The Development and Nature of the Construct Touch Avoidance

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ABSTRACT: Development of two touch-avoidance measures via factor analysis are reported. Touch avoidance is a nonverbal communication predisposition that consists of two dimensions, same-sex touch avoidance and opposite-sex touch avoidance. The results are replicated across two distinct samples with consistent reliability of measurement. Touch avoidance is then related to communication apprehension, self-disclosure, self-esteem, and a series of cultural role variables. The cultural role variables seem to have the greatest relationship with the two measures of touch avoidance. A program for future research on touch avoidance is also discussed.

Considerable research has examined the proximity of human beings as an environmental concern and as a human communication variable (Hall, 1959, 1966; Aiello & Aiello, 1974). Little systematic research has examined the actual touch behavior of human beings. Additionally, the sparse research has focused on touch as a sensory modality rather than as a communication channel. This is unfortunate because touch is a basic and important form of human interaction. Touch is the first sense to develop in the maturing embryo and is therefore a fundamental mode of interaction (Montagu, 1971). Frank (1957) argues that touch is such a fundamental modality that prior to the development of social learning infants attach affective meaning to touch communication. Not only does the touch modality develop earlier than the other senses, touch occupies a disproportionally large area of the cerebral cortex (Montagu, 1971; Nguyen, Heslin, & Nguyen, 1975).

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TOUCH AVOIDANCE AS A CONSTRUCT

The purpose of the present research is to examine why and under what circumstances human beings approach or avoid tactile contact with one another. Previous research has consistently reported that some people carefully avoid interpersonal tactile contact while others frequently utilize tactile communication (Jourard, 1966). Jourard and Rubin (1968) maintain that men and women both show a consistent trait of "touchability" and readiness to touch other persons. Persons are likely to manifest the same pattern of touching across most interpersonal relationships. Mehrabian (1971) maintains that touch is a basic form of approach in interpersonal relationships providing greater closeness and "immediacy" between the interactants. The failure to utilize touch is indicative of interpersonal avoidance and lack of interpersonal closeness. Consequently, research seems to indicate that a basic trait of touch avoidance does exist that could have powerful impact in interpersonal relationships.

Despite the evidence for a touch avoidance trait, a number of contextual factors affect a person's willingness to touch. First, the area of the body will determine whether or not touch will occur. The sexual organs of the body are carefully avoided by all persons in nonintimate relationships (Jourard, 1966; Nguyen, Heslin, & Nguyen, 1975). Goffman (1971) and Watson (1975) maintain that the areas around the sexual and excretory organs are studiously avoided due to their alleged capacity to contaminate. Even in a health-care setting, where touch is certainly expected, medical professionals similarly avoided contact with the genital regions of the body (Watson, 1975). Second, persons with obvious physical deformities received significantly less touch (Watson, 1975) than normal persons. While any individual may be constrained from touching taboo body regions or deformed persons, these factors do not affect an individual's general level of touch approach or avoidance, which cuts across contextual or role relationships (Jourard, 1966).

The construct or trait—touch avoidance—may be multidimensional, depending on whether touch is given or received and the sex of the interactants. Evidence for a sender-receiver dimension is discussed by Jourard and Rubin (1968), who distinguish two distinct traits, touchability (receptiveness to touch) and readiness to touch. Jourard (1966) and Jourard and Rubin (1968) also provide evidence for a sex dimension since far more touching occurs in opposite sex dyads. Nguyen, Heslin, and Nguyen (1975) report that touch is interpreted differently when it is received from an opposite sex friend than from a same sex friend. Any attempt to measure touch avoid-

ance should consider the role of the individual (person touching *vs.* person touched) and the sex of the dyad (same sex *vs.* opposite sex). The basic purpose of this study is to develop a measure of touch avoidance that encorporates a sender-receiver as well as a sex dimension. The first question posed in this study is:

Q_1: *Can a self-report instrument adequately measure touch avoidance?*

In addition to this basic research question this report will examine the relationship of touch avoidance to three additional sets of variables: (1) other predispositions to communicate, (2) the self-esteem of an individual, and (3) cultural roles.

