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# Factors Associated With Meaning in Life Among People With Recurrent Cancer

Elizabeth Johnston Taylor

Attribution theory proposes that negative or unexpected events challenge one's sense of meaning. The purpose of this correlational, cross-sectional study was to determine what factors were associated with the sense of meaning in life among people with recurrent cancer. A convenience sample of 74 subjects completed six survey instruments, including the Purpose in Life (PIL) Test, Symptom Distress Scale, Enforced Social Dependency Scale, and Psychosocial Adjustment to Illness Scale, as well as two surveys developed by the author to assess aspects of the search for meaning, and demographic and illness variables. Significant negative Pearson correlations were found between sense of meaning and the following variables: symptom distress, social dependency, and length of time since diagnosis of recurrence. Adjustment to illness was associated with a clear sense of meaning. Analysis of variance indicated that married subjects had significantly higher PIL Test scores than single subjects. In concert, these factors accounted for 38% of the variance in sense of meaning. These findings empirically demonstrate that the sense of meaning is integrally associated with the physical and psychosocial effects of illness and suggest that oncology nurses must understand how to care for those who search for meaning. (*Oncology Nursing Forum*, Vol. 20, No. 9, pp. 1399-1407, 1993.)

Healthcare and social psychology literature strongly suggest that people experiencing loss, change, victimization, or a traumatic life event search for meaning (Silver & Wortman, 1980; Janoff-Bulman & Frieze, 1983; Taylor, 1983; Marris, 1986; Thompson & Janigian, 1988). The experience of having cancer is one such traumatic life event, and there is substantial evidence that people living with cancer search for meaning (Bard & Dyk, 1956; Taylor, 1983; Haberman, 1987; O'Conner, Wicker, & Germino, 1990; Steeves, 1992). Indeed, there is evidence that the search for meaning may be particularly prevalent, or intensified, among people with recurrent cancer (Scott, Goode, & Arlin, 1983; Chekryn, 1984; Weisman & Worden, 1986; Mahon, Cella, & Donovan, 1990).

The experience of living with a recurrent cancer has largely been neglected by researchers (Cella, Mahon, & Donovan, 1990). This is particularly disappointing, considering the prevalence of recurrent cancer as well as the significant degree of distress that appears to be associated with it. Indeed, 52% of the more than 1 million people diagnosed with cancer today will be alive five years from now, suggesting that many of them will experience at least one recurrence of cancer (American Cancer Society, 1993).

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## Literature Review

### Conceptual Framework

Frankl (1984) proposed that the "will to meaning" is a primary concern and motivating force in human life. Thus, Frankl infers that the need for meaning in life is innate and universal. Some have theorized that the search for meaning progresses through developmental phases (Fowler, 1981; Kegan, 1982). Others propose that one's sense of meaning is challenged by various life events (e.g., Janoff-Bulman & Frieze, 1983; Thompson & Janigian, 1988; Wong & Weiner, 1981). Indeed, the search for meaning has been variously defined as "making sense" of circumstances by finding reasons (Marris, 1986; Silver, Boon, & Stones, 1983), "construing good" (Taylor, Wood, & Lichtman, 1983), and understanding how an event "fits into a larger context" (Thompson & Janigian). Purpose also has often been equated with, or subsumed by, the concept of meaning (Crumbaugh & Maholick, 1981; Highfield & Cason, 1983; Thompson & Janigian; Yalom, 1980).

The sense of meaning among medically ill populations often has been studied using an approach based upon attribution theory. Although this attributional research typically investigates patients' explanations of causality (e.g., Bulman & Wortman, 1977; Gotay, 1985; Lowery, Jacobsen, & McCauley, 1987; Taylor, Lichtman, & Wood, 1983), the theory also addresses the wider phenomenon of meaning (Heider, 1958; Weiner, 1986). Attribution theory posits that negative or unexpected events precipi-

tate the quest for causal understanding, including answers to "Why?" questions (Wong & Weiner, 1981). Attributions provide the attributor with explanations, predictions, self-protection, and social identity (Forsyth, 1980). This form of cognitive control assists people in perceiving control in the face of seemingly uncontrollable events (Lewis, 1987; Rothbaum, Weisz, & Snyder, 1982).

