A Measure of Weak-Tie/Strong-Tie Support Network Preference

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This article reports two studies designed to develop and test a weak-tie/strong-tie support network preference scale. A theoretical framework for developing the measure and empirical tests of the underlying dimensions in two distinct populations is presented along with an assessment of the scale's validity and reliability, and hypotheses are tested regarding the support network preferences of the two populations. The application and utility of the four subscales comprising the W/STS is discussed along with the scale's implications for the study and advancement of applied research concerning social support networks.

Keywords: Social Support; Weak Tie Network; Scale Development; Health Communication

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Over the past several decades, researchers from a variety of academic disciplines have paid considerable attention to the relationship between social support processes and health outcomes (see Bolger, Zuckerman, & Kessler, 2000; Sarason & Sarason, 1994). Communication researchers have contributed to a broader understanding of social support processes by examining characteristics of supportive messages leading to positive reappraisals and coping behavior (Burleson & MacGeorge, 2002; Goldsmith, 2004), and the relationship between social support processes and health outcomes among individuals living with a variety of health conditions (Braithwaite, Waldron, & Finn, 1999; Ford, Babrow, & Stohl, 1996; Query & Wright, 2003), and demonstrated how several key aspects of supportive relationships play critical roles in both psychological and physical health.

Unfortunately, social support researchers have also determined the process of seeking support, when coping with stressful situations, as well as the provision of

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support in such cases, can be both highly complex and problematic (Albrecht & Goldsmith, 2003; Burleson & Goldsmith, 1998). In some instances, seeking support from others with whom one has close ties, such as family and friends, may be neither desirable nor practical. A weak-tie support network, on the other hand, may offer a more constructive and useful alternative, especially for those facing serious health challenges (Wright & Bell, 2003).

Below are findings from two studies designed to develop and test a measure of weak-tie/strong-tie support network preference. We begin by presenting a theoretical rationale for developing the scale (referred to as the W/STS), followed by empirical tests of its underlying structures in two distinct populations. We then provide an assessment of the validity and reliability of the four underlying dimensions comprising the W/STS, and test hypotheses regarding their structure, as well as their value in predicting network preferences. We conclude with a discussion of the application and utility of the subscales, and specifically note their implications for the study and advancement of applied research concerning social support networks.

Review of Literature

Support Networks and Relational Coordination when Seeking Support

Albrecht and Goldsmith (2003) suggest the practice of seeking support can be a complicated process of managing difficult individual coping needs while one is simultaneously attempting to manage delicate relational concerns. Most individuals tend to turn to close family members and friends for support during times of stress, to cope both with everyday stressors and significant stress-inducing events, including health concerns (Albrecht & Goldsmith, 2003). In many instances, close family members and friends are able to provide competent and valuable support. However, findings from a variety of studies (see Albrecht, Burleson, & Goldsmith, 1994; Barbee, Derlega, Sherburne, & Grimshaw, 1998; Brashers, Neidig, & Goldsmith, 2004) indicate that many people find it difficult to obtain appropriate support from friends and family because they may feel their closer ties (i.e., their strong ties)[1] lack experience or have limited information about certain problems (the terms "close tie" and "strong tie" are considered equivalent, and used interchangeably). Furthermore, they may feel uncomfortable discussing their problems with their strong ties for a variety of other reasons, including the desire to avoid feeling stigmatized or patronized, or being judged when discussing sensitive topics. Other complicating factors include reluctance to receive unwanted or inappropriate support, or not wanting to appear vulnerable and incapable of handling one's own problems. Still other factors relate to complications associated with role obligations (Albrecht & Goldsmith, 2003; LaGaipa, 1990) and *reciprocity failure*, which we define as a real or perceived inability or unwillingness to reciprocate a service or favor due to personal, health, or situationally related constraints.

When seeking social support in certain stressful situations, an alternative to one's strong-tie network of family and friends, is the use of weak-tie support network

members, who might include one's neighbors, acquaintances, or individuals with whom one could potentially consult within specific contexts. These people often include clergy, counselors, or members of face-to-face and/or online support groups. Researchers have reported weak-tie network members afford a number of advantages in comparison to stronger ties when support is needed within sensitive and problematic circumstances (Granovetter, 1973; Parks, Adelman, & Albrecht, 1987; Wills & Fegan, 2001). This is especially true of face-to-face and online support groups, two contexts of particular interest to health communication researchers studying weak-tie networks (Wright & Bell, 2003).

Despite several decades of interest in the nature of weak and strong-tie networks and the choices people make regarding the benefits and limitations of these networks, researchers have yet to develop a measure of weak- or strong-tie support network preference. The development of such a measure could be valuable for predicting the type of network from which a person would benefit most—and be more comfortable with—when seeking support during various times of crisis and stress. Moreover, a measure of weak-tie/strong-tie network support preference would be especially useful to healthcare providers in identifying and/or designing the most appropriate and effective support interventions.

