

# UC Riverside

## UCR Honors Capstones 2023-2024

### Title

ETHNICITY, IDENTITIES AND CONVERSATION FREQUENCY

### Permalink

<https://escholarship.org/uc/item/8n33s8vk>

### Author

Chan, Emily E

### Publication Date

2024-07-24

ETHNICITY, IDENTITIES AND CONVERSATION FREQUENCY

By

Emily Elizabeth Chan

A capstone project submitted for Graduation with University Honors

March 01, 2024

University Honors

University of California, Riverside

APPROVED

Dr. Megan Robbins  
Department of Psychology

Dr. Richard Cardullo, Howard H Hays Jr. Chair  
University Honors

## ABSTRACT

The present study compares the frequency of conversations between individuals and their partners coping with a cancer diagnosis and their support system using naturalistic observation methods. This study followed 53 eligible couples (106 participants total) throughout the study's observation period. Descriptive analyses showed that in general individuals talk to their partners more frequently than any other group of their support system. Secondly, when comparing White individuals to Black, Indigenous, and People of Color (BIPOC), White individuals talk more frequently to their partners than BIPOC individuals. However, there is no notable difference in the frequency at which they talk to their family or friends. Finally, conversation frequency was compared to self-reported depressive scores. There was no correlation between increased conversation frequency and reduction of depressive symptoms. By gaining a better understanding of these associations, researchers will be able to further explore how women with cancer develop their ability to cope and design classes or therapies that can teach participants different techniques on how to effectively adjust to adverse news.

## ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my faculty mentor, Dr. Megan Robbins, for her unwavering support and guidance throughout my journey. Her mentorship has been invaluable, and I am grateful for the opportunity to contribute to her work on breast cancer studies. Without her, this project would not have been possible. I would also like to thank my graduate student, Pavani Jonnalagadda, for her constant encouragement, guidance, and understanding every step of the way. Her support has been instrumental in my success. I am also grateful to all the individuals in the laboratory who dedicated their time, energy, and effort to collecting and meticulously transcribing all the data. Their contributions have been crucial to the completion of this project. I would like to acknowledge University Honors for providing me with the resources and foundation to complete my project. Their support has been invaluable. Finally, I want to express my heartfelt thanks to my friends and family for their unwavering love and support. From proofreading my work to igniting my interest in strong social support networks, they have been there for me every step of the way. I am truly grateful for all the amazing people who have helped me on this journey.

## TABLE OF CONTENTS

<b>Abstract.....</b>	<b>2</b>
<b>Introduction.....</b>	<b>5</b>
Background.....	5
Communication.....	6
Social Support.....	7
<b>Present Study.....</b>	<b>9</b>
<b>Methods.....</b>	<b>10</b>
Participants.....	10
Procedures.....	11
Measurements.....	12
<b>Results.....</b>	<b>14</b>
Descriptives.....	14
Discussion.....	17
<b>Limitations and Future Directions.....</b>	<b>18</b>

## **Introduction**

### **Background**

Diagnosis of a major life-threatening illness such as cancer, affects approximately 39.5% of all Americans (National Cancer Institute, 2020). These diagnoses bring about various upsets and changes throughout one's life and without a strong support system these patients may struggle to adjust to these changes (Östberg & Lennartsson, 2007). Humans are social creatures and interactions such as having meaningful conversations and establishing strong support systems are vital in helping to cope with stressors such as cancer (Baumeister & Leary, 1995). The term coping is typically associated with traumatic experiences that induce extreme levels of stress. However, these experiences are not limited to single events but may also come with major life changes, such as a cancer diagnosis (Algorani & Gupta 2023; Goodtherapy, 2023).

Many factors including the support systems' availability, patient comfortability, and previous role models all greatly affect how and who people turn to for support (Malecki & Demary, 2003). Previous studies have additionally shown that geographic proximity has a strong effect on the adoption of information and social influence. This supports the idea that geographic location affects a relationship's tie strength with closer geographic proximity having a positive relationship with stronger social ties (Meyners et al., 2017). In many cases, the people and culture that surrounds an individual can impact how they may view the world (Mesquita & Frijda, 1992), judge their relationship with others (Mesquita & Frijda, 1992), and impact who they form meaningful relationships with (Taylor et al., 2004). An individual's ethnic identity contributes to what they may view as appropriate behavior (Lim, 2016), influence how they communicate (Fernandez et al., 2000), how they choose to cope, and what they choose to talk to

their support group about (Fernandez et al., 2000). Therefore, this study sought to examine how ethnicity plays a role in participants' communication with their support system when facing a cancer diagnosis.

## **Communication**

Communication is defined as the different ways in which individuals share information and ideas with variations in verbal communication such as the speaker's intentions, opinions, and needs (Liu, 2016; Phutela, 2015). Increased levels of communication are associated with higher frequencies of habitual support in daily life and have been linked to healthier relationships and better psychological and physical health (Robbins et. al, 2014). Both deep meaningful conversations (e.g., non-trivial or emotional) and daily light-hearted conversations (e.g., trivial or non-emotional) can be reflective of an individual's social network and in turn their support system.

