



UvA-DARE (Digital Academic Repository)

Unraveling the determinants of cancer patients' intention to express concerns

Brandes, K.; Linn, A.J.; Smit, E.G.; van Weert, J.C.M.

DOI

[10.1080/10810730.2015.1080325](https://doi.org/10.1080/10810730.2015.1080325)

Publication date

2016

Document Version

Final published version

Published in

Journal of Health Communication

License

Article 25fa Dutch Copyright Act (<https://www.openaccess.nl/en/policies/open-access-in-dutch-copyright-law-taverne-amendment>)

[Link to publication](#)

Citation for published version (APA):

Brandes, K., Linn, A. J., Smit, E. G., & van Weert, J. C. M. (2016). Unraveling the determinants of cancer patients' intention to express concerns. *Journal of Health Communication*, 21(3), 327-336. <https://doi.org/10.1080/10810730.2015.1080325>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Unraveling the Determinants of Cancer Patients' Intention to Express Concerns

KIM BRANDES, ANNEMIEK J. LINN, EDITH G. SMIT, and JULIA C. M. VAN WEERT

Amsterdam School of Communication Research (ASCoR), University of Amsterdam, Amsterdam, The Netherlands

Little is known about the behavioral determinants that underlie cancer patients' intention to express concerns during a consultation. This information can be relevant to developing effective interventions for cancer patients. In this study, the integrative model of behavioral prediction (IMBP) is used as a framework to unravel the determinants of patients' intention to express concerns. The objectives of this study are to examine which of the IMBP determinants (attitude, perceived social norm, and/or self-efficacy) are significantly related to intention and what content of these determinants can be targeted to effect a change in patients' intention. An online survey based on the IMBP determinants was distributed. A total of 236 cancer patients and cancer survivors participated. The results of the survey showed that patients' attitudes and perceived social norm were the most important determinants of their intention to express concerns. The largest change in patients' intention might be achieved by targeting the affective attitude, referring to the extent to which patients believe that expressing concerns is (un)pleasant, and the social norm, referring to the extent to which patients feel (un)supported by significant others in expressing concerns.

A life-threatening disease such as cancer can evoke many concerns in patients (Farrell, Heaven, Beaver, & Maguire, 2005). A *concern* is defined as “a clear and an unambiguous expression of an unpleasant current or recent emotion where the emotion is explicitly verbalized (‘I am worried’, ‘I am upset’)” (Zimmermann et al., 2011, p. 144). Concerns that are experienced by patients include medical concerns (e.g., patients are worried about the possible side effects of their treatment), psychosocial concerns (e.g., patients are anxious that they might not survive cancer), and practical concerns (e.g., patients are concerned about whether they can keep their jobs; Chaturvedi, Shenoy, Prasad, Senthilnathan, & Premlatha, 1996; Hill, Amir, Muers, Connolly, & Round, 2003).

Studies have indicated that many cancer patients do not express these concerns sufficiently. For example, patients often express their concerns indirectly with cues (i.e., unclear verbal or nonverbal hints of experienced concerns) rather than directly (Grimsbø, Ruland, & Finset, 2012; Heyn, Ruland, & Finset, 2012). Health care providers often do not notice those cues and indicate that they better detect concerns when these concerns are expressed explicitly (Butow et al., 2008). When concerns are explicitly verbalized by patients, it is easier for health care providers to respond adequately. Receiving adequate information to address concerns has been associated with positive outcomes for

patients, such as better psychological well-being (de Haes & Bensing, 2009; Street, Makoul, Arora, & Epstein, 2009). In contrast, when patients do not explicitly express concerns, and these concerns remain undetected, they can worsen and possibly lead to depression (Chochinov, 2001; Ryan et al., 2005). Thus, it is important to support patients in expressing their concerns. Interventions focusing on patients' concern expression could provide support; however, these interventions are scarce.

Previous interventions to facilitate concern expression have mainly targeted the communication behavior of health care providers during the consultation (e.g., eliciting concerns; Butow et al., 2008). These interventions have not always been effective in improving concern expression. For example, Butow and colleagues (2008) did not find any significant effects of their communication skills training on health care providers' elicitation of concerns. A possible reason for the lack of effects could be that only the behavior of the provider is targeted. Interventions that target the behavior of both the provider and the patient are often more effective in improving patient participation during oncology consultations (Brandes, Linn, Butow, & van Weert, 2015). Thus, existing interventions that focus on providers' behavior might be more effective if they are combined with interventions that focus on patients' concern expression. As previously noted, interventions targeting patients' concern expression are scarce. To develop an effective intervention for patients, it is important to identify the determinants that explain their intention to express concerns (Fishbein, 2000).

From behavioral theories such as the integrative model of behavioral prediction (IMBP; Fishbein, 2000), experts know

Address correspondence to Kim Brandes, Amsterdam School of Communication Research (ASCoR), University of Amsterdam, Nieuwe Achtergracht 166, 1018 WV Amsterdam, The Netherlands. E-mail: k.brandes@uva.nl

that individuals' attitudes, perceived social norm, and self-efficacy can predict their intention to perform any given behavior. Moreover, studies that use behavioral theories such as the IMBP to inform their intervention development are more effective in changing intentions and health behavior than interventions that do not follow this approach (Avery, Donovan, Horwood, & Lane, 2013).

A few studies on concern expression have examined the determinants of intention from the IMBP individually (e.g., Manne, Alfieri, Taylor, & Dougherty, 1999; Okuyama et al., 2008; Zakowski et al., 2003). However, to our knowledge, no studies have assessed attitude, perceived social norm, and self-efficacy together to examine which of these are most strongly related to patients' intention to express concerns and are therefore potential candidates for intervention targets. Thus, this study aims to address this gap in the literature by using the IMBP as a framework.

Theoretical Background

IMBP

The IMBP is based on several health behavior models: the health belief model (Janz & Becker, 1984; Rosenstock, 1974), social cognitive theory (Bandura, 1986), the theory of reasoned action (Fishbein & Ajzen, 1975), and the theory of planned behavior (Ajzen, 1991). Behavioral theories such as the IMBP guide researchers in intervention development. By identifying the determinants that predict individuals' intention to perform a health behavior, researchers can determine possible intervention targets. Researchers can then properly evaluate which elements of their intervention worked and led to a change in intention (Fishbein & Cappella, 2006; Michie & Prestwich, 2010).