Weak-Tie Network Theory

Weak-tie support network theory, originally developed by Mark Granovetter some 30 years ago, has been particularly useful in explaining various aspects of social support, both as it was initially applied in face-to-face settings, as well as more recently in the context of computer-mediated support (Walther & Boyd, 2002; Wright & Bell, 2003). Weak-tie relationships typically occur between individuals who may communicate on a relatively frequent basis, but who do not consider themselves members of a close personal network (e.g., intimate friends or family). Individuals facing stressful situations, such as a life-threatening disease, often find weak-tie networks have unique and valuable advantages relative to strong-tie networks (Granovetter, 1982; Parks et al., 1987).

Individuals may opt for a weak-tie as opposed to a strong-tie support network because weak ties often provide access to diverse points of view and information typically unavailable within more intimate relationships (Parks et al., 1987; Stevenson & Gilly, 1991). In general, people gravitate toward close relationships with those similar to themselves in terms of demographics, attitudes, and backgrounds (Botwin, Buss, & Shackelford, 1997). This preference for homogeneity can limit the diversity of information and viewpoints one obtains about topics, especially regarding certain problematic health concerns.

Access to more diverse viewpoints about health problems can provide individuals with more varied informational support, and interacting with different types of people occupying various roles can increase the number of social comparisons one can make about stressful situations vis-à-vis other people (Parks et al., 1987; Stevenson & Gilly, 1991) and may help individuals reduce uncertainty and anxiety

about their health conditions. Individuals having difficult health concerns often obtain more useful information by moving beyond their traditional strong-tie support network. Using a weak-tie network—such as an on-line support group whose members share a common disease or health condition—can offer perspectives from others more likely to share similar feelings about their condition, even if they are dissimilar in other regards. For example, individuals in the early stages of a disease can interact with others in later stages and, thereby, learn about possible trajectories of the disease along with first-hand accounts of the efficacy of various treatment options.

   Communicating about problems in weak-tie vs. strong-tie networks. For a variety of reasons, one may perceive strong-tie support networks as inadequate or incapable of providing satisfactory support. A range of factors, both practical and psychological, appears to influence an individual's decision to pursue weak-tie support networks as an alternative. Health concerns are often difficult for people to discuss, especially when communicating with a close friend or loved one. In many instances, close ties actually steer conversational topics away from emotional talk about problems, refrain from in-depth discussion of such topics, or avoid consequent interaction altogether (Brashers et al., 2004; Dunkel-Schetter & Wortman, 1982; Helgeson, Cohen, Schulz, & Yasko, 2000;).

   Other studies have shown role obligations and related reciprocity issues in close ties can lead to problems in the provision of social support. Support for a loved one who is ill, for example, can lead to increased conflict, resentment, and negative feelings for both parties involved as a result of a reluctance to form new complicated role obligations on the one hand, and feelings of guilt and shame stemming from the perceived inability to reciprocate (i.e., reciprocity failure) on the other (Albrecht & Goldsmith, 2003; LaGaipa, 1990; Pitula & Daugherty, 1995). At the same time, many individuals who receive support from family members and friends may feel uncomfortable and reluctant to accept the support when they do not have (or perceive they do not have) the ability to reciprocate (Chesler & Barbarin, 1984). This form of reciprocity failure, and its accompanying discomfort, stems from a sense of inequity that can often cause individuals receiving support to feel over-benefited if they are unable to help or return the favor to their friends in a like manner (LaGaipa, 1990).

   In contrast, weak-tie network members, being less emotionally attached, tend to be more willing to talk about difficult and unpleasant health concerns. Moreover, many diseases and medical conditions carry dehumanizing social stigmata (Brashers et al., 2004) that can negatively affect the provision of social support. Because members of weak-tie networks do not typically share an intimate relational history, they tend to be less likely to judge one another and frequently encourage one another to share concerns and feelings about living with various stigmatized health problems (Wright & Bell, 2003).

Since other group members may also be contending with similar health concerns, the similarity among them—in terms of health issues, rather than demographics or personality, per se—increases empathy and understanding of the situation. Perhaps more importantly, because of their reduced emotional attachment, weak-tie network members are often more adept at providing objective, dispassionate feedback about health problems, and are generally more willing to discuss risky topics compared to strong-tie network members, such as one's family and friends (Parks et al., 1987).

In summary, four key factors combine to emphasize the advantages of selecting a weak-tie over a strong-tie network: (1) greater *utility* related to increased situational similarity—i.e., experiential similarity rather than demographic or interpersonal similarity; (2) greater *objectivity* resulting from less emotional attachment; (3) greater *security* stemming from the reduced interpersonal risk of weak ties; and (4) greater interpersonal comfort associated with reduced social complications and less stringent role obligations relevant to reciprocity failure.