Cultural background additionally influences how one expresses their emotions which varies amongst individuals from different countries. Factors such as higher values of individualism, low power distance, low uncertainty, and higher feminine culture all contribute to higher levels of verbal and nonverbal emotional expression. Furthermore, in countries where respect and harmony are highly valued, individuals tend to express more sympathy (Fernandez et al., 2000). Cultural display rules and feeling rules may also apply to emotional spontaneity and expression of emotion (Mesquita & Frijda 1992). Additionally, individuals may attempt to avoid particular events that arouse certain emotions, replace them with a more acceptable one, or even suppress particular emotional appraisals to stay aligned with the cultural value (Gaelick et al 1985). The way that individuals interpret events, express, and perceive the emotions of others is

how information about feelings, intentions, and relationships are communicated (Maricopa, 2021).

Communication and emotional support are essential aspects of any successful relationship. Research has shown that an individual's score on the Communication-Based Emotional Support Scale (CBESS) is positively associated with their relationship solidarity and satisfaction (Weber & Patterson, 1966). Therefore, similar events may lead to individuals interpreting their interactions differently based on their relationship solidarity and satisfaction.

### **Social Support**

Support systems are networks of people that can provide practical or emotional support. These systems have been shown to help improve overall health and reduce stress and anxiety which play a pivotal role in determining an individual's ability to cope (Hood, 2020). Additionally, mutually supportive relationships had a lower risk for depression, and receiving more support was related to reduced levels of stress (Robbins et. al., 2014). This support is not limited to illness-related conversations, ordinary conversations have been associated with psychological adjustments and provide the foundations for interventions for coping that do not solely focus on the illness (Robbins et. al., 2018). Therefore, understanding what affects an individual's ability to cope, and how their support system plays a role is essential in their journey to recovery from major life stressors.

Studies have indicated that during times of crisis and uncertainty, individuals strategically activate their social networks to manage additional stressors. This social network activation provides a safety net to assist in managing these stressors (Perry & Pescosolido, 2015). In a Swedish study, researchers found that having someone to talk about personal problems or keep



an individual company contributed to one's improvement in overall health problems such as depression, circulatory problems, and self-regulated general health (Ostenberg, 2007).

Additionally, those who are able to establish an adequate support network report better mental and physical health outcomes than those who have weaker social connections. Furthermore, studies have shown that individuals who are able to provide help during an emergency are the most prominent and beneficial support for lowering psychological distress (Child & Lawton, 2020).

Differences in upbringing, cultural backgrounds, and gender norms further influence the ways that individuals provide and receive support (Lim, 2016; Gaelick et al 1985; Jarcho & Takagi, 2004; Halaz, 2018; Dimitrov, 2022). For emotional or companionship support, major life factors such as one's cultural and ethnic background are essential to how one perceives and displays emotions. In Eastern cultures, such as those in Asia, people typically value lower emotional arousal states (e.g., calm, relaxed, tired) while Western cultures tend to value higher emotional arousal (e.g., excited, fearful, nervous, happy; Lim, 2016). This may lead to a reduced amount of outward verbal expressions in Eastern cultures.

However, as individuals are exposed to different cultural norms, their attitudes and options may also change. A comparison between Asian nationals, immigrants, and second-generation Asian Americans showed that second-generation Asian Americans were more likely to turn to their families for social support. It is speculated that this increase in familial support may be due to a change in social norms or second-generation parents being in a better financial, emotional, or physical position to provide aid (Jarcho & Takagi, 2004). Cultural taboos, norms, and practices can all affect the ways that individuals choose to express themselves

and find comfort in their support system. In many cultures talking openly about illness, diseases, and disabilities can lead to discrimination, intolerance, and marginalization due to the perspective that those who are ill are part of an outgroup incapable of completing the same level of work (Halaz, 2018). Cultural taboos may lead to strategic silences which can amplify the disparities and inequalities in health care provision, medical attention, research, and funding (Dimitrov, 2022). This practice can lead to less frequent verbal communication about health issues and therefore lead to diminished levels of overall communication (Halaz, 2018).

These results are substantive in understanding how social support is able to influence an individual's ability to cope. In an HIV study, individuals who did not find satisfaction within the relationships in their support system reported additional stress regarding their initial medical diagnosis (Nyongesa, 2022). The stress of a core medical diagnosis, daily life stressors, and additional personal stressors all have the ability to affect a person's ability to cope. These negative changes can overwhelm a person's psychological resources leading to an inability to cope. These disruptive feelings can develop into more serious forms of psychological disorders such as anxiety and depressive disorders (Thoits, 1995).