The IMBP has frequently functioned as a framework for understanding why individuals do or do not intend to perform a behavior and for identifying potential intervention targets in different health communication domains; for example, this model has been used to explore the determinants of intention in the contexts of getting tested for sexually transmitted diseases (Boudewyns & Paquin, 2011), getting vaccinated against the human papillomavirus (Dillard, 2011), and maintaining healthy sleep behaviors (Robbins & Niederdeppe, 2015). The IMBP has also been applied in cancer research to explore determinants that are related to cancer prevention behaviors, cancer detection behaviors, and cancer-related information seeking (Smith-McLallen & Fishbein, 2009; Smith-McLallen, Fishbein, & Hornik, 2011). These studies were all successful in explaining variance in intention and in identifying potential intervention targets. In addition, Fishbein (2000) argued that the IMBP can be applied to any given behavior. Thus, this study uses the IMBP as a starting point to understand why cancer patients do or do not intend to express their concerns and to identify intervention targets.

The IMBP proposes that background characteristics, such as demographic (e.g., age), disease (e.g., time since diagnosis), and psychological (differing by behavior) characteristics, should be taken into account as control variables

(Fishbein, 2000). This study includes psychological characteristics as control variables that have been suggested in the literature as possibly influencing patients' concerns and concern expression, namely, patients' monitoring style (Miller, 1995), cancer-related stress reactions (Stanton et al., 2002), and illness perceptions (Hagger & Orbell, 2003). Furthermore, the IMBP postulates that individuals' intention to perform a behavior will determine their behavior. Individuals' intention is formed by their attitudes toward the behavior, the perceived social norm, and their self-efficacy regarding performance of the behavior. Attitude refers to individuals' positive and/or negative feelings toward performing a behavior. Perceived social norm refers to the extent to which individuals believe that people who are important to them (e.g., spouse and family) want them to perform the behavior. Self-efficacy refers to the extent to which individuals believe that they are able to perform the behavior. In addition to models like the theory of planned behavior that propose the same determinants of intention, the IMBP has the advantage of including measures (i.e., barriers and skills) that possibly moderate the intention-behavior relationship. This way the model can be applied to explain a possible intention-behavior gap. This gap can occur when individuals who have a perfect intention to perform a behavior fail to act on it (Fishbein, 2000; Fishbein & Cappella, 2006; Fishbein & Yzer, 2003). The intention-behavior gap can be targeted best when individuals already have a perfect intention. However, research shows that patients' intention to express concerns might not be optimal (Street, 2001). Therefore, the focus of this study is on explaining intention.

Past studies have indicated that, in line with the IMBP, attitudes (e.g., Okuyama et al., 2008), perceived social norm (e.g., Zakowski et al., 2003), and self-efficacy (e.g., Street, 2001) play a role in patients' concern expression; thus, it can be expected that these determinants are also related to patients' intention to express concerns. Therefore, the objective of this study is to examine whether cancer patients' attitudes, perceived social norm, and self-efficacy to express concerns are positively related to their intention to express concerns during a consultation.

Although studies have examined the relations among the different determinants of intention (i.e., patients' attitudes, perceived social norm, and self-efficacy with concern expression; e.g., Manne et al., 1999; Okuyama et al., 2008; Street, 2001), none of these studies has compared these determinants to examine which are most strongly related to patients' intention to express concerns. To examine the latter, we propose the following research question:

Research Question 1: Which of the determinants (attitudes, perceived social norm, and/or self-efficacy) has/have the strongest relation to patients' intention to express concerns during a consultation?

Accomplishing Changes in Intention

After the identification of the determinants (i.e., attitudes, perceived social norm, and self-efficacy) that are significantly

related to intention, it is still unknown what content of those determinants (i.e., the specific content of patients' attitudes, perceived social norm, and self-efficacy) must be addressed to effect a change in intention. Information about the specific content that can contribute to a change in intention can be used as a starting point to determine intervention targets. One of the techniques that can be used to identify that specific content is a percentage to gain analysis (Brennan, Gibson, Liu, & Hornik, 2013). With this analysis, it is possible to calculate what content of the determinants can yield the largest change in intention when they are successfully targeted in an intervention for concern expression (Brennan et al., 2013; Hornik & Woolf, 1999). For example, when an intervention is designed to target patients' intention, and attitude would be a strong determinant of intention, the content of patients' attitudes (e.g., whether it is pleasant or unpleasant to express concerns during a consultation) can provide insight into what must be targeted to effect a change in intention. It is unknown what content of the IMBP determinants must be targeted to accomplish a change in cancer patients' intention to express concerns (the content will also depend on the determinants that are significantly related to intention). Therefore, the second research question is as follows:

Research Question 2: Which specific content of the determinants of intention (the content of patients' attitudes, perceived social norm, and/or self-efficacy) should best be targeted in an intervention to accomplish the largest change in cancer patients' intention to express concerns during a consultation?

Method

Participants and Procedure

The participants were recruited via patient association websites, kanker.nl (a national panel of cancer patients in The Netherlands), and a panel of cancer patients from our university. Participants were eligible if they were at least 18 years old and if they were currently receiving or had in the past received treatment for cancer. This study was approved by the ethical committee of our university (2013-CW-74).

Study Design

The items in the survey were based on IMBP questionnaires (Francis et al., 2004; Montano & Kasprzyk, 2008). In accordance with the IMBP, the survey first elicited background characteristics of the participants, including whether participants were undergoing treatment for cancer at the time of the survey. Participants who indicated that they were currently undergoing treatment were asked the questions about the IMBP determinants (attitude, perceived social norm, self-efficacy and intention) in the present tense (i.e., the questions concerned consultations in their current cancer treatment). If participants indicated that they were not currently undergoing treatment, they were asked the questions

about the IMBP determinants in the past tense (i.e., the questions asked them to reflect back on consultations in their past cancer treatment). During the survey, the definition of concern expression was given several times (i.e., clearly and explicitly verbalizing emotions experienced during the disease). The survey was pretested by one cancer patient and one cancer survivor, neither of whom was included in the study.