TOUCH AVOIDANCE AND OTHER COMMUNICATION PREDISPOSITIONS

Considerable recent research has focused on communication apprehension (McCroskey, 1970, Note 1), an anxiety trait or syndrome that is manifested whenever real or anticipated verbal communication occurs. Communication apprehensive individuals experience anxiety when confronted with a potential communication situation and seek to minimize the frequency of such situations. Since touch avoidance is a nonverbal variable similar to verbal communication apprehension, the relationship between these constructs is of heuristic and practical importance. If a correlation between these traits exists, then touch avoidance is simply a subset of a larger construct, communication apprehension.

Research seems to indicate that communication apprehension is positively correlated to touch avoidance. Montagu (1971) reports that mothers' vocal animation was positively correlated to how often they touched their infants. Aquilera (1967), in a study of touch between nurses and patients, found that patients who were touched increased their verbal interaction and overall approach behavior while a control group showed none of these effects. Similarly, Pattison (1973) found that touch increased verbal interaction in a therapeutic relationship. Evidently, acceptance of touch communication is related to acceptance of verbal communication. McCroskey (1976) suggests that researchers examine the relationship between aversion to touch and communication apprehension. He contends that since high communication apprehensives want to avoid communication, they are even more adverse to touch than persons who are not high com-

munication apprehensives. On the basis of this research it is hypothesized that:

H_1: *Touch avoidance is positively related to communication apprehension.*

Self-disclosure is any message about the self that a person communicates to another (Wheeless & Grotz, 1975, Note 2). Since both touching and disclosing are immediate, intimate forms of interaction, it is expected that these behaviors will be highly correlated. Additionally, Jourard and Rubin (1968) reported that a low but significant correlation exists between touching and self-disclosure. Thus, it is hypothesized that:

H_2: *Self-disclosure is negatively related to touch avoidance.*

TOUCH AVOIDANCE AND SELF-ESTEEM

Self-esteem is defined as positive affect that is primarily self-directed (Deutsch, 1961) or the image we have of ourselves (Pace & Boren, 1973). Several studies have found a significant relationship between self-esteem and touching. Silverman, Pressman, and Bartel (1973) found that subjects with high self-esteem were more likely to engage in intimate forms of touch. Jourard (1966) reported that persons who regard themselves as physically attractive were touched more than nonattractive persons. High self-ascribed status was found by Watson (1975) to be associated with increased touch initiation. Finally Seashore et al. (1973) found a relationship between mother-infant touch and the mother's self-confidence. While self-esteem appears to be related to touching, there are not studies which have directly tested the relationship of self-esteem to touchability or touch avoidance. Thus, it is hypothesized that:

H_3: *There will be a significant negative relationship between self-esteem and touch avoidance.*

TOUCH AVOIDANCE AND CULTURAL ROLES

Evidence seems to indicate that touch behavior is a stable, culturally learned behavior. Preston (1973) indicates that early childhood

learning about touch persists throughout life. A number of authors indicate sharp cross-cultural differences in the amount, meaning, and nature of touch communication (Hall, 1966; Montagu, 1971; Morris, 1971). Research indicates that some cultures are highly touch-oriented. These include Arab, Jewish, Eastern European, and Mediterranean groups (Mehrabian, 1971; Scheflen, 1972). Various cultures and subcultures including Germans, English, New Englanders, and white Anglo-Saxons are relatively infrequent touchers (Montagu, 1971; Scheflen, 1972). These findings indicate that touch avoidance is a trait that is dependent on an individual's cultural role. This study will examine the effect of four cultural roles on touch avoidance: age, sex, marital status, and religion.