By gaining a greater understanding of how people's daily social interactions affect their support system, we can then assess the factors influencing their ability to cope. These individual differences in who people talk to and what they choose to share may lead to further support in adjusting and coping with cancer diagnosis.

### **Present Study**

The present study aimed to further understand how ethnicity plays a role in who individuals dealing with cancer diagnosis choose to confide in. In addition, we sought to

understand how communication frequency influences depression. Due to the proximity and intimacy of the relationship, we predicted that all individuals would confide in their partners most frequently. We predicted that participants identifying as an ethnic minority would have lower frequencies of conversations with friends, family, and partners as they may be geographically separated from their support system and may be influenced by their native cultural values. Finally utilizing previous research on support systems and depression levels we predicted that those who engaged in more frequent conversations with their support system would have lower self-reported levels of depression.

## **Methods**

### **Participants**

Patients were recruited through the Arizona Cancer Center during their routine oncology visits in 2018. Out of 647 couples, 210 (32.5%) of the couples were eligible to participate in this study. Out of the 210 eligible couples, 56 (26.7%) agreed to participate and were provided with informed consent. Of these 56 couples, only 53 had usable data for analysis. One couple withdrew due to the external microphone being bothersome, the second couple withdrew for an unknown reason and the final couple had not completed all outcome measures. Participants had to have a primary diagnosis of Stage I, II, or III breast cancer, had definitive surgery, and were receiving adjuvant treatment to be eligible for the study. Additionally, couples were required to be primarily English-speaking, at least 21 years of age, and living together in a (self-definable) marriage-like relationship. From the 51 couples whose data were utilized 83 participants were White, 14 were Hispanic, 2 were Black, 2 were Asian, and 1 was American Indian.

## **Procedures**

Before participating in the audio data collection participants completed a psychological adjustment questionnaire to establish a baseline measurement of self-reported depression scores. The study utilized the EAR as a naturalistic observation tool to gather audio clips of the patients and their partners throughout the study. The usage of the EAR method for data collection allowed participants to continue through their daily lives unobstructed providing a more naturalistic way for participant responses to be unaffected by the research. As shown in previous EAR studies there are reported low levels of obstruction and participant noncompliance (Mehl et al, 2012).

Participants were then instructed to wear the EAR device as much as possible during their waking hours over the course of one weekend. Participants were told that it would capture approximately 10% of their waking day excluding the accounted for 6 hours of sleep where no audio files would be collected. Additionally, they would not be aware when the device collected its 50-second audio file but that at the end of the data collection, they would have the chance to go back, listen, and delete any sound file before anyone had the chance to listen to them. Immediately after this collection period researchers collected the EAR devices and administered a demographics and medical questionnaire. Two months after the conclusion of the EAR data collection, participants completed the same questionnaire that they completed prior to the audio data collection to reassess their responses and determine if there were any changes in psychological adjustments. The average of both the baseline and concluding questionnaires was utilized in data analysis. Upon completion of the questionnaire, participants were debriefed and

given a CD containing their recordings to review. Only one participant deleted one audio file, all other files remained. Each couple was paid \$150 for their participation.

## **Measurements**

The original study utilized more measures than what is being discussed in this study. We are only focusing on the measures applicable to our research question. The measures that were used in this study were the Center of Epidemiologic Studies - Depression Scale (Radloff, 1977), communication frequency between family, friends, and partners when talking to support systems via the EAR, and self-reported ethnic background.

***Center of Epidemiological Studies - Depression Scale. (CESD).*** This 20-item self-report questionnaire measures depressive symptoms on a Likert scale from 0-3, (*0 = Rarely or None of the Time, 3 = Most or Almost All the Time*). Scores range from 0 to 60, with high scores indicating greater depressive symptoms. This questionnaire is a self-reported measurement of depressive symptoms and is highly reliable (e.g.,  $\alpha = 0.75$ ) and extensively used in cancer research (Segrin, 2006).

***Electronically Activated Recorder (EAR).*** The EAR device was an HP iPaq 100 handheld computer that was programmed to record 50-second audio clips every 9 minutes. The data collected through these audio files are reflective of daily social behaviors and have shown high criterion validity (Mehl, 2012). Additional research has shown that in addition to high criterion validity in the study's participants even when complying with all-party consent recording laws, by having participants wear a button bearing the words "This conversation may be recorded", there was not an increase in self-reported obtrusiveness to self or others (Manson

& Robbins, 2017). The EAR collected an average of 176 waking sound files per participant totaling 18,453 sound files.

The data was then coded by two research assistants for the presence (1) or absence (0) of taking, if the participants were discussing cancer or not, and what type of conversation was taking place. Cancer conversations coded for anything related to cancer such as treatment, scheduling, and difficulties. All other topics that did not refer to cancer or any related topics were categorized as non-cancer-related conversations.