Measures

First, background characteristics (i.e., demographic, disease, and psychological characteristics) were elicited. The disease and psychological characteristics that were measured in this study have been commonly used in previous studies on cancer communication. Second, questions were asked about the participants' intention to express concerns during a consultation. Finally, in accordance with the IMBP, questions were asked about the determinants of intention, namely, participants' attitudes, perceived social norm, and self-efficacy to express concerns during a consultation. Attitude, perceived social norm, and self-efficacy were operationalized with validated IMBP measures (Francis et al., 2004; Montano & Kasprzyk, 2008).

Background Characteristics

Demographic and Disease Characteristics. The participants were asked to specify their gender, age, and level of education. Level of education was recoded as high (higher vocational education and university), middle (senior secondary vocational education and university preparatory vocational education), or low (primary education, lower vocational education, preparatory secondary vocational education, and intermediate secondary vocational education). The participants also indicated the date that they were diagnosed (which was recoded as time since diagnosis in months), whether they were still receiving treatment, their treatment goal (curative or palliative), their type of cancer, and what types of treatments they had had.

Psychological Characteristics. Monitoring coping style was measured with a 3-item, 5-point scale derived from the Threatening Medical Situation Inventory (Miller, 1987; van Weert et al., 2009). Statements on, for example, reading as much as possible about cancer could be rated from 1 (*not at all applicable to me*) to 5 (*strongly applicable to me*). The total scores on monitoring coping styles were derived from the sum of scores on the three items ($\alpha = .84$, range = 3–15, $M = 11.70$, $SD = 3.25$). A higher score indicated a higher monitoring coping style.

Cancer-related stress reactions were measured with the Dutch version of the Impact of Event Scale (van der Ploeg, Mooren, Kleber, van der Velden, & Brom, 2004), which divides cancer-related stress reactions into intrusive thinking (seven items, $\alpha = .89$, range = 0–35, $M = 18.88$, $SD = 8.96$) and avoidant thinking (eight items, $\alpha = .79$, range = 0–40, $M = 14.08$, $SD = 8.59$). The participants indicated on a 4-point scale (0 = not at all, 1 = rarely, 3 = sometimes, and 5 = often) whether they had experienced certain stressful situations, such as having bad dreams about cancer. The

total scores of the subscales were calculated as the total scores of their items.

Illness perceptions were measured with the Dutch version of the Brief Illness Perception Questionnaire (de Raaij, Schröder, Maissan, Pool, & Wittink, 2012). The participants had to indicate on a 10-point scale per illness perception whether a given statement, such as that cancer influenced their daily lives, applied to them. A higher score indicated a more threatening perception of cancer (eight items, $\alpha = .63$, range = 0–10, $M = 6.79$, $SD = 1.36$).

IMBP Measures

Intention. Intention to express concerns was measured with three items (Francis et al., 2004; Montano & Kasprzyk, 2008) on which participants had to indicate whether they intended to express their concerns during a consultation with their health care provider on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*; $\alpha = .95$, $M = 4.66$, $SD = 1.87$).

Attitude. Attitude was measured with six items on 7-point semantic differential scales (Francis et al., 2004; Montano & Kasprzyk, 2008). The participants had to indicate whether expressing concerns toward their health care provider was unpleasant–pleasant, bad–good, not useful–useful, not helpful–helpful, a disadvantage–an advantage, and not stressful–stressful ($\alpha = .86$, $M = 5.91$, $SD = 0.98$).

Perceived Social Norm. Perceived social norm was measured with eight items (Francis et al., 2004; Montano & Kasprzyk, 2008). The participants had to indicate on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*) whether their significant others (i.e., people who are important to them) expected or wanted them to express their concerns toward a health care provider and whether they complied with those expectations or wishes. Thereafter, the participants had to indicate whether specific people (i.e., their spouse, children, siblings, and friends) wanted them to express concerns toward their health care provider. Furthermore, the participants were asked whether they believed that other cancer patients expressed their concerns to their health care providers ($\alpha = .82$, $M = 5.90$, $SD = 1.01$).

Self-Efficacy. Self-efficacy was measured with five items (Francis et al., 2004; Montano & Kasprzyk, 2008). The items measured, for example, whether the participants found it easy to express concerns, whether the participants felt able to express concerns toward their health care provider, and whether they decided themselves to express concerns toward their health care provider on 7-point scales (1 = *strongly disagree* to 7 = *strongly agree*, $\alpha = .81$, $M = 5.32$, $SD = 1.26$).

Analysis

First, bivariate correlations were calculated to assess whether attitude, perceived social norm, and self-efficacy were positively related to patients' intention to express concerns. Second, a hierarchical regression analysis was conducted with standardized variables to examine whether attitude, perceived social norm, or self-efficacy had the strongest relation with intention. Variables were added in the hierarchical regression analysis in two steps: (a) demographic, disease, and psychological characteristics; and (b) attitude,

perceived social norm, and self-efficacy. Finally, percentages to gain in intention were calculated as proposed by Brennan and colleagues (2013). Intention and the content of the determinants that were related to intention were recoded as 1 = desired (everyone who had the maximum score and did not need an intervention) and 2 = all others (everyone who did not have the maximum score and could have benefitted from an intervention). Thus, by recoding intention into two categories, we separated the participants who may or may not have benefitted from an intervention. Thereafter, a cross-tabulation was used with intention and the content of the determinants of intention. The percentage to gain represented the proportion of patients who would have a positive change in their intention when an intervention was 100% successful in targeting the specific content of a determinant (i.e., the percentage of patients who had a maximum score on, for example, both the intention scale and the unpleasant–pleasant content of the attitude scale minus the percentage of patients who only had a maximum score on the intention scale). For example, if 15% of all participants had the maximum score on the intention scale, and 30% of the participants had the maximum score on both the intention scale and the unpleasant–pleasant content of the attitude scale, then the percentage to gain would be $30\% - 15\% = 15\%$. Thus, in this example, under the ideal circumstances of an intervention that was 100% effective, 15% of patients would change their intention to express concerns after they were exposed to an intervention targeting the unpleasant–pleasant content of their attitudes. This analysis was conducted for the content of each determinant.