W/STS: A Weak-Tie/Strong-Tie Network Preference Scale

Although existing scholarship concerning weak- and strong-tie support networks indicates individuals base their support seeking preferences on the types of problems they are facing, empirical research is scarce. This paucity may be attributable to the absence of a measure useful in revealing weak- or strong-tie preferences; thus, the research reported herein involves the development and test of such a measure.

Because most of the research on weak-tie networks suggests they primarily benefit those with serious health concerns (Brashers et al., 2004; Wright & Bell, 2003), it is imperative to have a useful network preference scale for studying individuals who actively seek support relevant to various critical health issues. Given this concern, drawing from a population of computer-mediated health support groups appears to be appropriate, especially when considering several characteristics of computer-mediated support groups make them ideal for obtaining weak-tie support. For example, their participants generally: (1) are geographically dispersed; (2) enjoy greater anonymity due to their predominant use of text-based messages; and (3) have a wide range of unique individuals with diverse viewpoints (see Walther & Boyd, 2002; Wellman, 1997; Wills & Fegan, 2001). These considerations form the basis of the first two hypotheses:

> H1: Weak-tie support preferences are a function of: (a) the perceived utility of support relative to the costs of interpersonal role obligations, and (b) an appreciation for the objectivity of different viewpoints.

> H2: Weak-tie support preferences are a function of: (a) a need for less interpersonal risk and, (b) greater interpersonal comfort associated with reduced social complications.

The first two factors concern the informational utility of weak-tie support networks, whereas the second two factors relate to the risk and complication-reducing value of weak-tie networks. These four second-order dimensions should be

particularly relevant to those experiencing pressing health related concerns. On the other hand, individuals dealing with everyday types of stressors—as opposed to health concerns—who do not have the need to acquire specialized information about health issues, should be more likely to prefer seeking support from those among their closer ties. There are several factors differentiating this sort of "well" or "health-blessed" population from one composed of online support group members with pressing health concerns. The fact many members of the former group are: (1) not dealing with sensitive or stigmatized diseases or health conditions, (2) generally comfortable with the amount and quality of support they receive from family and friends, and (3) generally satisfied with the relational obligations associated with their close ties suggests these people should be more inclined to seek support from their strong ties relative to their weak ties.

Although some variability surely exists in the general population with respect to how comfortable people are likely to feel discussing sensitive topics with close family members and friends, it seems unlikely most everyday concerns create a felt need for weak-tie network support. Therefore, based on earlier theory and research, it is reasonable to assume a generally healthy undergraduate student population will closely resemble the overall population in their reliance on strong-tie support during times of stress or crisis (Albrecht, Burleson, & Goldsmith, 1994), particularly if such support is nonjudgmental in nature and unlikely to cause relational complications. These differences in the needs and preferences of those not facing pressing health concerns underlay the following two hypotheses:

H3: Online health support group members (i.e., people with pressing health-related concerns), relative to healthy, undergraduate students (i.e., people not experiencing such health-related concerns), exhibit a greater preference for (a) the perceived utility of support and (b) the perceived objectivity of different viewpoints afforded by their weak-tie social support networks.

H4: Online health support group members, relative to healthy, undergraduate students, exhibit a greater preference for (a) the reduced interpersonal risk and (b) increased interpersonal comfort afforded by their weak-tie social support networks.

In light of the unique preferences among those experiencing pressing health concerns,we expect weak-tie network support tobe negatively associated with relational closeness and stress, whereas, in a population of healthy undergraduate students, who should be more likely to prefer and confide in their strong-tie networks for support in times of stress, we expected weak-tie support scores to be less related to stress. Thus concerning the predictive validity of the W/STS, we hypothesize:

H5: Weak-tie support preferences are negatively associated with perceptions of the relational closeness of support providers.

H6: Among online health support group members (i.e., people with pressing health-related concerns), weak-tie network preference scores are moderately to strongly negatively correlated with perceived stress.

H7:   Among those in an undergraduate student population (i.e., people not experiencing serious health-related concerns), weak-tie preferences are marginally to moderately negatively correlated with perceived stress (i.e., to a lesser degree than online support group members).

Method

The purpose of this project was to develop and test a weak-tie/strong-tie support network preference scale with data from two distinct samples, one from a population of online health support groups, and the other from a population of undergraduate students unchallenged by pressing health issues. The following measures provided the data drawn from each sample.