A relationship seems to exist between age and touch behavior. At each age a person is required to engage in touch behaviors which are appropriate to their role and to refrain from inappropriate behaviors. The "uninhibited intimacies" of infancy (Morris, 1971) must give way to the more restricted touch behavior of children. Frank (1957) indicates that touch communication is a sequential process during which new norms and roles must be developed for the infant, the child, the adolescent, the adult, and the aged. Scheflen (1972) has observed that young adults of the "new culture" in America are much more likely to touch. Ample evidence exists that persons of greater age are more likely to be avoided (Watson, 1975) perhaps because the young view them as the "deformed" persons who were previously described. Since the relationship between age and touch avoidance has not been empirically tested it is hypothesized that:

H_4: *Age will be positively related to touch avoidance.*

There are distinct differences in the touch behavior of males and females. Maccoby and Jacklin (1974) have summarized ten studies on tactile sensitivity in newborn infants and found inconsistent results. In over half the studies no significant difference existed between the tactile sensitivity of males and females. In the remaining studies, girls were reported to be more sensitive to touch than boys. Montagu (1971) maintains that females are more responsive to tactile stimuli at all ages than are males. Erotic arousal occurs more easily in females through the sense of touch, whereas males are more dependent on visual stimuli for erotic arousal. Montagu (1971) argues that these differences are probably both genetic and cultural. Fisher, Rytting, and Heslin (Note 3) found that females responded favorably to even the slightest touch, since they evaluated a library more favorably

when touched by a librarian who was handing back a library card than did a control group who was not touched.

Females evidently do not avoid touch to the extent males do. Jourard and Rubin (1968) found that women were more accessible to touch than men and they initiated more touch than men in most types of relationships. In a hospital setting Watson (1975) found that male patients received less touch than female patients. Most investigators agree that females are encouraged more than males to initiate and accept touch. Few would disagree that traditional female roles encourage touch as a part of feminine expressiveness but discourage males from similar behaviors. Thompson (1973) reports that mothers show more affection for girls, wean them later and permit more tactile expressions of affection than boys. Cultural role learning would thus create higher levels of touch avoidance in males than in females.

While women are more generally touch-oriented than men, the object of their tactile communication clearly affects this relationship. Research shows the females tend not to avoid touching other females whereas males clearly avoid touching other males. Silverman (1973) found that female subjects in an experimental setting engaged in more intimate touch with other females than with males. However, males avoided intimate touch with other males and engaged in far more intimate touch with females. Watson (1975) reports that female nurses were highly restrained in touching geriatric males but showed little restraint in touching similar female patients. Montagu (1971) reports that American society discourages males from touching other males. He states that boys are extremely reluctant to kiss their fathers whereas girls show no such avoidance of their mothers. Since previous research seems to indicate that males will be more touch avoidant of persons of the same sex than will females, it is hypothesized that:

H_5: *Males will manifest more touch avoidance of same-sex persons than will females.*

While females may show more inclination for same-sex touching, males show more inclination for opposite-sex touching. Silverman (1973) found women were more reluctant than men to touch persons of the opposite sex. Morris (1971) maintains that American women often report that they engage in sexual intercourse as a means of obtaining bodily contact of a nonsexual nature. While males may be more inclined to engage in opposite-sex touching than females, several studies have found that both sexes engage in more opposite-sex

touch than same-sex touch (Jourard, 1966; Jourard & Rubin, 1968) and find it more pleasant (Nguyen, Heslin, & Nguyen, 1975). The greater restraints placed on opposite-sex touching for American women during adolescence probably makes them more avoidant of this type of touch than men. It is, therefore, hypothesized that:

H_6: *Females will manifest more touch avoidance of opposite-sex persons than will males.*

Though marriage is an important cultural role in American society, little research has examined touch or touch avoidance as a function of marital status. Since marriage generally involves two persons of the opposite sex, one would expect married persons to overcome their touch avoidance of opposite-sex persons. Conversely, research (Morris, 1971) indicates that intimate touching within marriage has a powerful bonding effect which may preclude opposite-sex touching outside of the marital relationship. Because of the absence of research and the competing conclusions regarding this relationship, the following nondirectional hypothesis is offered:

H_7: *Marital status will have a significant effect on touch avoidance of opposite-sex persons.*

What is the effect of marriage on same-sex touching? Marriage may result in a person developing an exclusive liking for opposite-sex touch which is common in marriage, thereby avoiding persons of their own sex. Alternatively, a person may feel freer to touch members of the same sex since their marital status is visible proof of their basic heterosexuality. Because no previous studies have examined this variable and because logic could lead one to opposite hypotheses the following nondirectional hypothesis is offered:

H_8: *Marital status is significantly related to touch avoidance of same-sex persons.*

An important part of cultural influences on touch is a person's religious training. Previous research has found that Christian religions, particularly fundamentalist Protestant religions, discourage touch (Montagu, 1971). Several studies have found that American Jews tend to be highly touch-oriented (Montagu, 1971; Scheflen, 1972). Jews are stereotyped as being pushy, stand closer to one another, and of-

ten use brief tactile gestures, such as "button holing," especially between members of the same sex. A person with no religious background is less likely to have learned touch avoidance through religious training. If the touch-avoidance measure has validity, we should expect that Protestants would engage in less touching than non-Protestants. It is, therefore, hypothesized that:

H_9: *Protestants will experience higher levels of touch avoidance than non-Protestants when touching either same-sex or opposite-sex persons.*

STUDY 1

Method

Subjects. For Study 1 subjects were 204 undergraduates enrolled in a basic communication course at West Virginia University.

Measurement. To measure touch avoidance, 55 Likert-type statements were constructed. Since previous research had indicated that some persons enjoyed or avoided touching, while others enjoyed or avoided being touched (Jourard & Rubin, 1968) approximately one-third of the items tapped touching and one-third tapped being touched. The remaining third involved mutual touching where the sender-receiver relationship was ambiguous. Across these three categories items were constructed which specified whether the touch involved a member of the opposite sex or the same sex. Again, approximately one-third of these items did not specify the sex of the person. Thus, nine categories of items were employed with a minimum of five items per category.

Statistical Analysis. The primary research question was examined using factor analysis and internal reliability coefficients. The 55 TAM items from sample one were submitted to orthogonal factor analysis with varimax rotation. A priori criteria were established prior to the factor analysis. For a factor to be considered viable three criteria had to have been met: (1) An item must have a loading of .60 or above on a primary factor and no loading of .40 or above on a secondary factor. If this criterion is met, the item is considered "loaded" on the primary factor. (2) At least two items must be "loaded" on a factor for that factor to be considered viable. (3) Each factor meeting criteria 1 and 2 must attain an internal reliability estimate of .75 or higher.

Internal reliability coefficients for the obtained factors were computed using Nunnally's (1967) formulas 6-18 and the Spearman-Brown prophecy formula (Wood, 1960) for split-half reliability.

Results

The basic research question, posed in Study 1, was whether a self-report instrument could adequately measure touch avoidance. Results from factor analysis indicated a two-dimensional solution. The first dimension encompassed ten items, all of which related to touching persons of the same sex. This instrument was labeled the Touch-Avoidance Measure I (TAM 1) and measures touch avoidance of same-sex persons. The second dimension contained eight items, which all relate to touching persons of the opposite sex and was labeled the Touch-Avoidance Measure II (TAM 2; see Figure 1). Internal reliability coefficients for the two measures ranged from .82 to .88.

DIRECTIONS: This instrument is composed of 18 statements concerning feelings about touching other people and being touched. Please indicate the degree to which each statement applies to you be circling whether you (1) Strongly Agree, (2) Agree, (3) Are Undecided, (4) Disagree, or (5) Strongly Disagree with each statement. While some of these statements may seem repetitious, take your time and try to be as honest as possible.