Results

Response

In total, 268 participants started the online survey, and 236 participants (88.1%) completed it. A nonresponse analysis showed that the participants who did not complete the survey differed in gender from those who did complete it, $\chi^2(1) = 9.70$, $p < .001$. Of the 32 participants who did not complete the survey, the majority were female ($n = 27$, 84.4%). The survey was also completed by more females ($n = 131$, 55.5%). However, the percentage of females in the nonresponse group was higher. The participants who did not complete the survey were also younger ($M = 48.55$, $SD = 12.99$) than the participants who did complete it ($M = 56.32$, $SD = 11.82$; $p = .004$). The participants who did and did not complete the survey did not differ in their level of education.

Participants

The majority of the participants were female (55.5%), lived with a partner (52.1%), and had children (80.1%). The mean age of the sample was 57.23 ($SD = 12.25$), and approximately half of the participants were highly educated (51.9%). All of the demographic characteristics of the participants are displayed in Table 1. Almost a quarter of the

Table 1. Demographic characteristics of the participants ($N = 236$)

Characteristic	<i>n</i>	%
Gender		
Male	105	44.5
Female	131	55.5
Age		
<i>M (SD)</i>	57.23 (12.25)	
Range	20–83	
Educational level		
Low	54	23.4
Middle	57	24.7
High	120	51.9
Living arrangements		
Alone	41	17.4
Partner	123	52.1
Partner and child(ren)	56	23.7
Child(ren)	10	4.2
Other	6	2.6
Children		
Yes	189	80.1
No	47	19.9
Employed		
Yes	91	38.6
No	145	61.4
Ethnicity		
Dutch	228	96.6
Other	8	3.4

Note. *n* varies because of missing data.

participants had been diagnosed with breast cancer (24.0%), and a fifth had digestive-gastrointestinal cancer (20.9%). More than half of the participants were not undergoing treatment at the time they completed the survey (52.5%). Furthermore, surgery (31.8%), chemotherapy (22.7%), and radiotherapy (20.7%) were the most received treatments. All of the disease characteristics are shown in Table 2.

Explaining Intention

The overall objective of this study is to examine whether cancer patients’ attitudes, perceived social norm, and self-efficacy to express concerns are positively related to their intention to express concerns during a consultation. Bivariate correlations (see Table 3) showed that patients’ attitudes ($r = .21, p = .001$), perceived social norm ($r = .32, p < .001$), and self-efficacy ($r = .14, p = .031$) were all positively related to their intention to express concerns during a consultation.

The first research question was as follows: Which of the determinants (attitudes, perceived social norm, and/or self-efficacy) has/have the strongest relation to patients’ intention to express concerns during a consultation? A hierarchical regression analysis was conducted to answer this research question. As a first step, in accordance with the IMBP, demographic, disease, and psychological characteristics of the patients were entered. These background characteristics explained 7% of the variance in patients’ intention to

Table 2. Disease characteristics of the participants ($N = 236$)

Characteristic	<i>n</i>	%
Type of cancer		
Breast	63	24.0
Digestive-gastrointestinal	55	20.9
Hematologic	41	15.6
Lung	4	1.5
Gynecological	4	1.5
Urologic	51	19.4
Head and neck	2	0.8
Skin	14	5.3
Other	29	11.0
Time since diagnosis (months)		
<i>M (SD)</i>	55.5 (59.9)	
Patients still undergoing treatment		
Yes	112	47.5
No	124	52.5
Treatment intent		
Curative	144	61.0
Palliative	84	35.6
Unknown	8	3.4
Treatment		
No treatment	11	2.1
Surgery	163	31.8
Chemotherapy	116	22.7
Radiotherapy	106	20.7
Immunotherapy	13	2.5
Hormone replacement therapy	48	9.4
Chemoradiation	3	0.6
Goal-directed therapy	12	2.3
Unknown	1	0.2
Other	39	7.6

Note. *n* varies because of missing data or multiple answers.

express concerns, $F(10, 213) = 1.60, p = .108$. As a second step, attitude, perceived social norm, and self-efficacy were added. This second step yielded a significant R^2 change of 12% ($p < .001$). The final model explained 19% of the variance in patients’ intention to express concerns, $F(13, 210) = 3.66, p < .001$. Perceived social norm had the strongest relation with intention ($b^* = .26, p < .001$), followed by attitude ($b^* = .17, p = .022$). Self-efficacy did not have a significant relation with intention in the final model ($b^* = .03, p = .671$). Table 4 shows the entire hierarchical regression analysis.

Table 3. Correlations between attitude, perceived social norm, self-efficacy, and patients’ intention to express concerns ($N = 236$)

Measure	1	2	3	4
1. Intention	—	.21**	.32***	.14*
2. Attitude		—	.27***	.42***
3. Perceived social norm			—	.13*
4. Self-efficacy				—

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. Hierarchical regression analysis predicting intention to express concerns ($N = 236$)

Predictor	ΔR^2	b^*
Step 1	.07	
Gender		.10
Age		-.01
Level of education		-.02
Time since diagnosis		-.02
Undergoing treatment		.11
Treatment goal		.02
Monitoring coping style		.20***
Intrusive thinking		-.06
Avoidant thinking		.02
Illness perceptions		.09
Step 2	.12***	
Attitude		.17*
Perceived social norm		.26***
Self-efficacy		.03
Total R^2	.19***	

* $p < .05$. *** $p < .001$.

Percentage to Gain Analysis

The second research question was as follows: Which specific content of the determinants of intention (the content of patients' attitudes, perceived social norm, and/or self-efficacy) should best be targeted in an intervention to accomplish the largest change in cancer patients' intention to express concerns during a consultation?