## Previous Research

Prior studies of people with cancer have measured relationships between the sense of meaning and other factors. Acklin, Brown, and Mauger (1983) observed negative correlations between sense of meaning and despair, anger/hostility, and isolation. Similarly, Lewis (1982, 1989) found a clear sense of meaning was positively correlated with a sense of personal (versus external) control and was predictive of low anxiety and healthy self-concept. Taylor, Lichtman, and Wood's (1984) and Gotay's (1985) research found no significant relationship between specific attributions and adjustment to cancer. These two studies demonstrate the complex relationship between attributions and adjustment, which is mediated by multiple factors and in need of further study (Michela & Wood, 1986; Turnquist, Harvey, & Andersen, 1988).

## Living With Recurrent Cancer

A search of psychosocial oncology literature revealed only five reports of research and two clinical articles addressing the experience of recurrent cancer (i.e., Cella, Mahon, & Donovan, 1990; Chekryn, 1984; Mahon, 1991; Mahon, Cella, & Donovan, 1990; Schmale, 1976; Scott, Goode, & Arlin, 1983; Weisman & Worden, 1986). A salient theme to emerge from this literature was the occurrence of distress related to the patient's realization that death might be more imminent than he or she previously had thought. Existential concerns and the search for meaning were observed by several researchers (Chekryn; Weisman & Worden; Mahon, Cella, & Donovan; Scott, Goode, & Arlin). This literature also describes how physical health and disability are significant concerns for people diagnosed with recurrent cancer.

## Purpose

A dearth of empirical knowledge regarding both the experience of recurrent cancer and the sense of meaning among physically ill populations exists. Because recurrent cancer is a life event that challenges the sense of meaning, this study explored the sense of meaning and factors associated with meaning among adults living with recurrent cancer. Thus, the purposes of this investigation were to measure the sense of meaning among people with recurrent cancer and to identify factors associated with the sense of meaning among these people.

Whereas previous studies have measured the relationship between sense of meaning and psychological factors, this study explored the associations between sense of meaning and selected illness-related factors. These illness-related factors included symptom distress, dependency, and illness variables such as cancer site, length of time since diagnosis, and length of disease-free interval. Likewise, because of the discrepancy between theory and em-

pirical knowledge regarding the relationship between adjustment and sense of meaning, adjustment to illness was included as a variable for study.

## Methods

### Sample

Power analysis determined that 68 subjects were necessary in order to achieve "good" statistical power (with a medium effect size of 0.40, power value of 0.96, and significance level of 0.05) for the correlational procedures this study initially employed for data analysis (Cohen, 1988). However, a convenience sample of 74 subjects participated in the investigation. These subjects were recruited from two oncology outpatient departments in a large university hospital in Philadelphia, PA.

Criteria for selecting subjects included (a) a diagnosis, within the past year, of recurrent cancer that had been preceded by one disease-free interval since the time of the first cancer diagnosis, (b) an age of at least 18 years, (c) verbal fluency in the English language, (d) absence of medically diagnosed mental illness (past or present), and (e) willingness to participate.

### Instruments

Subjects completed four standardized instruments, and two survey tools designed by the investigator. The Crumbaugh and Maholick (1981) **Purpose in Life (PIL) Test**, constructed to measure the sense of meaning in life, is a 20-item tool with 7-point Likert scale response options. In addition to establishing norms, the authors of this attitudinal scale established construct and concurrent validity and reliability with a variety of adult populations. While PIL Test scores may range from 20 to 140, scores above 112 indicate a clear sense of meaning, scores between 92 and 112 indicate indecisiveness, and scores below 92 indicate a clear lack of meaning. The internal consistency reliability of the PIL Test with the present sample was acceptable, with a Cronbach's alpha of 0.88.

The **Psychosocial Adjustment to Illness Scale—Self Report (PAIS-SR)**; Derogatis & Lopez, 1983) measures the multidimensional concept of adjustment to medical illness. This scale quantifies responses in seven domains: healthcare orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment, and psychological distress. For each of the 46 items, the subject selects one of four ranked responses. Reliability has been established for each of the instrument's domains, as have convergent and predictive validity. The overall reliability coefficient for the present sample was 0.92; likewise, the alphas for the subscales were similar to those obtained by the tool's authors. The scoring procedure employed for this study used the normative profile established for a mixed sample of patients with cancer. The sum of domain raw scores was the statistic used in data analysis because a global measure of adjustment was desired. A high PAIS-SR score indicates poor adjustment.