The audio files were categorized by the type of conversation that was taking place. All files were determined to be substantive or emotionally disclosing additionally superficial and practical topics were also labeled. Substantive conversation refers to meaningful information such as thoughts, information, values, or ideas exchanged but not in an emotional way. Some examples included news political issues, philosophical ideas, and other info regarding non-emotional topics. Files were noted as emotional when the participant shared their feelings, thoughts, and opinions. Emotions such as fear, concern, hope, and excitement are all categorized as emotionally disclosing. Superficial conversations were those that were non-trivial while practical audio clips were those that got straight to the point and exchanged information that could be practical or useful.

### ***Data Analytic Plan***

We first used descriptive statistics to understand the relationship between the participants' self-identified ethnicity and the frequency with which they talk to their support group based on group means. We noted the variation in frequency that an ethnic group talked to their partner vs their family vs their friends, additionally noting if the conversations were cancer-related or

non-cancer related. Due to the small sample sizes of individual minority ethnic groups, all participants who identified as non-White were grouped into the Black, Indigenous, People of Color (BIPOC) label in order to compare groups. We used bivariate correlations to compare ethnic identity (White and BIPOC), and frequency of conversation. This analysis was repeated to include cancer and non-cancer-related conversations as well as variations in the frequency of conversations between partners, family members, and friends.

A separate t-test was conducted between ethnicity, grouped as White and BIPOC, and scores from the CESD questionnaire. This correlation analyzed the frequency of communication within each ethnic group and its relationship to their average depression score. Multiple linear regressions revealed that the frequency of communication among one's partner is negatively associated with depression

## **Results**

### **Descriptives**

See Table 1 for ethnicity and preferred support system descriptive information. Patients and spouses spoke nearly half of their waking hours sound files ( $M_{patients} = 47.85\%$ ,  $SD_{patients} = 15.20$ ; ( $M_{spouses} = 44.99\%$ ,  $SD_{spouses} = 15.48$ ). Overall, patients and their spouses talked to one another more than any other group in their support system. Among all of the ethnic groups, White and Black individuals are speaking to their partners about topics that are not related to cancer most frequently, averaging 34% and 32% of all of their conversations, respectively to other ethnic groups – Hispanic, Asian, or American Indian who averaged 30%, 30% and 25% of all conversations respectively. Cancer-related conversations between partners occurred the most between White partners averaging 2% of their conversations while cancer conversations between

American Indian, Asian, Black, or Hispanic and their partners all averaged 1% of their conversations.

In conversations between friends, Hispanic individuals tend to converse more than other ethnicities in both non-cancer and cancer-related conversations. Additionally, White and Black individuals spoke to their friends about cancer-related topics in around 1% of all conversations. Asian and American Indian individuals on average did not speak to their friends about cancer-related topics.

When speaking to family members, Black individuals spoke about non-cancer-related topics around 7% of the time while White and Hispanic individuals' non-cancer conversations with their families made up around 4% and 3% of their conversations, respectively. American Indian and Asian individuals talked to their family members the least, with American Indians conversing with their family members about 2% of their conversations and Asians reportedly talking to their family members less than 1% of the time.

Conversations between individuals and their families consistently were the least frequent when talking about cancer-related subjects. American Indian participants discussed cancer with their families in approximately 1% of their audio recordings. Moreover, participants from all other ethnic groups, including White, Hispanic, Black, or Asian individuals, talked about cancer with their families less than 1% of the time.

***Partner: Cancer and Non-cancer Conversations.***

An independent sample t-test, results shown in Table 2, was run on White and BIPOC individuals in regard to their average time talking to their partner about cancer and other topics. Consistent with the hypothesis, there was a notable difference in average conversation time



between White participants and their partners compared to that between BIPOC individuals and their partners. White individuals on average talk more frequently to their partner about both non-cancer related topics and cancer.

Inconsistent with the hypothesis, an independent sample t-test revealed no differences between White and BIPOC individuals regarding how frequently they talked to their friends for both non-cancer-related conversations and cancer-related conversations.

Inconsistent with the hypothesis, an additional independent sample t-test revealed no difference regarding the frequency at which White individuals and BIPOC individuals talked to their families for both non-cancer-related conversations and cancer-related conversations.

### ***Ethnicity & Depression.***

An independent sample t-test was run on the ethnicity of the participants (White or BIPOC) and depression. While there was not a meaningful difference in levels of depression the mean scores were suggestive of a decrease in depression scores for White individuals compared to BIPOC individuals (See Table 3).

Multiple linear regressions revealed that the frequency of communication with one's support system is negatively associated with depression (See Table 4). Although there is not a significant difference, the data show that communication frequencies have a negative relationship with levels of depression with more frequent communication with one's support network decreasing levels of depression. In contrast, talking to one's partner about cancer had a positive relationship with reported depression scores suggesting that more frequent conversation amongst partners led to higher levels of depression.