The hierarchical regression analysis showed that perceived social norm had the strongest relation with intention. Attitude also had a significant relation with intention. Therefore, percentage to gain analyses were conducted for the content of both attitude and perceived social norm because they are both potential candidates for intervention targets (see the Appendix for the cross-tabulations per content measure). For attitude, the highest percentages to gain in intention could be yielded for the extent to which patients felt unpleasant when they expressed concerns during a consultation (20.0%) and the extent to which patients believed that expressing concerns could disadvantageous (17.4%). For perceived social norm, the highest percentages to gain in intention could be yielded for the extent to which patients believed that significant others did not want them to express concerns during a consultation (14.4%) and the extent to which patients complied with the wishes or expectations of significant others (12.9%).

Discussion

This study aimed to use the IMBP to identify the determinants that are related to cancer patients' intention to express concerns. The results show that patients' attitudes and perceived social norm underlie their intention to express concerns during a consultation. We also examined which content of patients' attitudes and perceived social norm could yield the largest improvement in intention and are potential

candidates for intervention targets. Potential candidates for intervention targets are (a) the extent to which patients think that expressing concerns during a consultation will make them feel (un)pleasant, (b) the extent to which patients believe that expressing concerns can be (dis)advantageous, (c) the extent to which patients believe that significant others do (not) want them to express concerns in a consultation, and (d) the extent to which patients comply with the wishes or expectations of significant others.

The results show that patients' affective attitudes (i.e., the extent to which concern expression during a consultation can be [un]pleasant) in particular are related to their intention to express concerns. An attitude consists of both a cognitive (i.e., positive/negative attributes of the behavior) and an affective (i.e., positive/negative feelings about the behavior) component (e.g., Fabrigar & Petty, 1999; Trafimow & Sheeran, 1998). Some studies have argued that the affective component of an attitude is a stronger predictor of intention than the cognitive component (e.g., French et al., 2005; Lowe, Eves, & Carroll, 2002). This also seems to be the case for patients' intention to express concerns. Concern expression is classified in the literature as an affective behavior (Bensing & Verhaak, 2004; Street & Millay, 2001), and therefore, the affective component of patients' attitudes could be most decisive in their overall attitude formation and their intention to express concerns.

The extent to which patients believed that their significant others wanted them to express concerns during a consultation was also related to patients' intention to express concerns. It is possible that patients hold this belief because they think that their significant others might not be able to cope with their concerns (Zhang & Siminoff, 2003), for example, because in some cases spouses or family members have had avoidant reactions when cancer patients have tried to express their concerns about their disease at home (Manne et al., 1999; Zakowski et al., 2003; Zhang & Siminoff, 2003). Other studies (e.g., Clayton, Butow, & Tattersall, 2005) suggest that spouses and family members do prefer openness about patients' concerns during medical consultations so that the patient can receive adequate information to address his or her concerns. Thus, it seems that the support of spouses and family members can differ among patients and situations. Interventions are needed for those patients who feel that they do not receive adequate support from their significant others. More research in this area is needed to explore why certain patients feel that they do not receive adequate support from their significant others.

Because of the cross-sectional data collection, the results of this study must be interpreted with care. Nonetheless, little was previously known about what should be targeted in concern expression interventions, and the results of this study can function as a starting point for determining intervention targets in this area. Studies that actually target patients' attitudes and perceived social norm are needed to establish whether patients' intention to express concerns, and consequently their behavior, can actually improve. For example, we found that the largest change in intention could be yielded by addressing patients' affective attitudes (i.e., the

unpleasant feeling that patients could experience when they express concerns). Future studies could try to target patients' affective attitudes by developing interventions that focus on affective persuasion. Matching an intervention to the component of an attitude that must be targeted will increase its effectiveness (e.g., Fabrigar & Petty, 1999). In the case of an affective attitude, this could be done by providing patients with positive emotional consequences of concern expression (Abraham & Michie, 2008; Michie et al., 2013). Future studies could try to target patients' perceived social norm similarly. Such an intervention can inform patients about the approval of people who are important to them regarding concern expression during consultations (Abraham & Michie, 2008).

Another direction for future research is to expand on the current study by identifying other determinants of cancer patients' intention to express concerns. The IMBP is a model that combines determinants from many behavioral theories, and it is proposed that the model can be applied to any given behavior (Fishbein, 2000). However, the IMBP only explained 19% of the variance in cancer patients' intention to express concerns. Although this is a promising starting point because little was previously known about what predicts cancer patients' intention to express concerns, it would be useful to know which other determinants could contribute to the explained variance. For example, expressing concerns is an affective behavior; therefore, affective determinants such as anticipated emotions (e.g., regret; French et al., 2005) or personality characteristics of communication (e.g., being introverted or extroverted; Street, 2001) might also explain variance in why patients do or do not intend to express their emotions.

This study has some limitations that must be addressed. First, we only measured the determinants of intention; we did not measure the underlying beliefs of patients' attitudes and perceived social norm. Measuring the underlying beliefs of these determinants would give more detailed information to guide the development of an intervention. However, we did look at the content of these determinants to give the most comprehensive implications that were possible on the basis of the available data. Second, the cross-sectional nature of the study made it impossible to properly investigate the relation between intention and behavior. This relation can be examined best by measuring intention and behavior at different time points. Thus, to further examine the intention-behavior relation for concern expression, future studies could distribute an IMBP survey and then, at a later point in time, audio- or videotape a consultation to code the number of concerns that patients express. Finally, we recruited patients via patient association websites and panels, which could have yielded a sample that was not completely representative of the cancer patient population. Recruiting patients in a less biased environment, such as a hospital waiting room, could perhaps result in a more representative sample, and replication of this study in such a setting is therefore recommended.

To conclude, this study examined cancer patients' intention to express concerns in a new manner, namely, by using

the IMBP to unravel its underlying determinants. We found that patients' affective attitudes and perceived social norm are related to their intention to express concerns. Future studies could examine how these determinants of intention can be targeted most effectively by, for example, exploring interventions that focus on affective persuasion and on the approval by family members of concern expression.