The **Symptom Distress Scale (SDS)** (McCorkle, 1987; McCorkle & Young, 1978) was used to measure the severity of subjects' symptom distress. The 13-item SDS is a self-report instrument with 5-point Likert scale response

options. A low score indicates little symptom distress. The items address nausea, appetite, insomnia, pain, fatigue, bowel pattern, concentration, appearance, breathing, outlook, and cough. The instrument's authors have documented acceptable reliability, and content and construct validity, among patients with cancer. The internal reliability of the tool with the present sample was 0.83 (Cronbach's alpha).

The **Enforced Social Dependency Scale** (ESDS; Benoliel, McCorkle, & Young, 1980) quantifies the amount of assistance with activities of daily living (ADL) required by people with a debilitating illness in order to perform their adult roles. The 10-item ESDS elicits information about eating, dressing, walking, traveling, bathing, toileting, household and vocational work roles, social roles, and communication. ESDS data are solicited by an interviewer asking questions designed to assess the degree of change in social dependency since the onset of illness. The tool offers suggested questions for each of the 10 items, as well as guidelines for scoring the response. The reliability and content validity have been demonstrated for patients with cancer. The internal reliability of the tool with the present sample was 0.85 (Cronbach's alpha). Because there was only one data collector, interrater reliability was not a concern. A low score indicates minimal dependence.

Two survey instruments were designed by the investigator for this study. The **Search for Meaning Survey** (SMS) gathered information about the subjects' experience of searching for meaning. The two SMS items pertinent to the present discussion were: "With respect to your illness, have you found yourself searching for meaning?" (with yes/no response options); and "As a result of your search/questions, have you found any meaning/answers?" (with four response options). A **demographic tool** was used to gather data about personal and illness characteristics.

### Procedure and Setting

After the study was described to the patient and informed consent was obtained, the six instruments were given to the subject with instructions for completing them. Often, subjects elected to complete the instruments at home and return them by mail. Thus, 25 subjects completed at least half of the tools in their homes or offices. The ESDS was completed either by telephone or at the time the study was introduced. While 37 subjects completed the tools in an outpatient clinic setting, 12 participated in the study as hospitalized patients. A few subjects requested that the investigator read the items and responses to them. These "interviews" frequently required nearly one hour for completion. Whereas most subjects completed all of the instruments within an hour, some subjects required several days to complete the surveys. Because the study's design did not strictly control for time, it is assumed that this procedural complication did not significantly influence the data.

### Results

The 74 subjects with recurrent cancer reflected a variety of illness and demographic variables. Subjects' characteristics are provided in Table 1. The high number of

male subjects (relative to the number in other studies of subjects with recurrent cancer) and the fairly high socioeconomic status are noteworthy. Subjects typically were female, Caucasian, Protestant, married, and living with family.

Although all of these subjects had been diagnosed with recurrent cancer after one disease-free interval, illness circumstances varied in many ways (see Table 1). All but two of the subjects' recurrent cancers appear to have been related to their first cancer diagnosis. All of the subjects had received or currently were receiving some form of medical therapy or diagnostic surgery for cancer. All 74 subjects had been diagnosed with recurrent cancer within 21 months prior to their interview (90% within the past year). Subjects' disease-free intervals varied from two months to 32 years.

Subjects' physiologic and psychosocial responses to their recurrent cancer experience were measured using the SDS, ESDS, and the PAIS-SR (see Table 2). PIL Test results provide understanding regarding the sense of meaning among these subjects with recurrent cancer. Subjects' PIL Test scores ranged from 69 to 137. The average score was 108.7 (SD = 17). The scores formed a moderately negative and slightly platykurtic curve.

Using Pearson correlations, PIL Test scores were found to be significantly associated with PAIS-SR, SDS, and ESDS scores in a negative and low-moderate degree (see Table 3). PAIS-SR subscales that significantly correlated with the sense of meaning included those that assessed healthcare orientation ( $r = -0.47$ ), domestic abilities ( $r = -0.32$ ), psychological distress ( $r = -0.37$ ), and social abilities ( $r = -0.29$ ). A significant inverse relationship also was found between PIL Test scores and length of time since diagnosis of recurrence. However, correlations between PIL Test scores and income, education, and length of disease-free interval were not statistically significant.

