

turning knowledge into practice

Effect of Language on Mental Health Reporting Among Hispanics

Laura Flicker, Elizabeth Dean, Rosanna Quiroz, Mai Wickelgren (RTI International)
Laura DiGrande, and Tina McVeigh (New York City Department of Health and
Mental Hygiene)

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RTI International is a trade name of Research Triangle Institute

3040 Cornwallis Road
Phone 919-316-3510

■ P.O. Box 12194

Fax 919-541-1261

■ Research Triangle Park, North Carolina, USA 27709

e-mail lflicker@rti.org

Mental Health Measurement

- Questionnaires and symptom checklists have long been used to diagnose *physical health* or *disability* in clinical settings.
- Many instruments have been developed to assess *mental health* in lieu of clinical interviews.
- Checklists have been adapted to population surveys to estimate *prevalence* of mental illness.

Potential Sources of Bias

- Adapting standard checklists for population surveys may introduce bias:
 - Ad hoc wording changes
 - Changes to reference periods
 - Translation to foreign languages
 - Cultural sensitivity to certain topics

Hispanics and Health Research

- **Hispanic Paradox:** Hispanic immigrants have better health status than native-born Hispanics
- This concept has been applied to physical rather than mental health
- A culturally defined syndrome of “nervios” has been identified by social scientists and clinicians
- Empirical research on Hispanic mental health produces conflicting results

Hispanics and Mental Health

- Empirical research on Hispanic mental health produces conflicting results:
 - Mental illness and drug/alcohol abuse increase over time spent in the US (Vega, et al., 1998)
 - Mexican Americans have better mental health despite economic disadvantages (Escobar, et al., 2000)
 - Lower estimates for mental health disorders obtained for Hispanics (NHIS)
 - Latinos have higher rates of psychological distress than the general population (National Co-Morbidity Survey 1990-1992)
- No systematic research about the possible effects of ethnicity and language/translation in measuring mental health

K-6: A Mental Health Measure for Population Surveys

- **National Co-Morbidity Survey** (1990–92) was the first US survey using a diagnostic interview to assess prevalence of DSM-III-R disorders in the general population. Administered both face-to-face and telephone modes.
- The study used the “**K-6**” to measure *nonspecific psychological distress*. Six questions asked about feelings of
 - nervousness
 - worthlessness
 - sadness
 - hopelessness
 - restlessness
 - effort (“felt everything was an effort”)

Scoring the K-6

- K-6 collects a summary score
- K-6 scored according to reported frequency for each emotion
 - 0 = None of the time
 - 1 = A little of the time
 - 2 = Some of the time
 - 3 = Most of the time
 - 4 = All the time
- A cumulative score of 13 or higher produces “diagnostic” for *psychological distress*

Adapting the K-6 for Two Studies

- In 2004, RTI International administered K-6 for two clients:
 - World Trade Center Health Registry (WTCHR)
 - National Survey on Drug Use and Health (NSDUH)
- Both employed the K-6 and translated it into Spanish
- Each employed a different design
- Each differed in their primary topics of interest
- Each adopted wording changes in the K-6 while retaining the original scoring scheme

World Trade Center Health Registry (WTCHR)

- Collaborative effort by New York City Department of Health and Mental Hygiene and Agency for Toxic Substances and Disease Registry
- Surveyed persons most exposed to events of 9/11 in NYC
- Included self-enrollment and list sample
- Collected data about health conditions before/after 9/11
- Administered between September, 2003 and November, 2004
- K-6 items asked about feelings in the past 30 days
- Primarily telephone mode
- Our analysis retained residents, non-proxy Spanish and English interviews

National Survey on Drug Use and Health (NSDUH)

- Sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA)
- Asks about tobacco/drug/alcohol use and mental health
- Area probability survey conducted annually by RTI International
- Samples 170,000 dwelling units and 67,500 interviews annually
- K-6 items asked about feelings in worst month of past 12 months
- Audio computer-assisted self interview (ACASI)
- Our analyses relied on 2004 public use files, retained “long form” respondents, and applied appropriate weights

Wording Differences in WTCHR and NSDUH

K-6 topic	World Trade Center Health Registry <i>Past 30 days</i>	NSDUH <i>Worst month in past 12 months</i>	Differences (apart from reference period)
WORTHLESS	During the past 30 days, that is, since [DATE] how often did you feel worthless?	In that worst month, how often did you feel down on yourself, no good, or worthless?	NSDUH worded more strongly in both English and Spanish
SAD	During the past 30 days, that is, since [DATE] how often did you feel so sad that nothing could cheer you up?	In that worst month, how often did you feel so sad or depressed that nothing could cheer you up?	WTCHR was <i>translated</i> more strongly in the Spanish by using the expression “...nada lo/la podia consolar”

Expectations for Wording Differences

- Hypotheses
 - H1: Endorsement of Worthlessness will be lower in NSDUH than WTCHR.
 - H2: Spanish-speaking Hispanics will less often endorse Sadness in the WTCHR compared to the those in the NSDUH.
- Comparing marginal frequencies is difficult due to design and population differences in the studies.
- However, relative ratios for subgroups may differ, thereby suggesting effects from wording changes.