## **Discussion**

This study explored the daily conversations of couples coping with breast cancer to (a) determine if ethnicity is related to whom patients choose to confide in, and (b) to analyze if the difference in conversation frequency relates to the overall level of depression. In all observed ethnic groups, patients held both cancer-related and non-cancer-related conversations primarily with their partners rather than other members of their extended social network. Descriptive data analysis found that ethnicity played a role in the frequency at which individuals confided in their social network. Finally, despite variations in the frequency of communication between patients and their partners across all participating ethnicities, communication frequency was not indicative of self-reported levels of depression.

As predicted, patients coping with a cancer diagnosis more frequently held conversations with their partner over any other part of their social network for both cancer-related and non-cancer-related conversations. The descriptive analysis found that both White and Black individuals are speaking with their partners regarding cancer-related topics more than Hispanic or Asian individuals. Additionally, Hispanic individuals confided in their friends about both cancer-related and non-cancer-related topics more than White, Black, or Asian individuals. On average White individuals talked to their partners more about non-cancer-related topics than Asian, Black, and Hispanic individuals. The data additionally suggests that Black individuals speak to their family about non-cancer-related topics more than the other ethnicities included in the study while White and Hispanic individuals speak to their family more frequently about cancer than Black or Asian individuals. These variations in conversation frequency are consistent

with other studies on how culture influences who individuals form meaningful relationships with (Taylor et al., 2004).

In a separate analysis, we compared the frequency with which White participants talk to parts of their support system compared to BIPOC participants. Inconsistent with the hypothesis, there was not a noticeable difference in the frequencies at which White individuals talk to their friends or family compared to BIPOC individuals.

Previous studies have found that an individual's social support is impactful on an individual's ability to adjust to a cancer diagnosis, recovery, and one's coping skills afterward (Helgeson, Cohen, 1996). This study found a negative correlation between conversation frequency and CESD scores. However, while not statistically significant, communication with one's partner about cancer increased CEDS scores which was an unexpected finding based on previous studies on support networks (Ostenberg, 2007). Based on previous research, conversation type (emotionally disclosing, practical, informational) varies amongst relationship types (partner, family, friends) (Robbins et. al, 2018) which suggests conversation content influences the perceived level of support.

### **Limitations and Future Directions**

Some limitations of the study include minimal ethnic diversity and audio limitations. The data was collected at the University of Arizona Cancer Center therefore the data is limited regarding the ethnic diversity of patients, with most of the BIPOC patients having a BIPOC partner and a majority of the study's participants being White. This limited the understanding of how interethnic relationships might influence an individual's communication style. The EAR method of data collection is limited to snippets of conversational data and therefore lacks the

overall context of the conversations. Additionally, the audio clips were constrained to the relatively short time frame in which the data was collected. This makes it difficult to conduct within-person analyses of engagement in cancer conversations and the support responses that may follow due to the low frequency in which these events may happen. In order to remedy this, future studies should collect data over a longer period of time to maximize the chances that these conversations are recorded.

Future studies should look at the influence interethnic relationships may have on communication styles. Specifically looking at whether interethnic partners influence each other's communication style in comparison to same-ethnic partners. To examine the effect of ethnicity on communication styles it would be beneficial to study a larger more diverse population as well as the effect interethnic support systems may have on frequency of conversation.

Additionally, future research should examine how people cope with socially stigmatized illnesses using naturalistic methods. This would allow for a better understanding of how people address these diagnoses in their everyday lives. This knowledge may assist in further understanding how to improve therapy and support curricula to aid individuals who may lack a proper support system or may not have the outlet to address their concerns. Additionally, doing similar research for patients who may be facing a terminal or untreatable diagnosis, as opposed to breast cancer which has a 91% recovery rate (American Society of Clinical Oncology, 2012), would help to understand how the potential for a cure might affect how one confides in their social network.

**Table 1.**  
*Ethnicity, Support System, and Conversation Frequency.*

Support System, Topic	White	Black	Hispanic	Asian	American Indian
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
<b>Partner</b>					
Non-cancer	0.34 (0.15)	0.32 (0.07)	0.30 (0.11)	0.30 (0.02)	0.25 (NA*)
Cancer	0.02 (0.02)	0.01 (0.00)	0.01 (0.01)	0.01 (0.00)	0.01 (NA*)
<b>Friends</b>					
Non-cancer	0.08 (0.01)	0.05 (0.06)	0.10 (0.10)	0.03 (0.03)	0.03 (NA*)
Cancer	0.01 (0.01)	0.01 (0.01)	0.01 (0.02)	0.00 (0.00)	0.00 (NA*)
<b>Family</b>					
Non-cancer	0.04 (0.08)	0.07 (0.06)	0.03 (0.04)	0.00 (0.00)	0.02 (NA*)
Cancer	0.00 (0.01)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.01 (NA*)

*\*Note: Standard Deviations (SD) are unavailable due to there being only 1 American Indian participant included in the study.*