Measures

Support network preference. Twenty-four items reflecting both weak-tie and strong-tie support network preference are comprised within the W/STS (see Appendix 1). Three experts in the area of social support assessed their face validity. For each of the preference dimensions, a subscale based on weak-tie network theory reflected the attributes of that dimension. For the *Utility* subscale, there were seven items tapping the value of support relative to costs associated with role obligations. For the *Objectivity* subscale, there were ten items relating to detachment in providing greater quantity and quality of support. Four items reflected perceived uncertainties associated with risks involved in seeking social support, and three other items measured one's sense of comfort and reduced stress associated with receiving social support. The participants responded to items on a five-point strongly agree/strongly disagree continuum, with lower means indicating weak-tie preferences and higher means indicating strong-tie preferences. The reliability coefficients reported in the results section reveal good internal consistency as indexed by Cronbach's alpha for all four indices across both samples.

Perceived stress and coping. Data involving perceived life stress and coping for both samples were gathered using Cohen, Karmack, and Mermelstein's (1983) Global Measure of Perceived Stress (GMPS) scale, which required the respondents to indicate (on a five-point scale ranging from *never* to *very often*) how often they thought of or reacted to daily stressful events, with higher scores indicating greater amounts of perceived stress. They included such questions as, "In the last month, how often have you felt confident about your ability to handle your personal problems?" and, "In the last month, how often have you felt nervous and stressed?" From an exploratory factor analysis (EFA), two factors emerged from which two subscales were computed: *Anxiety,* relating to stressful events (seven-item alpha $=.85$ across both samples) and *Efficacy,* relating to coping abilities (three-item alpha $=.71$ across both samples).

Relational closeness. Participants from both studies recalled the last time they talked with someone about their problems, then responded to Johnson's (2001) Relational Closeness Scale (RCS) to assess the level of perceived intimacy felt toward that person. The RCS includes statements such as, "This is one of the closest relationships I have ever had," and "This individual and I share a great amount of emotional closeness," measured on a seven-point strongly disagree/strongly agree continuum, with higher scores indicating greater closeness. This instrument was also internally consistency (five-item alpha $= .91$ across both samples).

Study 1

Online Support Group Member Participants

Support group moderators for over 60 health-related support groups on the internet (e.g., Alzheimer's, arthritis, breast cancer, bulimia, diabetes, epilepsy, HIV, obesity, psoriasis, smoking cessation, and thyroid disease, among others) were contacted in an effort to recruit participants to complete our W/STS online questionnaire. This resulted in a sample of $N = 178$ respondents from the various online support groups. The sample consisted of 81% females, with participants ranging in ages from 18 and 77 ($M = 44.91$; $SD = 12.98$). Among these, 87% identified themselves as white, 2.2% Hispanic, 2.2% African-American, 2.2% Asian-American, 1.7% Native American, and 4.5% "other." As to educational attainment, 22% reported having graduate degrees, 7% some graduate school, 27% undergraduate degrees, 32% some college, 9% a high school diploma, and 4% less than a high school diploma. The participants accessed a link to an online consent form, which, in turn, linked them to the survey questionnaire composed of the GMPS, RCS, and W/STS scales.

Study 1 Results

Confirmatory Factor Analysis

Following an examination of correlation matrices for factorability of results, a maximum likelihood (ML) CFA revealed the internal factor structure of the W/STS scale with none of the W/STS items exhibiting skew > 2 (skew ranged from 1.15 to $-.995$), nor kurtosis > 7 (kurtosis ranged from 2.51 to -1.36), and Kaiser's measure of sampling adequacy (KMO $= .89$) was high.

In light of theoretical considerations, a four-factor ML solution was mandated, then compared to three- and five-factor solutions. As mentioned above, the four factors theoretically specified for the W/STS were: (1) Utility; (2) Objectivity; (3) Risk; and (4) Comfort. The Bartlett Test of Sphericity (BTS) was significant at the $p < 0.001$ level, and the initial communalities for the 24 W/STS items were moderate to high (between .45 and .69), with the exception of WT21, WT22, WT23, and WT24 (.40, .22, .43, and .36, respectively—which indicated somewhat low reliability). Hence, these four items were dropped from the analysis. Nevertheless, as hypothesized, the four-factor model fit the data adequately, accounting for 64% of

the variance in the remaining 20-item W/STS scale. Although the chi square "lack of fit index" was significant, χ^2 (df164) = 393.65, $p < .05$, the relative chi square (χ^2/df = 2.40) was below 3, CFI = .87, and RMSEA = .09, and all the factor loadings were moderate to high (.56 to .89), in the expected direction, and significant ($p < .001$). In sum, two of the three indices showed adequate fit between model and data, and a third indicated marginal fit (the four-factor solution is presented in Figure 1).

To bring better clarity to the four-factor model, both three- and five-factor solutions were imposed and evaluated. By comparison, the three-factor model accounted for 6% less of the variance and revealed a discernibly poorer fit (χ^2/df = 2.92, CFI = .81, RMSEA = .10) and a larger expected cross-validation index value (ECVI = 3.47) than the four-factor model (ECVI = 2.97), indicating a less optimal model. Although the five-factor solution exhibited an adequate fit, χ^2/df = 2.35, it was less parsimonious, accounted for only 4% additional variance, and revealed no apparent improvement (ECVI = 2.93) over the four-factor model, which appears to be the best fitting, most theoretically sensible model for this sample of online support group members.