Responses to K-6 Hispanics Only

Percent Answering “All of the Time” or “Most of the Time”

	WTCHR (N=1,400)		NSDUH (n=2,605)*	
	English	Spanish	English	Spanish
Worthlessness	8.7	18.5	8.7	9.8
Sadness	18.3	32.7	13.8	21.8
Nervousness	19.6	32.1	9.5	11.3
Hopelessness	11.5	25.6	8.7	7.3
Restlessness	21.7	33.3	7.2	8.7
Effort	19.7	28.6	12.8	15.0

*Long form adult Hispanic respondents, weighted N~2,670,000.

H1: Worthlessness lower in NSDUH than WTCHR. **Not supported:** Frequencies for this and other K-6 items are higher in WTCHR. However, the ratio of WTCHR to NSDUH responses among English-speaking Hispanics is lowest for this item (1:1). Among Spanish speakers the ratio is lower for this item (1.9:1) than for Nervousness (2.8:1), Hopelessness (3.5:1), Restlessness (3.8:1) .

H2: Sadness lower among Spanish-speakers for WTCHR. **Not supported:** More Spanish-speakers endorsed Sadness question in the WTCHR relative to NSDUH (32.7/21.8=1.5). Relatively fewer English-speaking Hispanics endorsed Sadness question in the WTCHR relative to NSDUH (18.3/13.8=1.3).

Non-Response in the K-6 Hispanics Only

Percent Answering “Don’t Know” or “Refused”

	WTCHR (N=1,400)		NSDUH (n=2,605)	
	English	Spanish	English	Spanish
Worthlessness	0.5	5.4	2.6	1.3
Sadness	0.2	2.4	2.1	2.4
Nervousness	0.0	1.2	3.2	0.9
Hopelessness	0.4	7.7	3.3	1.4
Restlessness	0.6	0.6	3.2	1.4
Effort	1.8	7.7	3.5	1.6

Prevalence of Psychological Distress, by Various Groups

Group	WTCHR	NSDUH
Non-Hispanics	8.0	9.6
Hispanics	20.0	10.2
English-speaking Hispanics	18.1	10.6
Spanish-speaking Hispanics	35.7	9.8
Low Income*	20.0	15.4
High Income	5.4	8.1
Under age 50	8.2	11.0
Over age 50	11.7	7.6

*NSDUH income was coded “low” when under \$20,000/year. WTCHR income was coded “low” when under \$25,000/year.

Multivariate Models – Predicting Psychological Distress for Two Studies

- With two studies comes the need to control for differences and identify effects of language/ethnicity
- Developed models predicting Psychological Distress (Yes/No) according to K-6 score separately for each study
- Employed similar predictors:
 - Hispanic
 - Spanish language administration
 - Low Income
 - Under age 50

Odds Ratios for Reporting Psychological Distress

WTCHR – a telephone survey enrolling a targeted population affected by 9/11. Reference period – past 30 days.

- Hispanic = 1.9***
- Spanish language = 1.5*
- Low Income = 3.7***
- Under age 50 = 0.8*

NSDUH – a probability-based population survey administered in households. Reference period – worst month past 12 months.

- Hispanic = 1.0
- Spanish language = 0.8
- Low Income = 2.3***
- Under age 50 = 1.5***

***Statistically significant at $p < .001$

*Statistically significant at $p < .05$

External Support for the K-6 Diagnostic

Additional NSDUH Questions	English	Spanish
Received mental health counseling in past 12 months	27.9%	19.2%
Had an unmet need for mental health treatment in past 12 months	27.2%	12.3%
Additional WTCHR Questions		
Reported feelings of depression in lifetime	33.8%	33.3%
Reported increased feelings of depression since 9/11 (for those reporting lifetime depression, above)	98.3%	94.1%

Conclusions – Effect of Ethnicity

- Prevalence of psychological distress according to the K-6 measure was higher for Hispanics than non-Hispanics in both studies.
- Psychological distress was twice as frequent among Hispanics in WTCHR compared to the NSDUH (20 percent vs. 10 percent).
- In WTCHR, psychological distress was predicted by ethnicity, language, age, and income.
- In NSDUH, psychological distress predicted by income and age.

Conclusions – Effect of Translation

- Some evidence of language effects in WTCHR, although not clearly linked to translation.
- The Sadness question was more strongly *translated* in the WTCHR, yet it obtained higher endorsement among Spanish speakers than English speakers in that study.
- In the NSDUH, Spanish item nonresponse on K-6 was **lower** than English.
- In the WTCHR, Spanish item nonresponse on K-6 was **much higher** than English.

Future Areas for Research

- Further research with K-6 is needed to assess performance in various subpopulations.
 - Collect measure of social desirability to assess effect on K-6 for Hispanics and non-Hispanics. (Hispanics may be more willing to report mental health symptoms.)
 - Administer cognitive interviews to determine how translations of K-6 are understood.
 - Conduct other qualitative analysis with small samples stratified by response to K-6.
 - Collect information about actual mental health diagnoses, treatment, or perceived need for treatment when administering the K-6.
 - Study effect of administration mode on K-6 reporting.

Contact:

Laura Flicker

RTI International
3040 Cornwallis Road
Research Triangle Park, NC 27709
phone (919) 316-3510

lflicker@rti.org

Slides available online:

www.rti.org/aapor