**Table 2.***Comparative Analysis of White and BIPOC Conversations with Support System*

	White	BIPOC		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>p</i>
Partner				
Cancer	0.02 (0.02)	0.01 (0.01)	3.64	<0.001
Non-cancer	0.34 (0.15)	0.30 (0.10)	1.15	0.25
Friend				
Cancer	0.01 (0.01)	0.01 (0.02)	-0.18	0.86
Non-cancer	0.04 (0.08)	0.03 (0.04)	0.0	1.00
Family				
Cancer	0.00 (0.01)	0.00 (0.00)	0.34	0.73
Non-cancer	0.04 (0.08)	0.03 (0.04)	0.42	0.67

**Table 3.***White vs BIPOC Depression*

	<i>M (SD)</i>	<i>t</i>	<i>p</i>	<i>M</i>
White	10.22 (8.00)	0.881	0.38	-1.83
BIPOC	12.05 (9.05)			

**Table 4.**  
*Frequency of Communication Predicting Depression*

	<i>B</i>	<i>t</i>	<i>p</i>	<i>F</i>	<i>p-value</i>	<i>R</i> <sup>2</sup>
				0.44	0.85	0.03
Partner, Non-cancer	-0.04	-0.36	0.72			
Partner, cancer	0.02	1.19	0.24			
Friend, Non-cancer	-0.04	-0.39	0.70			
Friend, cancer	-0.10	-0.74	0.46			
Family, Non-cancer	-0.00	-0.02	0.99			
Family, cancer	-0.10	-0.80	0.43			



## REFERENCES

- Akhtar, S. (2009). Friendship, socialization, and the immigrant experience. *Psychoanalysis, Culture & Society*, 14(3), 253–272. <https://doi.org/10.1057/pcs.2009.14>
- Algorani, E. B., & Gupta, V. (2023). Coping Mechanisms. In *StatPearls*. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK559031/>
- Batalova, J. B. M. H. and J. (2021, March 9). *Immigrants from Asia in the United States*. Migrationpolicy.Org. <https://www.migrationpolicy.org/article/immigrants-asia-united-states-2020>
- Baumeister, R. F., & Leary, M. R. (1995). *The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation*.
- Breast Cancer—Statistics*. (2012, June 25). Cancer.Net. <https://www.cancer.net/cancer-types/breast-cancer/statistics>
- Cancer Statistics—NCI* (nciglobal,ncienterprise). (2015, April 2). [cgvArticle]. <https://www.cancer.gov/about-cancer/understanding/statistics>
- Center for Epidemiological Studies Depression (CESD)*. (n.d.). <https://www.apa.org>. Retrieved January 19, 2024, from <https://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/depression-scale>
- Child, S. T., & Lawton, L. E. (2020). Personal networks and associations with psychological distress among young and older adults. *Social Science & Medicine*, 246, 112714. <https://doi.org/10.1016/j.socscimed.2019.112714>

- Coping Mechanisms*. (n.d.). GoodTherapy.Org Therapy Blog. Retrieved December 22, 2023, from <https://www.goodtherapy.org/blog/coping-mechanisms/>
- Dillon, R. K., & McKenzie, N. J. (1998). The Influence of Ethnicity on Listening, Communication Competence, Approach, and Avoidance. *International Journal of Listening*, 12(1), 106–121. <https://doi.org/10.1080/10904018.1998.10499021>
- Dimitrov, R., Jelen, A., & L'Etang, J. (2022). Taboos in health communication: Stigma, silence and voice. *Public Relations Inquiry*, 11(1), 3–35. <https://doi.org/10.1177/2046147X211067002>
- Donovan, E. E., & LeBlanc Farris, K. (2019). Interpersonal Communication and Coping with Cancer: A Multidisciplinary Theoretical Review of the Literature. *Communication Theory*, 29(2), 236–256. <https://doi.org/10.1093/ct/qty026>
- Fernández, I., Carrera, P., Sánchez, F., Paez, D., & Candia, L. (n.d.). Differences between cultures in emotional verbal and non-verbal reactions. Fernández, I., Carrera, P., Sánchez, F., Paez, D., & Candia, L. (2000). *Differences between Cultures In Emotional Verbal and Non-Verbal Reactions*. *Psicothema*, 12, 83-92.
- Gaelick, L., Bodenhausen, G. V., & Wyer, R. S., Jr (1985). Emotional communication in close relationships. *Journal of personality and social psychology*, 49(5), 1246–1265. <https://doi.org/10.1037//0022-3514.49.5.1246>
- Gary Chapman. (n.d.). *The 5 Love Languages The Secret to Love That Lasts*. <https://consult.ui.ac.ir/Dorsapax/userfiles/Sub24/5zbaneshgh.pdf>
- Guerrero, L. K., Andersen, P. A., & Afifi, W. A. (2017). *Close Encounters: Communication in Relationships*. SAGE Publications.

