft" (okkult cancer))?

☐ Ja - hvilket kraftpakkeforløb?  → Gå venligst til spørgsmål 13

☐ Nej

Forbeholdt ledning

12. Hvis patienten ikke blev henvist via et kraftpakkeforløb - var der i din/praksis’ første henvendelse til privatpraksiseringe speciellege eller hospital tydelig angivelse af kraftmislænke?

☐ Ja - specifik kraftsdiagnose obs. pro.

☐ Ja - uspecifik krafts obs. pro.

☐ Nej - henvisningsdiagnosen var:

☐ Patienten blev ikke henvist (valgte at se tiden an), men patienten blev senere akut indlagt.

☐ Ved ikke

Forbeholdt ledning

De næste spørgsmål drejer sig om den såkaldte "mavefornemmelse".
Mavefornemmelse forstås her som en læges intuitive fornemmelse af, at noget er galt med patienten, selvom der ikke er tydelige kliniske indikationer på dette, eller som en læges intuitive fornemmelse af, at den anvendte strategi i forhold til patienten er korrekt, selv om der er usikkerhed om diagnosen.

13. I hvilken grad brugte du din mavefornemmelse i det diagnostiske forløb for denne patient?

☐ Slet ikke  → Gå venligst til spørgsmål 17

☐ Ringe grad

☐ I nogen grad

☐ I hjøg grad

☐ I meget hjøg grad
14. I hvilken grad havde din mavefornemmelse indvirkning på din beslutning om at henvise patienten til videre udredning?
- Slet ikke
- I ringe grad
- I nogen grad
- I høj grad
- I meget høj grad

15. I hvilken grad var mavefornemmelse en positiv hjælp i forløbet for denne patient?
- Slet ikke
- I ringe grad
- I nogen grad
- I høj grad
- I meget høj grad

- Den aktuelle sygehistorie (anamnesen)
- Patientens udseende/fysiske fremtoning
- Det samlede kliniske indtryk
- Dit kendskab til patienten
- Patientens og/eller de pårørende bekymring
- Tidligere erfaringer med en lignende sygehistorie ("mønstergenkerendelse")
- Andet, beskriv gerne med dine egne ord:

De næste spørgsmål handler om dig selv

17. Køn:  □ Mand  □ Kvindes

For at give os mulighed for at koble flere af dine besvarelser i denne undersøgelse bedes du ventligst oplyse din fødselsdag - dvs. dag og måned.

18. Fødselsdato:  □□□□ - □□□

Dag  Måned
I det følgende spørger vi til din oplevelse af kontakten med den pågældende patient. Spørgsmålene skal forsøge at afdekke, hvorvidt patientkontakten var vanskelig, og hvorvidt dette kan have betydning for længden af udredningsforløbet. Selvom du ikke oplevede kontakten med denne patient som vanskelig, beder vi dig vel ligst svar på spørgsmålene.

Alle de følgende spørgsmål er standardiserede spørgsmål, der ofte bruges i forskning; enkelte spørgsmål kan derfor virke irrelevant, men vi beder dig bede dig af hensyn til undersøgelsens kvalitet vel ligst svar på alle spørgsmål.

19. Hvor meget ser du frem til næste konsultation med denne patient efter at have set patienten sidst?  
   - Slet ikke  
   - Lidt  
   - Noget  
   - En hel del  
   - Meget  
   - Virkelig meget

20. Oplevede du, at denne patient var "frustrerende"?  
   -  
   -  
   -  
   -  
   -  
   -  

21. Oplevede du, at denne patient var manipulerende?  
   -  
   -  
   -  
   -  
   -  
   -  

22. Hvor svært var det at kommunikere med denne patient?  
   -  
   -  
   -  
   -  
   -  
   -  

23. Hvor frustreret var du over denne patients ev. diffuse klager?  
   -  
   -  
   -  
   -  
   -  
   -  

24. Oplevede du, at denne patient havde selvedelæggende adfærd (f.eks. modarbejdede egne interesseter)?  
   -  
   -  
   -  
   -  
   -  
   -  

25. Håber du indenst inde, at denne patient ikke kommer igen?  
   -  
   -  
   -  
   -  
   -  
   -  

26. Hvor afslappet følte du dig, da du var sammen med denne patient?  
   -  
   -  
   -  
   -  
   -  
   -  

27. Hvor tidkrevende var det at tage sig af denne patient?  
   -  
   -  
   -  
   -  
   -  
   -  

28. Hvor entusiastisk følte du dig i forhold til at tage dig af denne patient?  
   -  
   -  
   -  
   -  
   -  
   -  


### Hvordan man har det med nære relationer kan have en betydning for, hvordan man generelt påvirker og påvirkes af andre mennesker, som f.eks. patienter.