One-way analysis of variance (ANOVA) with least significant difference demonstrated that married (including remarried) subjects had significantly higher PIL Test scores than did nonmarried (including separated, divorced, and widowed) subjects ( $F = 2.72$ ;  $df = 4,69$ ;  $p = 0.036$ ). Because the subjects' ages reflected a very wide range, PIL Test scores were compared among the young (23–40 years), middle-aged (41–60 years), and elderly (61–81 years) subjects. The young adults had significantly lower PIL Test scores than the middle-aged adults, who scored slightly higher than the elderly subjects (ANOVA with Scheffe,  $F = 3.87$ ;  $df = 2,71$ ;  $p = 0.025$ ).

However, ANOVA demonstrated no significant differences in PIL Test scores by religion, degree of religiosity, gender, ethnicity, occupation, employment status, living situation, or site of diagnosis. Comparing group means revealed no significant difference between the PIL Test scores of those who answered that they had searched versus those who answered that they had not searched for meaning (per SMS). However, PIL Test scores were significantly greater for subjects who answered that they had found at least some meaning than for those who responded that no meaning had been found ( $F = 12.64$ ;  $df = 2,47$ ;  $p = 0.000$ ).

Partial correlational and multiple regression analysis were completed to examine multicollinearity among the

Table 1. Frequencies and Descriptive Statistics on Major Demographic Variables

Variable	Frequency	Percent	Variable	Frequency	Percent
<b>Age<sup>a</sup></b>			<b>Education (in years attended school)<sup>b</sup></b>		
20-29	3	4.1	8-11	8	10.8
30-39	12	16.2	12	27	36.5
40-49	12	16.2	13-16	27	36.5
50-59	20	27.0	17-18	7	9.5
60-69	17	23.0	19-24	5	6.9
70-79	9	12.1			
80-89	1	1.4	<b>Site/type of recurrent cancer</b>		
<b>Marital status</b>			Breast	31	41.9
Single	10	13.5	Non-solid tumors	14	18.9
Married	54	73.0	Melanoma	2	2.7
Remarried	3	4.1	Colorectal	12	16.2
Divorced/separated	4	5.4	Genitourinary	6	8.1
Widowed	3	4.1	Head/neck/gastric/esophagus/lung/pancreas	9	12.2
<b>Living situation</b>			<b>Disease-free interval (in months)<sup>c</sup></b>		
Lives alone	8	10.8	2-8	20	27.0
Lives with family	64	86.5	9-18	12	16.2
Lives with non-family	2	2.7	19-30	7	9.5
<b>Occupation</b>			31-60	19	25.7
Student	1	1.4	61-90	7	9.4
Housewife	10	13.5	91-200	6	8.1
Unskilled worker	4	5.4	201-300	2	2.8
Blue collar	12	16.2	300-399	1	1.4
White collar	23	31.1			
Professional/manager	24	32.4	<b>Time since diagnosis of recurrent cancer (in months)<sup>d</sup></b>		
<b>Gender</b>			< 2	11	14.9
Female	45	60.8	2-4	28	37.8
Male	29	39.2	5-8	22	29.7
<b>Ethnicity</b>			9-12	7	9.5
Asian	1	1.4	13-17	5	6.9
Black	13	17.6	21	1	1.4
Caucasian	60	81.1			
<b>Religion</b>					
Roman Catholic	23	31.1			
Jewish	10	13.5			
Protestant	32	43.2			
Other/unspecified	5	6.8			
Atheist/none	4	5.4			

<sup>a</sup>  $\bar{X}$  = 53.7; SD = 13.6.    <sup>b</sup>  $\bar{X}$  = 14.07; SD = 3.1.    <sup>c</sup>  $\bar{X}$  = 46.4; SD = 61.8.    <sup>d</sup>  $\bar{X}$  = 5.4; SD = 4.4.

various independent variables, as well as to examine their ability to determine sense of meaning (see Table 4). Multiple regression analysis demonstrated that when adjustment, dependency, symptom distress, time since diagnosis, and marital status were considered in concert, they accounted for 38% of the variance in sense of meaning (multiple  $R = 0.61$ ; adjusted  $R^2 = 0.33$ ;  $F = 7.85$ ;  $df = 5$ ;  $p = 0.00001$ ). Using the stepwise method of entry (with a criterion of probability for an F-test to enter of 0.05), the regression equation demonstrated that adjustment and marital status were the best predictors of sense of meaning, accounting for 33.5% of its variance. That is, positive adjustment to illness ( $\beta = -0.47$ ) and being married ( $\beta = 0.43$ ) predicted a clear sense of meaning. Symptom distress and dependency showed little effect on sense of meaning once adjustment was entered into the equation.

