Nutrition-Related Cancer Prevention Attitudes and Behavioral Intentions:

Testing the Risk Perception Attitude (RPA) Framework

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Introduction

•An estimated 35% of cancer deaths could be prevented through good nutrition (1).

•Accordingly, several programs emphasize the health benefits of good nutrition to motivate people to improve their diets (2).

•Data suggest that people who agree that nutrition is related to cancer have healthier diets (e.g., 3).

•Thus, strategies to change people's nutrition-related cancer prevention attitudes could impact their diets and ultimately decrease cancer rates.

•Psychological constructs associated with nutrition-related outcomes provide potential targets for health communication messages and interventions.

•A framework that allows researchers to identify people with varying nutrition-related cancer prevention attitudes and behavioral intentions is needed.

The Risk Perception Attitude (RPA) Framework

Identifies 4 groups based on:
•**Perceived risk**--the extent to which people believe they are vulnerable to an outcome
•**Efficacy**--the extent to which people believe they are able to take action to avoid an outcome(4, 5, 6)

	Risk Perception	
	low	**high**
Efficacy low	**Indifference**	**Avoidance**
Efficacy high	**Proactive**	**Responsive**

RPA predicts that efficacy affects outcomes at high levels of perceived risk (**responsive** individuals have better outcomes than **avoidance** individuals), but not at low levels of perceived risk (**indifference = proactive**).

The RPA framework has been shown to predict prevention behaviors in the context of skin cancer (5, 6).

Objective

To test whether the RPA framework is predictive of attitudes and behavioral intentions related to nutrition in cancer prevention in a nationally representative sample.

Method

Data Collection

The Health Information National Trends Survey (HINTS) is a national probability survey of the U.S. adult population.

Adults 18 years or older (*n* = 6,369) completed a one-time random-digit dial telephone survey in 2002-2003.

Further details about the sampling plan and response rates are published elsewhere (7).

Measures

Perceived Risk
"How likely do you think it is that you will develop cancer in the future?"

1 (Very Low) to 4 (Very High)

Perceived Efficacy
"There's not much people can do to lower their chances of getting cancer."

1 (Strongly Agree) to 4 (Strongly Disagree)

Attitudes
(1) % of respondents who reported good nutrition when asked "Can you think of anything **people** can do to reduce their chances of getting cancer?" (*n* = 6365)

(2) Number of responses to "What specific changes should **people** make in their eating habits to reduce their chances of getting cancer?" (*n* = 3436)

Behavioral Intentions
(1) % of respondents who reported good nutrition when asked "Is there anything about your behavior or lifestyle that **you** would like to change to reduce your chances of getting cancer?" (*n* = 6359)

(2) Number of responses to "What specific changes should **you** make in your eating habits to reduce your chances of getting cancer?" (*n* = 1295)

Data Analyses

SAS and SUDAAN software were used to estimate appropriate standard errors of point estimates for the complex survey data. Demographic variables were included in all models as covariates (Table).

Results

Attitudes

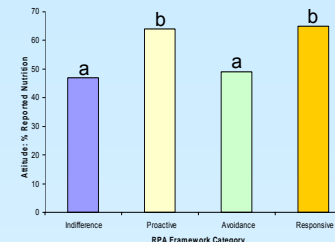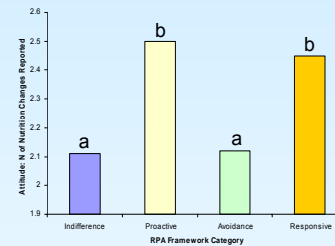Figure 1. Percent of respondents who reported that good nutrition can prevent cancer, by RPA Framework Category

Figure 2. Number of nutrition changes respondents reported people can make to prevent cancer, by RPA Framework Category

Behavioral Intentions

Figure 3. Percent of respondents who reported that they would like to change their diet to prevent cancer, by RPA Framework Category
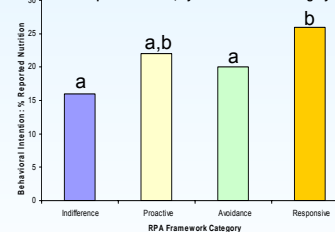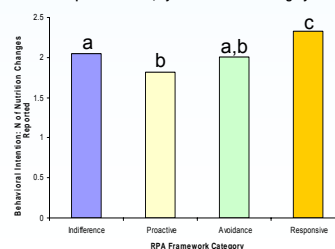

Figure 4. Number of nutrition changes respondents reported they should make to prevent cancer, by RPA Framework Category

Note. Means sharing the same superscript were not different at *p* < .05.

Table. Predicted Marginals (95% Confidence Interval) for Demographic Characteristics, by RPA Framework Categories.

Demographic Characteristic	Indifferent	Avoidant	Proactive	Responsive
Sample N	1355	1737	868	872
Weighted %	28	36	17	18
Age**				
18-34	37 (33-41)	34 (32-36)	33 (29-37)	35 (31-39)
35-64	49 (45-53)	56 (54-58)	54 (50-58)	58 (54-62)
65+	15 (13-17)	10 (8-12)	13 (11-15)	6 (4-8)
Gender (% Female)	49 (45-53)	51 (47-55)	46 (42-50)	51 (47-55)
Education**				
≤ High School	48 (44-52)	50 (48-52)	35 (31-39)	38 (34-42)
Some College	26 (24-28)	27 (25-29)	31 (27-35)	35 (31-39)
≥ College	26 (24-28)	23 (21-25)	34 (30-38)	28 (26-30)
Race/Ethnicity*				
White, Non-Hispanic	69 (65-73)	75 (73-77)	72 (68-76)	80 (76-84)
Black, Non-Hispanic	11 (9-13)	9 (7-11)	11 (9-13)	7 (5-9)
Hispanic	14 (12-16)	10 (8-12)	11 (9-13)	7 (5-9)
Other	7 (5-9)	6 (4-8)	6 (4-8)	6 (4-8)

Note. ** *p* < .001, * *p* < .01

Conclusions

•Respondents with higher efficacy (proactive, responsive) were more likely to report that good nutrition can prevent cancer and reported more preventive dietary changes compared to those with lower efficacy (indifference, avoidance) regardless of level of perceived risk (Figures 1 & 2).

•Respondents with higher efficacy (responsive) were more likely to report intentions to change their diets compared to those with lower efficacy (avoidance) but only at higher levels of risk (Figure 3).

•Respondents with higher efficacy and higher risk (responsive) reported more changes to their own diets compared to other respondents (Figure 4).

•Results suggest that to improve **attitudes** about the role of nutrition in cancer prevention, interventions should target efficacy beliefs; to increase **intentions** to change nutrition behaviors, interventions should target efficacy and risk perceptions.

References

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