*1.	A hug from a same-sex friend is a true sign of friendship.	1 2 3 4 5
2.	Opposite sex friends enjoy it when I touch them.	1 2 3 4 5
*3.	I often put my arm around friends of the same sex.	1 2 3 4 5
*4.	When I see two people of the same sex hugging, it revolts me.	1 2 3 4 5
5.	I like it when members of the opposite sex touch me.	1 2 3 4 5
*6.	People shouldn't be so uptight about touching persons of the same sex.	1 2 3 4 5
7.	I think it is vulgar when members of the opposite sex touch me.	1 2 3 4 5
8.	When a member of the opposite sex touches me, I find it unpleasant.	1 2 3 4 5
*9.	I wish I were free to show emotions by touching members of the same sex.	1 2 3 4 5
10.	I'd enjoy giving a massage to an opposite sex friend.	1 2 3 4 5
*11.	I enjoy kissing persons of the same sex.	1 2 3 4 5
*12.	I like to touch friends that are the same sex as I am.	1 2 3 4 5
*13.	Touching a friend of the same sex does not make me uncomfortable.	1 2 3 4 5
14.	I find it enjoyable when my date and I embrace.	1 2 3 4 5
15.	I enjoy getting a back rub from a member of the opposite sex.	1 2 3 4 5
*16.	I dislike kissing relatives of the same sex.	1 2 3 4 5
17.	Intimate touching with members of the opposite sex is pleasurable.	1 2 3 4 5
*18.	I find it difficult to be touched by a member of my own sex.	1 2 3 4 5

SEX: Male _____ Female _____

STUDENT ID NUMBER: _____

RELIGION: Protestant _____ Catholic _____ Jewish _____ Other _____ None _____

AGE: _____

CURRENTLY MARRIED: _____

CURRENTLY UNMARRIED: _____

*Indicated TAM 1 (same sex touch-avoidance) items

FIGURE 1. Touch avoidance instrument.

STUDY 2

Method

Subjects. Subjects for Study 2 were 351 primary and secondary teachers from throughout the state of West Virginia.

Other Measures Employed. The relationship between touch avoidance and several other variables were assessed in Study 2. Self-disclosure was measured in five dimensions using scales developed by Wheeless and Grotz (Note 2, Note 4). Dimension one, intent to disclose, is a three-item measure with an internal reliability in the present study of .70. Dimension two, amount of disclosure, is a four-item measure with an internal reliability of .77. The third dimension, positivity of disclosure, is a two-item measure with a .60 internal reliability coefficient. Dimension four, honesty of disclosure, is a four-item scale with an internal reliability of .77. The fifth dimension, depth of disclosure, is a three-item scale with a reliability coefficient in the present study of .70.

Nine measures of self-esteem were employed. The first measure was Berger's (1952) 36-item self-acceptance scale, which obtained an internal reliability of .97 in the present study. McCroskey and Richmond (Note 5) report that the Berger scale is actually multidimensional consisting of three subscales—worth, role, and communication withdrawal. These subscales had internal reliability coefficients ranging from .67 to .72. McCroskey and Richmond's (Note 5) five-dimension self-credibility instrument provided five additional measures of self-esteem. The reliability of these five measures ranged from .82 to .90. All internal reliability coefficients were computed using Nunnally's (1967) formula 6-18. Age, sex, and marital status were measured using self-report questions.

Statistical Analysis. Hypothesis 1, the relationship between touch avoidance and communication apprehension, was tested via product moment correlations and factor analysis.

Hypotheses 2 and 3, the relationships between self-disclosure, self-esteem, and touch avoidance were examined through produce moment correlations. Hypothesis 4, the relationship between age and touch avoidance, was tested using simple regression analysis.

Hypotheses 5-9 tested the effects of sex, religion, and marital status on touch avoidance. Those hypotheses were tested via three-way analysis of variance and covariance with age used as the covariate.

Results

In order to replicate the results of Study 1 with a nonundergraduate population, the 18 TAM items were administered to a teacher sample. The two-factor solution was replicated. All 10 TAM 1 items loaded on the first factor, while all 8 TAM 2 items loaded on the sec-

ond factor. Internal reliability coefficients for the two measures ranged from .83 to .86.