Discussion, Study 1

The CFA of the results obtained from this online support group sample provides support for H1 and H2 concerning the factor makeup of support network preference. Although there was a problem with reliability regarding four of the original W/STS items, after removing them, the 20-item, four-factor solution predicted by H1 and
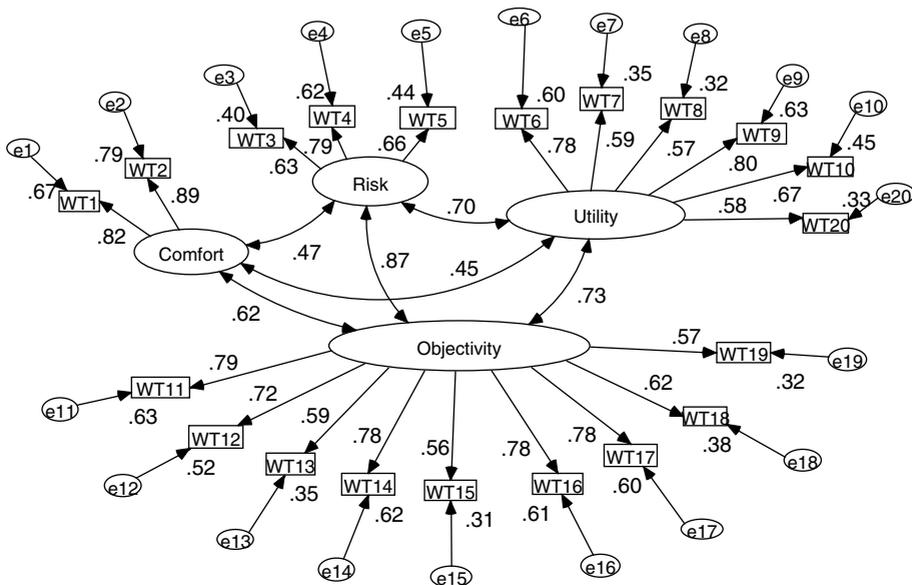

Figure 1 Online sample W/STS. Fit indices for this solution: χ^2/df = 2.40, CFI = .87, RMSEA = .09.

H2 received strong empirical support. To provide further support for H1 and H2, as well as assess H3 and H4, we now turn to Study 2, where we sought to replicate Study 1 using a student sample whose participants, in contrast to members of online support groups, may be considered comparatively free of pressing health concerns.

Study 2

Student Sample

Data were collected in exchange for course credit from a sample of undergraduate students drawn from communication classes (N = 284) who were provided with a link to a consent form directing them to the on-line survey questionnaire composed of the GMPS, RCS, and W/STS scales. The sample (69% female) ranged in age from 18 to 65 (M = 21.1, SD = 6.04), with the majority identifying themselves as Caucasian (78%), followed by African-American (8%), Asian (8%), Native-American (2%), and Hispanic (2%). Based on university admissions data, the demographic profile of this sample is representative of the university as a whole.

Study 2 Results

As in Study 1, the correlation matrices were acceptable (KMO = .92) and none of the W/STS items exhibited skew >2 or kurtosis >7, and BTS was significant at the $p < .001$ level. Thus, again, on the basis of theoretical considerations a four-factor ML solution was mandated and compared to three- and five-factor solutions. As in Study 1, the initial communalities for the 24 W/STS items proved to be moderate to high, with the exception of WT21, WT22, WT23, and WT24, and the initial communality for WT20 was also low, thus, these five items were dropped from the analysis. Even so, the four-factor model, as hypothesized, fit the data well, accounting for 57% of the variance in the remaining 19 W/STS items.