## Discussion

SDS and ESDS results suggested that these subjects with recurrent cancer experienced a moderate amount of symptom distress and were moderately dependent upon others or equipment. The PAIS-SR scores demonstrate that these subjects' adjustment to illness did not differ from that of the patients with cancer upon which the scale's normative profile was based. This result differs from Mahon, Cella, and Donovan's (1990) subjects with recurrent cancer who all scored one to two standard deviations above norm on the PAIS-SR, indicating poor adjustment. However, this difference may be accounted for by the fact that 70% of their subjects were hospitalized, compared to the 5.7% in the present study.

Comparing these subjects' mean PIL Test scores of

Table 2. Results of Standardized Instruments<sup>a</sup>

Instrument	Mean	SD	Range	Possible Range	Alpha
Symptom Distress Scale	24.1	7.6	13-44	13-65	0.8339
Enforced Social Dependency Scale	22.0	6.9	11-38	10-51	0.8501
Psychosocial Adjustment to Illness Scale—Self-Report (raw score)	29.2	18.0	3-91	0-138	0.9176
Purpose in Life Test	108.7	16.9	68-137	20-140	0.8832

<sup>a</sup> N = 74, except for Psychosocial Adjustment to Illness Scale—Self-Report (N = 71)

108.7 with the normative average of 112.4 demonstrated that these subjects had significantly lower test scores than those of the general population ( $t = -1.88$ ;  $df = 73$ ;  $p < 0.05$ ). Indeed, these subjects' scores are similar to undergraduates' ( $\bar{X} = 108.4$ ) and indigent hospitalized patients' ( $\bar{X} = 106.4$ ) scores (Crumbaugh & Maholick, 1981). Based upon the PIL Test authors' suggestion for interpreting scores, the test results of 12 (16.2%) subjects indicated a lack of clear meaning, 30 (40.6%) indicated indecisiveness, and the majority (32, or 43.2%) had scores reflecting a clear sense of meaning.

The modest, inverse correlations between the sense of meaning and symptom distress, dependency, and adjustment indicate that both high symptom distress and increased dependence are associated with a low (or unclear) sense of meaning, and that an unclear sense of meaning is associated with poor adjustment to illness. Furthermore, people who perceive difficulty with the health care that they receive, with social and domestic disability, and with psychological distress tend to have an unclear sense of meaning. The negative correlation between sense of meaning and length of time since diagnosis demonstrates that the longer people live with the recurrent cancer, the more unclear their sense of meaning.

Although middle-aged and married subjects were found to have a significantly greater sense of meaning than young adults and elderly and unmarried subjects, no other demographic or illness factors were found to be associated with the sense of meaning in life among these patients with recurrent cancer, including education, income, length of disease-free interval, gender, ethnicity, education, income, religion (or degree of religiosity), type or status of work, living situation, or type of cancer. Furthermore (and more intriguing), sense of meaning was not related to whether or not a search for meaning was reported.

### Nursing Practice Implications

These findings suggest implications and applications for nursing practice. First, the association between the physiologic and social results of illness (i.e., symptom distress and dependency) and the psychospiritual response to illness (i.e., sense of meaning) is explicitly illustrated by the results of this study. This illustration provides empirical evidence to support the view that nurses' caring must address the whole person—the physical, social, psychological, and spiritual dimensions of being.