Acknowledgments

We would like to thank all of the participants for their contribution and kanker.nl for their help with the recruitment of participants.

References

- Abraham, C., & Michie, S. (2008). A taxonomy of behavior change techniques used in interventions. *Health Psychology, 27*(3), 379–387. doi:10.1037/0278-6133.27.3.379
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.
- Avery, K. N. L., Donovan, J. L., Horwood, J., & Lane, J. A. (2013). Behavior theory for dietary interventions for cancer prevention: A systematic review of utilization and effectiveness in creating behavior change. *Cancer Causes Control, 24*, 409–420. doi:10.1007/s10552-012-9995-9
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bensing, J., & Verhaak, P. (2004). Communication in medical encounters. In J. Weinman & A. Kaptein (Eds.), *Health psychology* (pp. 261–287). Malden, MA: Blackwell.
- Boudewyns, V., & Paquin, R. S. (2011). Intentions and beliefs about getting tested for STDs: Implications for communication interventions. *Health Communication, 26*(8), 701–711. doi:10.1080/10410236.2011.563353
- Brandes, K., Linn, A. J., Butow, P. N., & van Weert, J. C. M. (2015). The characteristics and effectiveness of Question Prompt List interventions in oncology: A systematic review of the literature. *Psycho-Oncology, 24*(3), 245–252. doi:10.1002/pon.3637
- Brennan, E., Gibson, L., Liu, J., & Hornik, R. C. (2013). *Identifying potential target beliefs for a mass media campaign aimed at encouraging smoking cessation: Final findings and recommendations for 18–25 year old current cigarette smokers* (CECCR Working Paper Series). Philadelphia, PA: University of Pennsylvania, Annenberg School for Communication, Penn's Center of Excellence in Cancer Communication Research.
- Butow, P., Cockburn, J., Girgis, A., Bowman, D., Scholfield, P., D'Este, C., ... the CUES Team. (2008). Increasing oncologists' skills in eliciting and responding to emotional cues: Evaluation of a communication skills program. *Psycho-Oncology, 17*, 209–218. doi:10.1002/pon.1217
- Chaturvedi, S. K., Shenoy, A., Prasad, K. M. R., Senthilnathan, S. M., & Premlatha, B. S. (1996). Concerns, coping and quality of life in head and neck cancer patients. *Support Care Cancer, 4*, 186–190. doi:10.1007/BF01682338
- Chochinov, H. M. (2001). Depression in cancer patients. *Lancet Oncology, 2*, 499–505. doi:10.1007/978-94-009-4243-1_7
- Clayton, J. M., Butow, P. N., & Tattersall, M. H. N. (2005). The needs of terminally ill patients versus those of caregivers for information regarding prognosis and end-of-life issues. *Cancer, 103*(9), 1957–1964. doi:10.1002/cncr.21010
- de Haes, H., & Bensing, J. (2009). Endpoints in medical communication research, proposing a framework of functions and outcomes.