Although the chi square "lack of fit index" statistic was significant, χ^2 (*df* 146) = 330.08, $p < .05$, the relative chi square was below 3 ($\chi^2/df = 2.26$), the two non-centrality-based indices indicated good fit (CFI = .90, RMSEA = .07), and all of the factor loadings were moderate to high, in the expected direction, and significant ($p < .001$), indicating good fit between model and data. In contrast, the three-factor model accounted for 5% less of the variance and showed a poorer fit, $\chi^2/df = 2.39$, CFI = .89, and a RMSEA = .07, and exhibited a larger expected cross-validation index value (ECVI = 1.68) compared to the four-factor model (ECVI = 1.61) suggesting it is less nearly optimal. The five-factor solution showed adequate fit, $\chi^2/df = 2.24$, but with less parsimony, and accounting for only 2% more of the total variance, with little improvement (ECVI = 1.60) over the four-factor model. Thus, as was the case with the sample of online support group members, the four-factor solution seems to be the best fitting, most theoretically sensible model (see Figure 2).
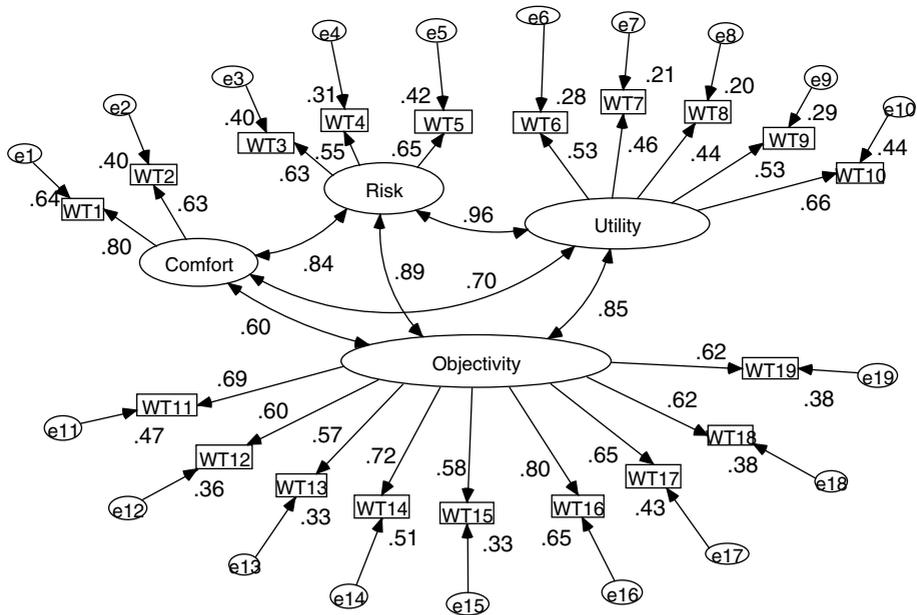
Figure 2 Student sample W/STS. Fit indices for this solution: $\chi^2/df = 2.26$, CFI $= .90$, RMSEA $= .07$.

Discussion, Study 2

Regarding the factor structure of support network preference, the CFA for this study provided additional sustenance for H1 and H2. Although it was necessary to remove the same four W/STS itemsdropped from Study 1 (WT21 − WT24) and one additional item (WT20), the 19-item, four-factor solution addressed in H1 and H2 proved acceptable.

Weak-Tie or Strong-Tie Preference?

To test H3 and H4, we combined the data from Studies 1 and 2 and conducted a series of *t*-tests using the Bonferroni correction to control for familywise error (setting the requisite *p* value at .0125 for the four *t*-tests)to determine what if any differences in support network preferences characterized the two samples regarding the four underlying dimensions of the W/STS.

W/STS Subscales

As mentioned, the W/STS is composed of four subscales tapping the four underlying factors associated with support network preference. Cronbach's α indicated an acceptable level of internal consistency for all four subscales (see Appendix 1) across both datasets: *Objectivity,* nine-item α = .91; *Utility,* five-item α = .77; *Comfort,* two-item α = .79, *r* = .66; and *Risk,* three-item α = .73.

Hypotheses

Compared to healthy undergraduate students, H3 assumed online health support group members, because of their pressing health-related concerns, would be more likely to prefer the greater *utility* and *objectivity* afforded by their weak-tie support network; and relevant *t*-tests provided strong support for both parts of this hypothesis: the online support group sample indicated a significantly greater preference for the *utility* of weak-tie network support ($M = 2.84$, $SD = .85$) relative to the college student sample ($M = 3.43$, $SD = .61$), $t(292) = 8.04$, $p < .001$, $r = .43$, and significantly greater preference for the *objectivity* of weak-tie network support ($M = 2.58$, $SD = .73$) relative to the college student sample ($M = 3.44$, $SD = .62$), $t(333) = 12.94$, $p < .001$, $r = .59$. (Note: lower scores indicate weak-tie preference relative to higher scores indicating strong-tie preference.)

Compared to healthy undergraduate students, H4 predicted online health support group members would be more likely to prefer the relatively reduced interpersonal *risk* and increased interpersonal *comfort* afforded by weak-tie support networks. Once again, the *t*-test results provided strong support for both parts of this hypothesis, with the online support group sample indicating a significantly greater preference for the reduced *risk* of weak-tie support ($M = 3.14$, $SD = .92$) relative to the college student sample ($M = 3.83$, $SD = .69$), $t(306) = 8.64$, $p < .001$, $r = .45$, and significantly greater preference for the *comfort* of weak-tie support ($M = 3.60$, $SD = 1.1$) relative to the college student sample ($M = 4.21$, $SD = .75$), $t(279) = 6.53$, $p < .001$, $r = .36$.