Hypothesis 1 was confirmed. TAM 1 correlated .15 with the PRCA, a measure of communication apprehension, while TAM 2 correlated .18 with the PRCA.

Hypothesis 2 was partially confirmed. Both touch-avoidance measures were significantly correlated to two dimensions of self-disclosure, the depth of the disclosure and the positive nature of the self-disclosure (see Table 1).

Little or no support was found for Hypothesis 3. Nine measures of self-esteem and two measures of touch avoidance were tested to produce 18 relationships. Of these relationships, only one was significant at alpha $< .05$. This is exactly the number of significant relationships which would occur as a function of chance. Thus, there is little support for the relationship between touch avoidance and self-esteem (see Table 1).

Hypothesis 4 was confirmed for one of the two touch-avoidance measures. A positive correlation ($r = .30$) was found between age and avoidance of touching persons of the opposite sex. No significant relationship ($r = -.06$) was found between age and avoidance of touching persons of the same sex (see Table 1).

TABLE 1

CORRELATION COEFFICIENTS

	TAM 1**	TAM 2***
TAM 1	---	.18*
PRCA	.15*	.18*
Intent to self-disclosure	.04	-.01
Amount of self-disclosure	-.13	-.07
Positivity of self-disclosure	-.16*	-.18*
Honesty of self-disclosure	.06	.11
Control of self-disclosure	-.22*	-.17*
Berger's self-esteem scale	-.13	-.02
Berger's worth subscale	-.13	-.10
Berger's role subscale	-.07	.08
Berger's apprehension subscale	-.21*	.00
Self-Competence	-.08	-.11
Self-Composure	-.04	-.02
Self-Character	-.06	.06
Self-Extroversion	.02	.02
Self-Sociability	-.10	-.01
Age	-.06	.30*

*significant at $p < .05$
**measures touch avoidance of same sex persons
***measures touch avoidance of opposite sex persons

TABLE 2

Means For Touch Avoidance
By Sex, Religion, and Marital Status

Same Sex Touch Avoidance

		Sex				
		Males		Females		Totals for Religion
		Married	Unmarried	Married	Unmarried	
Religion	Protestant	26.43	27.86	21.90	22.30	22.69
	Nonprotestant	26.11	25.00	20.70	20.81	21.65
Totals for Sex		26.43		21.70		

Opposite Sex Touch Avoidance

		Sex				
		Males		Females		Totals for Religion
		Married	Unmarried	Married	Unmarried	
Religion	Protestant	14.27	12.29	15.76	13.57	15.06
	Nonprotestant	9.78	11.20	13.94	12.06	12.87
Totals for Sex		12.90		14.85		

Hypothesis 5 was confirmed. Males ($\bar{x} = 26.43$) manifest higher levels of touch avoidance for persons of the same sex than do females ($\bar{x} = 21.70$, $F = 38.90$). This relationship was still observed when controlling for age as a covariate. The relationship held across religious groups for both married and unmarried persons (see Tables 2 and 3).

Hypothesis 6 was confirmed. Females ($\bar{x} = 14.85$) display higher levels of touch avoidance for persons of the opposite sex than do males ($\bar{x} = 12.90$, $F = 8.10$). The relationship was of a lesser magnitude but still significant when age was used as a covariate ($F = 4.37$; see Tables 2 and 3).

Hypothesis 7 was partially confirmed. A significant relationship was observed between marital status and touch avoidance of opposite-sex persons ($F = 10.65$). However, when age is controlled, this relationship is not present ($F = .76$). Only older married persons display higher levels of touch avoidance for persons of the opposite sex (see Tables 2 and 3).