- Patient Education and Counseling*, 74(3), 287–294. doi:10.1016/j.pec.2008.12.006
- de Raaij, E. J., Schröder, C., Maissan, F. J., Pool, J. J., & Wittink, H. (2012). Cross-cultural adaption and measurement properties of the Brief Illness Perception Questionnaire–Dutch language version. *Manual Therapy*, 17, 330–335. doi:10.1016/j.math.2012.03.001
- Dillard, J. P. (2011). An application of the integrative model to women's intention to be vaccinated against HPV: Implications for message design. *Health Communication*, 26(5), 479–486. doi:10.1080/10410236.2011.554170
- Fabrigar, L. R., & Petty, R. E. (1999). The role of the affective and cognitive bases of attitudes in susceptibility to affectively and cognitively based persuasion. *Personality and Social Psychology Bulletin*, 25(3), 363–381. doi:10.1177/0146167299025003008
- Farrell, C., Heaven, C., Beaver, K., & Maguire, P. (2005). Identifying the concerns of women undergoing chemotherapy. *Patient Education and Counseling*, 56(1), 72–77. doi:10.1016/j.pec.2003.12.008
- Fishbein, M. (2000). The role of theory in HIV prevention. *AIDS Care*, 12(3), 273–278. doi:10.1080/09540120050042918
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fishbein, M., & Cappella, J. N. (2006). The role of theory in developing effective health communications. *Journal of Communication*, 56(s1), S1–S17. doi:10.1111/j.1460-2466.2006.00280.x
- Fishbein, M., & Yzer, M. C. (2003). Using theory to design effective health behavior interventions. *Communication Theory*, 13(2), 164–183. doi:10.1111/j.1468-2885.2003.tb00287.x
- Francis, J., Eccles, M. P., Johnston, M., Walker, A. E., Grimshaw, J. M., Foy, R., ... Bonetti, D. (2004). *Constructing questionnaires based on the theory of planned behavior: A manual for health researchers*. Newcastle upon Tyne, England: University of Newcastle upon Tyne, Centre for Health Services Research.
- French, D. P., Sutton, S., Hennings, S. J., Mitchell, J., Wareham, N. J., Griffin, S., ... Kinmonth, A. L. (2005). The importance of affective beliefs and attitudes in the theory of planned behavior: Predicting intention to increase physical activity. *Journal of Applied Social Psychology*, 35(9), 1824–1848. doi:10.1111/j.1559-1816.2005.tb02197.x
- Grimsbø, G. H., Ruland, C. M., & Finset, A. (2012). Cancer patients' expressions of emotional cues and concerns and oncology nurses' responses, in an online patient-nurse communication service. *Patient Education and Counseling*, 88, 36–43. doi:10.1016/j.pec.2012.01.007
- Hagger, M. S., & Orbell, S. (2003). A meta-analytic review of the common-sense model of illness representations. *Psychology & Health*, 18(2), 141–184. doi:10.1080/088704403100081321
- Heyn, L., Ruland, C. M., & Finset, A. (2012). Effects of an interactive tailored patient assessment tool on eliciting and responding to cancer patients' cues and concerns in clinical consultations with physicians and nurses. *Patient Education and Counseling*, 86, 158–165. doi:10.1016/j.pec.2011.04.024
- Hill, K. M., Amir, Z., Muers, M. F., Connolly, C. K., & Round, C. E. (2003). Do newly diagnosed lung cancer patients feel their concerns are being met? *European Journal of Cancer Care*, 12, 35–45. doi:10.1046/j.1365-2354.2003.00324.x
- Hornik, R., & Woolf, K. D. (1999). Using cross-sectional surveys to plan message strategies. *Social Marketing Quarterly*, 5(2), 34–41. doi:10.1080/15245004.1999.9961044
- Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later. *Health Education & Quarterly*, 11, 1–47. doi:10.1177/109019818401100101
- Lowe, R., Eves, F., & Carroll, D. (2002). The influence of affective and instrumental beliefs on exercise intentions and behavior: A longitudinal analysis. *Journal of Applied Social Psychology*, 32(6), 1241–1252. doi:10.1111/j.1559-1816.2002.tb01434.x
- Manne, S. L., Alfieri, T., Taylor, K. L., & Dougherty, J. (1999). Spousal negative responses to cancer patients: The role of social restriction, spouse mood, and relationship satisfaction. *Journal of Consulting and Clinical Psychology*, 67(3), 352–361. doi:10.1037/0022-006X.67.3.352
- Michie, S., & Prestwich, A. (2010). Are interventions theory-based? Development of theory coding scheme. *Health Psychology*, 29(1), 1–8. doi:10.1037/a0016939
- Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., ... Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: Building an international consensus for the reporting of behavior change interventions. *Annals of Behavioral Medicine*, 46(1), 81–95. doi:10.1007/s12160-013-9486-6
- Miller, S. M. (1987). Monitoring and blunting: Validation of a questionnaire to assess styles of information under threat. *Journal of Personality and Social Psychology*, 52, 345–353. doi:10.1037/0022-3514.52.2.345
- Miller, S. M. (1995). Monitoring versus blunting styles of coping with cancer influence the information patients want and need about their disease. *Cancer*, 76(2), 167–177. doi:10.1002/1097-0142(19950715)76:2<167::aid-cnrcr2820760203>3.0.co;2-k
- Montano, D. E., & Kasprzyk, D. (2008). Theory of reasoned action, theory of planned behavior, and the integrated behavioral model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (pp. 67–95). San Francisco, CA: Jossey-Bass.
- Okuyama, T., Endo, C., Seto, T., Kato, M., Seki, N., Akechi, T., ... Hosaka, T. (2008). Cancer patients' reluctance to disclose their emotional distress to their physicians: A study of Japanese patients with lung cancer. *Psycho-Oncology*, 17(5), 460–465. doi:10.1002/pon.1255
- Robbins, R., & Niederdeppe, J. (2015). Using the integrative model of behavioral prediction to identify promising message strategies to promote healthy sleep behavior among college students. *Health Communication*, 30(1), 26–38. doi:10.1080/10410236.2013.835215
- Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, 2, 1–8.
- Ryan, H., Schofield, P., Cockburn, J., Butow, P., Tattersall, M., Turner, J., ... Bowman, D. (2005). How to recognize and manage psychological distress in cancer patients. *European Journal of Cancer Care*, 14, 7–15. doi:10.1111/j.1365-2354.2005.00482.x
- Smith-McLallen, A., & Fishbein, M. (2009). Predicting intentions to engage in cancer prevention and detection behaviors: Examining differences between Black and White adults. *Psychology, Health & Medicine*, 14(2), 180–189. doi:10.1080/13548500802183575
- Smith-McLallen, A., Fishbein, M., & Hornik, R. C. (2011). Psychosocial determinants of cancer-related information seeking among cancer patients. *Journal of Health Communication: International Perspectives*, 16(2), 212–225. doi:10.1080/10810730.2010.52222
- Stanton, A. L., Danoff-Burg, S., Sworowski, L. A., Collins, C. A., Branstetter, A. D., Rodriguez-Hanley, A., ... Austenfeld, J. L. (2002). Randomized, controlled trial of written emotional expression and benefit finding in breast cancer patients. *Journal of Clinical Oncology*, 20(20), 4160–4168. doi:10.1200/JCO.2002.08.521
- Street, R. L. (2001). Active patients as powerful communicators: The communicative foundation of participation in care. In W. P. Robinson & H. Giles (Eds.), *The new handbook of language and social psychology* (pp. 541–560). Chichester, England: Wiley.
- Street, R. L., Makoul, G., Arora, N. K., & Epstein, R. M. (2009). How does communication heal? Pathways linking clinician–patient communication to health outcomes. *Patient Education and Counseling*, 74(3), 295–301. doi:10.1016/j.pec.2008.11.015
- Street, R. L., & Millay, B. (2001). Analyzing patient participation in medical encounters. *Health Communication*, 13, 61–73. doi:10.1207/S15327027HC1301_06

Trafimow, D., & Sheeran, P. (1998). Some tests of the distinction between cognitive and affective beliefs. *Journal of Experimental Social Psychology, 34*, 378–397. doi:10.1006/jesp.1998.1356

van der Ploeg, E., Mooren, T. T. M., Kleber, R. J., van der Velden, P. G., & Brom, D. (2004). Construct validation of the Dutch version of the Impact of Event Scale. *Psychological Assessment, 16*, 16–26. doi:10.1037/1040-3590.16.1.16

van Weert, J. C. M., Jansen, J., de Bruijn, G.-J., Noordman, J., van Dulmen, S., & Bensing, J. M. (2009). QUOTEchemo: A patient-centred instrument to measure quality of communication preceding chemotherapy treatment through the patient's eyes. *European Journal of Cancer, 45*, 2967–2976. doi:10.1016/j.ejca.2009.06.001

Zakowski, S. G., Harris, C., Krueger, N., Laubmeier, K. K., Garrett, S., Flanigan, R., & Johnson, P. (2003). Social barriers to emotional expression and their relations to distress in male and female cancer patients. *British Journal of Health Psychology, 8*(3), 271–286. doi:10.1348/135910703322370851