Convergent/Discriminant Validity

Correlations between the W/STS subscales and Johnson's (2001) RCS were examined to assess H5 concerning the convergent/discriminant validity of the W/STS, with results indicating the W/STS subscale dimensions to be negatively correlated with relational closeness across both studies. In support of H5, with the exception of the *risk* subscale, three of the four sets of correlations were in the theoretically predicted directions, with stronger negative correlations for the online support group sample. The two groups differed markedly on two of these dimensions, namely, *comfort* and *objectivity* (see Table 1). Given the conceptual overlap between the dimensions of the W/STS and the RCS, the correlations between these constructs provide some support for the construct validity of the W/STS. Moreover, the relatively moderate sizes of these correlations (ranging between .27 and .52) suggest these two scales appeared to be reflective of two similar, but nevertheless different constructs.

Predictive Validity

Given the well documented relationship between social support processes and perceived stress and coping (Aneshensel & Stone, 1982; Billings & Moos, 1981), Hypothesis H6 predicted weak-tie network preference scores would be negatively correlatedwith perceived stress (*anxiety*) and positively with coping (*efficacy*) scores

Table 1 Correlations Between the W/STS Subscales and the Relational Closeness Scale (RCS).

W/STS Subscale	Relational Closeness Scale	
	Online Support Group	Students
Objectivity	$-.40^{**}$	$-.37^{**}$
Utility	$-.39^{**}$	$-.27^{**}$
Comfort	$-.52^{**}$	$-.38^{**}$
Risk	$-.34^{**}$	$-.37^{**}$

$^{**}p < .01$, two-tailed.

among online health support group members, whereas H7 predicted a similar relationship—albeit to a lesser degree—for the relatively healthier sample of students who are not experiencing pressing health-related concerns. To test these relationships, we examined the correlations between the four W/STS subscales and the two factors, *anxiety* and *coping,* derived from Cohen et al.'s (1983) GMPS. In support for H6 and H7, the relationships between the W/STS dimensions and the GMPS were significant and, for the most part, in the hypothesized directions in 13 of 16 correlations across the two samples. The exceptions were that the *utility* subscale was not significantly correlated with *efficacy* among support group members nor students, nor with anxiety among students (see Table 2).

General Discussion: Implications, Limitations, and Directions for Future Research

The primary aim of this research has been to create, assess, refine, and begin to validate an instrument to measure people's preferences toward seeking support within weak-tie—relative to strong-tie—support networks. A secondary goal has been to provide empirical support for the notion that individuals with differing and specific social support needs exhibit a preference for either a weak-tie or a strong-tie support network on the basis of those needs. In previous work, researchers have developed a conceptual model for the reasons why individuals exhibit a preference toward a weak-tie or a

Table 2 Correlations Between the W/STS Subscales and the Global Measure of Perceived Stress (GMPS) Subscales.

W/STS Subscale	GMPS Subscales			
	Anxiety		Efficacy	
	Online Support Group	Students	Online Support Group	Students
Objectivity	$-.30^{**}$	$-.24^{**}$	$.20^{**}$	$.19^{**}$
Utility	$-.17^{*}$	$-.10$	$.12$	$.08$
Comfort	$-.21^{**}$	$-.10^{**}$	$.15^{*}$	$.15^{*}$
Risk	$-.25^{**}$	$-.18^{**}$	$.25^{**}$	$.18^{**}$

$^{*}p < .05$, two-tailed; $^{**}p < .01$, two-tailed.

strong-tie support network, but no previous studies have empirically investigated the factors presumably contributing to these preferences. To address this need, we tested the W/STS on two population samples with distinct social support needs.

Results indicate people experiencing pressing health challenges have a strong tendency to display a distinct preference for weak-tie support networks based on the four underlying factors presumed to be predictive of this preference (i.e., *objectivity, utility, comfort*, and *risk*), while relatively healthy individuals should be much more likely to prefer strong-tie support networks, less dependent on these factors, but more dependent on relational closeness. Additionally, when compared to the conceptually related constructs of relational closeness and perceived stress, these results provide some empirical support for the convergent/discriminant and predictive validity of the W/STS.

The findings reported above suggest several practical applications for the W/STS. First of all, the scale could be useful in targeting those individuals who are more likely to benefit the most from computer-mediated support groups or internet-based interventions emphasizing weak-tie attributes. In particular, individuals who believe their friends and family members may be incapable of being objective about their health concerns could benefit greatly from access to weak-tie support through computer-mediated groups. Another benefit would follow for those who may feel stigmatized as a result of their health conditions by members of their strong-tie network. These individuals could gain great utility from the unique attributes found in weak-tie support networks.