TABLE 3

Analyses of Variance and Covariance:
The Effects of Sex, Religion, and Marital Status on Touch Avoidance

Same Sex Touch Avoidance

Source of Variance	F-Value	P	[Partial F-Value]	P
Sex	38.90	<.0001	25.80	<.0001
Marital Status	.12	NS	.26	NS
Religion	4.03	<.05	2.54	NS
Sex X Marital Status	.00	NS	.01	NS
Sex X Religion	.02	NS	.01	NS
Marital Status X Religion	.20	NS	.53	NS
Sex X Marital Status X Religion	.36	NS	.36	NS

Opposite Sex Touch Avoidance

Source of Variance	F-Value	P	[Partial F-Value]*	P
Sex	8.10	<.005	4.37	<.05
Marital Status	10.65	<.005	.76	NS
Religion	9.90	<.005	6.20	<.01
Sex X Marital Status	1.33	NS	2.36	NS
Sex X Religion	1.73	NS	.60	NS
Marital Status X Religion	.43	NS	1.33	NS
Sex X Marital Status X Religion	1.06	NS	1.06	NS

* Partial F after adjustment for age as covariate.
NS - Not significant at .05 alpha level.

Hypothesis 8 was not confirmed. Marital status has no effect on touch avoidance of same-sex persons ($F = .12$; see Tables 2 and 3).

Hypothesis 9 was confirmed for one of the two touch-avoidance measures. Protestants ($\bar{x} = 15.06$) reported higher levels of touch avoidance toward persons of the opposite sex than do non-Protestants ($\bar{x} = 12.87$; $F = 8.10$). This relationship is still present after age has been used as a covariate ($F = 4.37$; see Tables 2 and 3). Protestants ($\bar{x} = 22.69$) also reported higher levels of touch avoidance toward persons of the same sex than did non-Protestants ($\bar{x} = 21.65$). However when age was used as a covariate, religion had no significant effect ($F = 2.54$; see Tables 2 and 3).

STUDY 3

Method

Subjects. Subjects for Study 3 were 163 primary and secondary teachers from throughout the state of West Virginia. Subjects filled out touch-avoidance scales on the first and third class meetings of the semester.

Statistical Analysis. The purpose of Study 3 was to assess the test-retest reliability of the two touch-avoidance measures. A high test-retest reliability coefficient is an indication both that a trait is being measured *and* that the measure is internally reliable. A test-retest reliability coefficient that does not approach unity indicates either absence of a trait or low internal reliability. The correction for attenuation formula (Nunnally, 1967) is a method for determining whether the test-retest coefficient is a function of low internal reliability. Once the correction for attenuation is computed, the corrected coefficient is a measure of the test-retest reliability given perfect internal reliability.

Results

The test-retest reliability for TAM 1 was .615 and for TAM 2 was .558. Some of the unreliability in the test-retest coefficient was due to internal reliability of less than unity; thus both coefficients were adjusted for attention. The test-retest coefficients after adjustment were .75 for TAM 1 and .69 for TAM 2.

DISCUSSION

Interpretation of Results

The major research question posed in this report was whether touch avoidance could be assessed through a self-report measure. Results demonstrated internal reliability in the .83 to .88 range, and test-retest reliability in the .56 to .61 range. The two measures have satisfactory but not high reliability.

Some evidence indicates that these self-report measures possess construct validity. Previous research (Montagu, 1971) indicated that males were more avoidant of other males than females were of other females. The present results support this finding. Likewise, males' proclivity for heterosexual contacts (Morris, 1971; Silverman et al., 1973) were resubstantiated by the present research, which found males to be less avoidant of opposite-sex touch. Another indication of the external validity of the TAM measures is close replication of the factor solution across an undergraduate sample from many states and a much older teacher sample from West Virginia. Cronbach (1949) maintains that such findings provide factorial validity.

The analyses confirmed the first hypotheses and suggest a significant relationship between communication apprehension and touch avoidance. However, the fact that less than 4% common variance ex-

ists between communication apprehension and touch avoidance indicates relatively little overlap between these phenomena.

The present study reconfirmed Jourard and Rubin's (1968) finding for a small relationship between self-disclosure and touching/touch avoidance. This indicates a very slight tendency for a touch-avoidant individual to disclose less positively in less depth than other persons.