Zhang, A. Y., & Siminoff, L. A. (2003). Silence and cancer: Why do families and patients fail to communicate? *Health Communication, 15*(4), 415–429. doi:10.1207/S15327027HC1504_03

Zimmermann, C., Del Piccolo, L., Bensing, J., Bergvik, S., De Haes, H., Eide, H., . . . Finset, A. (2011). Coding patient emotional cues and concerns in medical consultations: The Verona Coding Definitions of Emotional Sequences (VR-CoDES). *Patient Education and Counseling, 82*, 141–148. doi:10.1016/j.pec.2010.03.017

Appendix

Cross-Tabulations With Percentage to Gain Analyses for All Underlying Measures for Attitude and Perceived Social Norm

Table A1. Cross-tabulation of attitude measure unpleasant–pleasant and intention (*n* = 236)

Intention to express concerns	Attitude unpleasant–pleasant		Total
	All others	Desired	
All others	93.4%	65.2%	85.2%
Desired	6.6%	34.8%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 34.8%–14.8% = 20.0%.

Table A2. Cross-tabulation of attitude measure a disadvantage–an advantage and intention (*n* = 236)

Intention to express concerns	Attitude a disadvantage–an advantage		Total
	All others	Desired	
All others	95.9%	67.8%	85.2%
Desired	4.1%	32.2%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 32.2%–14.8% = 17.4%.

Table A3. Cross-tabulation of attitude measure not stressful–stressful and intention (*n* = 236)

Intention to express concerns	Attitude not stressful–stressful		Total
	All others	Desired	
All others	91.9%	73.6%	85.2%
Desired	8.1%	26.4%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 26.4%–14.8% = 11.6%.

Table A4. Cross-tabulation of attitude measure bad–good and intention (*n* = 236)

Intention to express concerns	Attitude bad–good		Total
	All others	Desired	
All others	95.0%	75.2%	85.2%
Desired	5.0%	24.8%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 24.8%–14.8% = 10.0%.

Table A5. Cross-tabulation of attitude measure not useful–useful and intention (*n* = 236)

Intention to express concerns	Attitude not useful–useful		Total
	All others	Desired	
All others	95.4%	76.6%	85.2%
Desired	4.6%	23.4%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 23.4%–14.8% = 8.6%.

Table A6. Cross-tabulation of attitude measure not helpful–helpful and intention (*n* = 236)

Intention to express concerns	Attitude not helpful–helpful		Total
	All others	Desired	
All others	93.5%	78.3%	85.2%
Desired	6.5%	21.7%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 21.7%–14.8% = 6.9%.

Table A7. Cross-tabulation of perceived social norm (PSN) measure significant others want the patient to express concerns and intention ($n = 236$)

Intention to express concerns	PSN people who are important want the patient to express concerns		Total
	All others	Desired	
All others	91.5%	70.8%	85.2%
Desired	8.5%	29.2%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 29.2%–14.8% = 14.4%.

Table A8. Cross-tabulation of perceived social norm (PSN) measure compliance with the expectations and wishes regarding concern expression of significant others ($n = 236$)

Intention to express concerns	PSN compliance		Total
	All others	Desired	
All others	88.4%	72.3%	85.2%
Desired	11.6%	27.7%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 27.7%–14.8% = 12.9%.

Table A9. Cross-tabulation of perceived social norm (PSN) measure significant others expect the patient to express concerns and intention ($n = 236$)

Intention to express concerns	PSN people who are important expect the patient to express concerns		Total
	All others	Desired	
All others	90.6%	73.7%	85.2%
Desired	9.4%	26.3%	14.8%
% in the column	100.0%	100.0%	100.0%

Note. Percentage to gain: 26.3%–14.8% = 11.5%.

Table A10. Cross-tabulation of perceived social norm (PSN) measure patients' belief that their partner thinks that they should express concerns and intention ($n = 204$)

Intention to express concerns	PSN people partner		Total
	All others	Desired	
All others	94.6%	80.4%	86.8%
Desired	5.4%	19.6%	13.2%
% in the column	100.0%	100.0%	100.0%

Note. N varies because there was also a "not applicable to me" answer category.
Percentage to gain: 19.6%–13.2% = 6.4%.

Table A11. Cross-tabulation of perceived social norm (PSN) measure patients' belief that their child(ren) think(s) that they should express concerns and intention ($n = 177$)

Intention to express concerns	PSN people child(ren)		Total
	All others	Desired	
All others	91.3%	81.2%	86.4%
Desired	8.7%	18.8%	13.6%
% in the column	100.0%	100.0%	100.0%

Note. N varies because there was also a "not applicable to me" answer category.
Percentage to gain: 18.8%–13.6% = 5.2%.

Table A12. Cross-tabulation of perceived social norm (PSN) measure patients' belief that their sibling(s) think(s) that they should express concerns and intention ($n = 185$)

Intention to express concerns	PSN siblings		Total
	All others	Desired	
All others	92.3%	75.0%	85.9%
Desired	7.7%	25.0%	14.1%
% in the column	100.0%	100.0%	100.0%

Note. N varies because there was also a "not applicable to me" answer category.
Percentage to gain: 25.0%–14.1% = 10.9%.

Table A13. Cross-tabulation of perceived social norm (PSN) measure patients' belief that their friends think that they should express concerns and intention ($n = 212$)

Intention to express concerns	PSN friends		Total
	All others	Desired	
All others	91.5%	74.7%	84.9%
Desired	8.5%	25.3%	15.1%
% in the column	100.0%	100.0%	100.0%

Note. N varies because there was also a "not applicable to me" answer category.
Percentage to gain: 25.3%–15.1% = 10.2%.

Table A14. Cross-tabulation of perceived social norm (PSN) measure patients' belief that other cancer patients express concerns and intention ($n = 204$)

Intention to express concerns	PSN other cancer patients		Total
	All others	Desired	
All others	89.3%	75.4%	85.7%
Desired	10.7%	24.6%	14.3%
% in the column	100.0%	100.0%	100.0%

Note. N varies because there was also a "not applicable to me" answer category.
Percentage to gain: 24.6%–14.3% = 6.4%.