- Gutiérrez, R. A. (2019). Mexican Immigration to the United States. In *Oxford Research Encyclopedia of American History*.  
<https://doi.org/10.1093/acrefore/9780199329175.013.146>
- Hagedoorn, M., Sanderman, R., Bolks, H. N., Tuinstra, J., & Coyne, J. C. (2008). Distress in couples coping with cancer: A meta-analysis and critical review of role and gender effects. *Psychological Bulletin*, *134*(1), 1–30.  
<https://doi.org/10.1037/0033-2909.134.1.1>
- Halasz, J. (2018). About the right to be ill. *Medicine, Health Care, and Philosophy*, *21*(1), 113–123. <https://doi.org/10.1007/s11019-017-9790-1>
- Helgeson, V. S., & Cohen, S. (n.d.). *Social Support and Adjustment to Cancer: Reconciling Descriptive, Correlational, and Intervention Research*.
- Herdağdelen, A., State, B., Adamic, L., & Mason, W. (2016). The social ties of immigrant communities in the United States. *Proceedings of the 8th ACM Conference on Web Science*, 78–84. <https://doi.org/10.1145/2908131.2908163>
- Hood, J. (2022, July 26). *The benefits and importance of a support system: Highland Springs Clinic*. Highland Springs.  
<https://highlandspringsclinic.org/the-benefits-and-importance-of-a-support-system/>
- Jarcho, Johanna, Takagi Kaori, Dunagan Melissa. (2004). *Culture and Social Support: Who seeks it and why*.  
[https://psycnet.apa.org/fulltext/2004-18348-006.pdf?auth\\_token=20ed2bbd2a74bd42992eb41c4520a437ec21afc4](https://psycnet.apa.org/fulltext/2004-18348-006.pdf?auth_token=20ed2bbd2a74bd42992eb41c4520a437ec21afc4)

- Karan, A., Wright, R. C., & Robbins, M. L. (2017). Everyday emotion word and personal pronoun use reflects dyadic adjustment among couples coping with breast cancer. *Personal Relationships, 24*(1), 36–48. <https://doi.org/10.1111/per.12165>
- Lasser, K. E., Himmelstein, D. U., Woolhandler, S. J., McCormick, D., & Bor, D. H. (2002). Do Minorities in the United States Receive Fewer Mental Health Services Than Whites? *International Journal of Health Services, 32*(3), 567–578. <https://doi.org/10.2190/UEXW-RARL-U46V-FU4P>
- Lim, N. (2016). Cultural differences in emotion: Differences in emotional arousal level between the East and the West. *Integrative Medicine Research, 5*(2), 105–109. <https://doi.org/10.1016/j.imr.2016.03.004>
- Liu, M. (2016). Verbal Communication Styles and Culture. In *Oxford Research Encyclopedia of Communication*. <https://doi.org/10.1093/acrefore/9780190228613.013.162>
- Malecki, C. K., & Demaray, M. K. (2003). What Type of Support Do They Need? Investigating Student Adjustment as Related to Emotional, Informational, Appraisal, and Instrumental Support. *School Psychology Quarterly, 18*(3), 231–252. <https://doi.org/10.1521/scpq.18.3.231.22576>
- Manne, S., Sherman, M., Ross, S., Ostroff, J., Heyman, R. E., & Fox, K. (2004). Couples' support-related communication, psychological distress, and relationship satisfaction among women with early stage breast cancer. *Journal of Consulting and Clinical Psychology, 72*(4), 660–670. <https://doi.org/10.1037/0022-006X.72.4.660>

- Manson, J. H., & Robbins, M. L. (2017). New Evaluation of the Electronically Activated Recorder (EAR): Obtrusiveness, Compliance, and Participant Self-selection Effects. *Frontiers in Psychology*, 8, 658. <https://doi.org/10.3389/fpsyg.2017.00658>
- Maricopa Community Colleges, A. removed at request of original. (2021). *6.1 Emotions and Communication*.  
<https://open.maricopa.edu/com110/chapter/6-1-emotions-and-communication/>
- Mehl, M. R., Pennebaker, J. W., Crow, D. M., Dabbs, J., & Price, J. H. (2001). The Electronically Activated Recorder (EAR): A device for sampling naturalistic daily activities and conversations. *Behavior Research Methods, Instruments, & Computers: A Journal of the Psychonomic Society, Inc*, 33(4), 517–523.  
<https://doi.org/10.3758/bf03195410>
- Mehl, M. R., Robbins, M. L., & Deters, F. G. (2012). Naturalistic Observation of Health-Relevant Social Processes: The Electronically Activated Recorder Methodology in Psychosomatics. *Psychosomatic Medicine*, 74(4), 410–417.  
<https://doi.org/10.1097/PSY.0b013e3182545470>
- Mesquita, B., & Frijda, N. H. (n.d.). *Cultural Variations in Emotions: A Review*.
- Meyners, J., Barrot, C., Becker, J. U., & Goldenberg, J. (2017). The Role of Mere Closeness: How Geographic Proximity Affects Social Influence. *Journal of Marketing*, 81(5), 49–66. <https://doi.org/10.1509/jm.16.0057>
- NCSP, D. J. H. P. D., BCBA. (2020, February 3). *The benefits and importance of a support system | Highland Springs Clinic*. Highland Springs.  
<https://highlandspringsclinic.org/the-benefits-and-importance-of-a-support-system/>