The present study failed to find a significant relationship between self-esteem and touch avoidance. Evidently, factors other than self-concept determine a person's level of touch avoidance. The present study found that cultural roles seemed to establish a person's basic level of touch avoidance and that these roles were more powerful determiners than was self-concept. Moreover, cultural roles apparently affect each dimension of touch avoidance in unique ways. While age has little or no effect on same-sex touch avoidance, it accounts for nearly 10% of the variance in opposite-sex TAM scores. This finding may indicate generational shifts in heterosexual touching or that people tend to avoid opposite-sex touch as they grow older.

Sex roles showed powerful effects on both measures of touch avoidance. Males were considerably more avoidant than females of same-sex touching. Masculine stereotypes in America prevent males from manifesting intimacies with other males which may be seen as unmasculine or even homosexual in nature. Females are not similarly inhibited by a role which restricts expressions of intimacy toward persons of the same sex. Sex roles have a converse effect on opposite-sex touch avoidance. Females exhibited higher levels of touch avoidance toward persons of the opposite sex than did males. This finding is also consistent with cultural role development which discourages females from engaging in heterosexual physical contact while males are permitted greater latitude in their heterosexual behavior.

Marital status evidently has no effect on same-sex touch avoidance. However, older persons who are married showed higher levels of touch avoidance for persons of the opposite sex. This finding seems to imply that older persons either develop greater avoidance as a result of aging or grew up in an era when opposite-sex touching was discouraged. After age was removed as a covariate marital status had no effect on either type of touch avoidance.

Religion seemed to have substantial effect on at least one type of touch avoidance. Unfortunately, the sample utilized (sample two)

was overwhelmingly Protestant, which did not permit a meaningful analysis of other religions. Interestingly, Catholics, Jews, and persons reporting no religious preference all had lower levels of touch avoidance than did Protestants. Older Protestant persons are more touch avoidant of persons of the same sex than younger Protestants or non-Protestants. After age was removed as a covariate, religion had no effect on same-sex touch avoidance. Religion had a significant effect on opposite-sex touch avoidance for all age groups. Protestants were significantly more avoidant of opposite-sex touch than were non-Protestants.

The biggest influences on touch avoidance were age, sex, religion, and marital status. It is evident that age roles, sex roles, religious roles, and marital roles were the clearest predictors of touch avoidance in the present study. The relatively slight impact of communication apprehension, self-disclosure, and self-esteem may indicate that other communication predispositions and self-image do not have a substantial influence on touch avoidance.

LIMITATIONS OF THE STUDY

A significant limitation of this research project is its reliance on the self-report of touch avoidance. While this seems to be both a reliable and valid approach, future studies should attempt to correlate the two self-report measures with actual observed behavior. Such an approach would substantially strengthen the predictive validity of the present instruments.

While the present study utilized two distinct and different samples, more diverse samples should be obtained in future studies. Sample two, which was used for most of the analyses in the present study, consisted primarily of white Anglo-Saxon Protestants. Research in other religious and ethnic groups would enhance the generalizability of the present research.

SUGGESTIONS FOR FUTURE RESEARCH

Considerable potential exists for employing the touch-avoidance measure (TAM) in future research. The TAM could be employed in existing dyadic relationships to determine if similar levels of touch avoidance is required for stable or happy relationships. Since previous research (Aguilera, 1967; Watson, 1975) indicates that touching is

useful in a medical or therapeutic setting, the touch-avoidance measure could be used to determine if health professionals are excessively touch avoidant. The TAM instrument could be used to assess changes in tactile orientation as a result of sensitivity training or psychotherapy. Since the present study found a substantial impact of cultural roles on touch avoidance, a useful follow-up study could examine levels of touch avoidance as persons pass through various phases of their life cycle. A final series of studies could determine if touch-avoidant individuals are perceived as lacking immediacy (Mehrabian, 1971) or as reticent by other individuals.

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