Second, these findings suggest risk factors for an unclear sense of meaning among people with recurrent can-

Table 3. Correlations Among Sense of Meaning, Symptom Distress, Social Dependency, Adjustment to Illness, and Length of Time Since Diagnosis of Recurrence<sup>a</sup>

	Meaning (PIL Test)	Adjustment (PAIS-SR)	Symptoms (SDS)	Dependency (ESDS)	Time
Meaning (PIL Test)	1.00				
Adjustment (PAIS-SR)	-0.396**	1.00			
Symptom (SDS)	-0.3073*	0.6605**	1.00		
Dependency (ESDS)	-0.2840*	0.5041**	0.4704**	1.00	
Time	-0.3116*	0.2953*	0.1725	-0.0362	1.00

Abbreviations: PIL Test—Purpose in Life Test; PAIS-SR—Psychosocial adjustment to Illness Scale—Self-report; SDS—Symptom distress Scale; ESDS—Enforced Social Dependency Scale

Note. Time = number of months since subject was diagnosed with the recurrent cancer.

<sup>a</sup> N = 71. \* Denotes 1-tailed significance at 0.01 level. \*\* Denotes 1-tailed significance at 0.001 level.



Table 4. Results of Multiple Regression Analysis

Variables	B	Standard Error B	Beta	Part Correlation	Partial
Psychosocial Adjustment to Illness Scale—Self-Report	-0.357	0.410	-0.379	-0.249	-0.301
Marital Status	16.662	4.144	0.411	0.394	0.446
Time	-0.802	0.406	-0.208	-0.193	-0.238
Enforced Social Dependency Scale	-0.302	0.297	-0.121	-0.099	-0.125
Symptom Distress Scale	0.111	0.299	0.050	0.036	0.046
(Constant)	115.156	8.194			

cer. Nursing interventions designed to assist patients in ascribing meaning should be targeted particularly toward those who experience high symptom distress; are dependent, not adjusting to their illness, unmarried, and young; and who have lived with their recurrence for several months.

Whereas marital status and time since diagnosis are variables over which nurses have no control, adjustment to illness, symptom distress, and dependency are variables upon which nurses *can* have a profound influence. Thus, nursing interventions that decrease symptom distress and promote independence may indirectly assist patients in experiencing satisfactory meaning during their illness. Likewise, this study's findings suggest that helping patients to manage their domestic and social environments, as well as the healthcare system, may also contribute their sense of meaning.

Third, although 43% of these subjects demonstrated a clear sense of meaning, the other 57% indicated an indecisive or unclear sense of meaning. Because these subjects' sense of meaning before diagnosis is unknown, it is inappropriate to conclude that the experience of recurrent cancer either strains or strengthens one's sense of meaning. For patients who possess a clear sense of meaning, nurses must develop interventions that empower patients to provide this psychospiritual self-care. Because evidence exists that people who unsuccessfully attempt to find meaning in response to a negative life event experience greater psychological distress than do people who do not attempt to ascribe meaning, nurses presently should use caution when considering interventions for those who lack a clear sense of meaning (Lowery, Jacobsen, & McCauley, 1987; Silver, Boon, & Stones, 1983).

No specific nursing interventions have yet been tested for efficacy with a maladaptive sense of meaning. Frankl (1984) observed, however, that meaning is created through what one gives to the world, what one takes from the world, and in how one chooses to face suffering. Thus, strategies such as the following may prove useful for promoting a clear sense of meaning: encouraging patients to tell their life story, helping patients to create legacies, facilitating social support, and exploring cognitive strategies (such as downward social comparison and construing good).

## Limitations and Implications for Future Research

A few recommendations for future research based upon the limitations of this study are in order. Because of its exploratory nature, the present study controlled very few illness variables. Future studies, however, may be enhanced by less inclusive sample selection criteria. Although the PIL Test has been widely used (in more than 50 studies) as "state of the art" measurement for the concept of life meaning, it is plagued by cultural insensitivity and poor content validity (Yalom, 1980). Future research should address measurement of the concept. Because the sense of meaning for subjects with a low sense of meaning was unknown prior to diagnosis, it was impossible to assess whether these subjects' sense of meaning changed in response to the diagnosis and recurrent cancer experience. Longitudinal studies exploring the sense of meaning across time would assist nurses in understanding if and when meaning changes.

## Conclusion

This study employed quantitative methods to identify factors that are associated with a sense of meaning among people with recurrent cancer. Several variables were identified, many of which demonstrate that an individual's sense of meaning is integrally associated with the physical and psychosocial effects of cancer. Thus, nurses must address this phenomenon in practice and research.

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