- Nyongesa, M. K., Nasambu, C., Mapenzi, R., Koot, H. M., Cuijpers, P., Newton, C. R. J. C., & Abubakar, A. (2022). Psychosocial and mental health challenges faced by emerging adults living with HIV and support systems aiding their positive coping: A qualitative study from the Kenyan coast. *BMC Public Health*, 22(1), 76.  
<https://doi.org/10.1186/s12889-021-12440-x>
- Östberg, V., & Lennartsson, C. (2007). Getting by with a little help: The importance of various types of social support for health problems. *Scandinavian Journal of Public Health*, 35(2), 197–204. <https://doi.org/10.1080/14034940600813032>
- Perry, B. L., & Pescosolido, B. A. (2015). Social network activation: The role of health discussion partners in recovery from mental illness. *Social Science & Medicine*, 125, 116–128. <https://doi.org/10.1016/j.socscimed.2013.12.033>
- Phutela, D. (2015). The Importance of Non-Verbal Communication. *IUP Journal of Soft Skills*, 9(4), 43–49.
- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385–401.  
<https://doi.org/10.1177/014662167700100306>
- Robbins, M. L. (2017). Practical Suggestions for Legal and Ethical Concerns With Social Environment Sampling Methods. *Social Psychological and Personality Science*, 8(5), 573–580. <https://doi.org/10.1177/1948550617699253>
- Robbins, M. L., Karan, A., López, A. M., & Weihs, K. L. (2018). Naturalistically observing noncancer conversations among couples coping with breast cancer. *Psycho-Oncology*, 27(9), 2206–2213. <https://doi.org/10.1002/pon.4797>

- Robbins, M. L., López, A. M., Weihs, K. L., & Mehl, M. R. (2014). Cancer conversations in context: Naturalistic observation of couples coping with breast cancer. *Journal of Family Psychology, 28*(3), 380–390. <https://doi.org/10.1037/a0036458>
- Robbins, M. L., Mehl, M. R., Smith, H. L., & Weihs, K. L. (2013). Linguistic indicators of patient, couple, and family adjustment following breast cancer: Linguistic indicators of adjustment following breast cancer. *Psycho-Oncology, 22*(7), 1501–1508. <https://doi.org/10.1002/pon.3161>
- Sears, D. O., Fu, M., Henry, P. J., & Bui, K. (2003). The Origins and Persistence of Ethnic Identity among the “New Immigrant” Groups. *Social Psychology Quarterly, 66*(4), 419–437. <https://doi.org/10.2307/1519838>
- Segrin, C., Badger, T., Sieger, A., Meek, P., & Lopez, A. M. (2006). Interpersonal well-being and mental health among male partners of women with breast cancer. *Issues in Mental Health Nursing, 27*(4), 371–389. <https://doi.org/10.1080/01612840600569641>
- Surijah, Edwin Arianta & Septiarly, Yashinta Levy. (2017). *Construct Validation of Five Love Languages | ANIMA Indonesian Psychological Journal*. <https://journal.ubaya.ac.id/index.php/jpa/article/view/Five%20Love%20Languages>
- Tardy, C. H. (1985). Social support measurement. *American Journal of Community Psychology, 13*(2), 187–202. <https://doi.org/10.1007/BF00905728>
- Taylor, S. E., Sherman, D. K., Kim, H. S., Jarcho, J., Takagi, K., & Dunagan, M. S. (2004). Culture and Social Support: Who Seeks It and Why? *Journal of Personality and Social Psychology, 87*(3), 354–362. <https://doi.org/10.1037/0022-3514.87.3.354>

- Thoits, P. A. (1995). Stress, Coping, and Social Support Processes: Where Are We? What Next? *Journal of Health and Social Behavior*, 53–79. <https://doi.org/10.2307/2626957>
- Weber, K. D., & Patterson, B. R. (1996). Construction and validation of a communication based emotional support scale. *Communication Research Reports*, 13(1), 68–76. <https://doi.org/10.1080/08824099609362072>
- Weber, K., Johnson, A., & Corrigan, M. (2004). Communicating emotional support and its relationship to feelings of being understood, trust, and self-disclosure. *Communication Research Reports*, 21(3), 316–323. <https://doi.org/10.1080/08824090409359994>
- What is Cancer, Is it Common & How Do You Get It.* (2019, February 15). City of Hope. <https://www.cancercenter.com/what-is-cancer>