Alle de følgende spørgsmål er standardiserede spørgsmål, der ofte bruges i forskning; enkelte spørgsmål kan derfor virke irrelavante, men vi bider dig af hensyn til undersøgelSENS kvalitet venligst svare på alle spørgsmål.

Læs venligst følgende udsagn og angiv, hvornår du mener, udsagnene passer på dig mht. at beskrive dine følelser om nære relationer. Sæt venligst kun ét kryds ved hvert udsagn.

<table>
<thead>
<tr>
<th>Nummer</th>
<th>Spørgsmål</th>
<th>Svarer</th>
<th>Svarer</th>
<th>Svarer</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Jeg finder det svært at være afhængig af andre mennesker.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>30</td>
<td>Det er meget vigtigt for mig at føle mig uafhængig.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>31</td>
<td>Det er nemt for mig at komme følelsesmæssigt tæt på andre.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>32</td>
<td>Jeg vil gerne involveres i alt fuldstændigt i et andet menneske.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>33</td>
<td>Jeg er bekymret for at blive såret, hvis jeg tillader mig selv at blive for tæt knyttet til andre.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>34</td>
<td>Jeg har det godt uden at have tætte følelsesmæssige relationer.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>35</td>
<td>Jeg er ikke sikker på, at jeg altid kan stole på, at andre er der for mig, når jeg har brug for dem.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>36</td>
<td>Jeg ønsker at være følelsesmæssigt helt tæt på andre.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>37</td>
<td>Jeg er bekymret for at blive alene.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Om udredningen af kraft - lægeskema B</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>38. Jeg har det godt med at være afhængig af andre.</th>
<th>Passer det ikke på mig</th>
<th>Passer nogenlunde på mig</th>
<th>Passer temmelig meget på mig</th>
</tr>
</thead>
<tbody>
<tr>
<td>39. Jeg er ofte bekymret for, at mine partnere (nuværende og tidligere) ikke virkelig elsker mig.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>40. Jeg synes, det er svært at stole helt på andre.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>41. Jeg er bekymret for, at andre skal blive for tæt knyttet til mig.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>42. Jeg ønsker at have tætte følelsesmæssige relationer.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>43. Jeg har det godt med, at andre mennesker er afhængige af mig.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>44. Jeg er bekymret for, at andre ikke værdsetter mig lige så meget, som jeg værdsetter dem.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>45. Andre er der aldrig, når man har brug for dem.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>46. Mit ønske om at involvere mig fuldstændig i andres skræmmer dem sommeider væk.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>47. Det er meget vigtigt for mig at føle mig selvstændig og at kunne klare mig selv.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>48. Jeg bliver nervøs, når nogen bliver for tæt knyttet til mig.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>49. Jeg er ofte bange for, at mine partnere (tidligere og nuværende) ikke ønsker at blive hos mig.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Passer slet ikke på mig</td>
<td>Passer nogenlunde på mig</td>
<td>Passer temmelig meget på mig</td>
</tr>
<tr>
<td>50</td>
<td>Jeg foretrækker, at andre ikke er afhængige af mig.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Jeg er bekymret for at blive forladt.</td>
<td></td>
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</tr>
<tr>
<td>52</td>
<td>Jeg føler i nogen grad ubehag ved at være tæt knyttet til andre.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Jeg synes, andre er tilbageholdende med at blive så tæt knyttet til mig, som jeg kunne ønske.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Jeg foretrækker ikke at være afhængig af andre mennesker.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Jeg ved, at andre er der for mig, når jeg har brug for dem.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Jeg er ofte bekymret for, at andre ikke vil acceptere mig.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Ofte vil mine partnere (nuværende og tidligere) gerne have, at jeg er tættere knyttet til dem, end jeg har det godt med.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Jeg synes, det er forholdsvis nemt at blive tæt knyttet til andre.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For at vi kan udbetalte honoraret for dit tidsforbrug, bedes du udfylde nedenstående.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Ydernummer:</td>
<td></td>
</tr>
</tbody>
</table>