Future research would be optimized by direct assessments of the degree to which individuals feel stigmatized as a consequence of serious health concerns. Similarly, a measure of the need for objective information, and how such information might relate to weak-tie support preference, would be advantageous. Additionally, future research in assessing whether the W/STS yields similar findings across different populations would be useful. Further refinement could help to transform the scale into a powerful, yet parsimonious diagnostic tool for assessing the degree to which individuals feel comfortable seeking help from their available social support networks. It might be of further value in predicting the likelihood an individual with critical health challenges would feel more comfortable seeking support from an

Table 3 Correlations Between the W/STS Subscales and RCS and GMPS Across Both Populations: Scale Means, Standard Deviations, and Cronbach's α.

Variable	*M*	*SD*	α	1	2	3	4	5	6	7
1. W/STS Objectivity	3.11	.79	.91	—	.689**	.585**	.748**	.256**	.144**	−.460**
2. W/STS Utility	3.21	.77	.77		—	.481**	.674**	.156**	.084	−.405**
3. W/STS Comfort	3.97	.95	.79			—	.540**	.211**	.137**	−.512**
4. W/STS Risk	3.15	.92	.73				—	.289**	.180**	−.429**
5. GMPS Anxiety	4.16	.73	.85					—	.643**	−.074
6. GMPS Efficacy	3.70	.70	.71						—	−.041
7. RCS Closeness	2.22	1.38	.91							—

**Significant correlations at $p < .01$ (two-tailed).

online support group, a face-to-face support group, or another potential weak-tie network member, such as a therapist, counselor, or healthcare professional. Beyond urgent health concerns, the W/STS could be of value in assessing the appropriateness of weak- versus strong-tie networks when designing the most suitable support interventions for individuals facing other types of stressful circumstances.

With the extensive growth of the internet, the W/STS, with minor variations, might also have great utility for assessing weak-tie support in other computer-mediated contexts. For example, studies have examined the use of weak ties for obtaining technical advice within and between organizations (Constant et al., 1997; Feldman, 1987). The W/STS might be used in future organizational communication research to assess the preference of members regarding the employment of weak- versus strong-tie networks to acquire information, obtain social support, reduce stress, aid in coping, or otherwise facilitate more optimal health-related outcomes.

There are several limitations to the present studies regarding the development of the W/STS. For example, although we believe the samples were representative of their respective populations, we relied on convenience samples of online support group members and undergraduate students. Thus, we must qualify our findings, particularly with regard to the online support network sample, by generalizing them only to a more narrowly defined population of internet-experienced, health-related, support group members. Future studies should continue to refine and test the W/STS on other populations to assess its reliability and validity, as well as its predictive value with respect to health outcomes.

Although the findings reported here provide evidence that weak-tie support preference is negatively related to perceived life stress, it remains unclear how that relationship occurs. Specifically, the data cannot address whether weak-tie support mediates stress (i.e., the buffering hypothesis), has a direct effect on stress, or is a combination of both.

In summary, our findings suggest support network preferences can be accurately assessed and measured. Furthermore, in view of the large effect–size correlations, such measurements appear to provide robust support for the expectation that people with pressing health concerns will strongly prefer the enhanced objectivity, utility, comfort, and reduced risks associated with weak-tie networks. Likewise, these results indicate healthy individuals should be relatively more likely to prefer the comfort level, amount, and quality of support afforded by strong-tie networks.

Finally and most notably, as mentioned, all of the observed effects reported here concerning both populations appear to be substantial. For instance, regarding preference for the *utility* of a weak-tie support network, the effect size correlation of $r = .43$ indicates roughly 18% of the variance in group preference is accounted for by scores on the W/STS. Similarly, 24% of the variance in preference for the reduced *risk* of weak-tie network support, and 13% of the variance in preference for the *comfort* of weak-tie network support is accounted for by scores on the W/STS.

Likewise, and even more impressive, regarding preference for the *objectivity* of weak-tie network support, the effect size correlation of $r = .59$ indicates that fully 35% of the variance in group preference is accounted for by scores on the

W/STS—or, put another way, 35% of the variance in responses to the W/STS could be accounted for by whether one had a pressing health concern (as to be expected of online support group member) or was generally in good health (as is typical of college students). Effect sizes of this magnitude suggest the W/STS may offer great utility to researchers, clinicians, councilors, and policy makers concerned with helping those troubled by serious health issues.

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Appendix 1 W/STS

1 = strongly agree; 2 = agree; 3 = neutral; 4 = disagree; 5 = strongly disagree

Comfort Subscale

WT1. I feel comfortable discussing my problems with close friends and family. (reverse-coded)

WT2. I know I can count on my close friends and family members to help me when I have personal problems.(reverse-coded)

Risk Subscale

WT3. My close friends and family get too emotional when I discuss my problems with them.

WT4. It is less risky to discuss my problems with people who are not as intimate with me as close friend and familymembers.

WT5. I discuss my problems with people who are not close to me so I don't have to worry about my family and close friends finding out.

Utility Subscale

WT6. People who don't know me very well are less likely to pass judgment on me.

WT7. My close friends and family tend to have viewpoints too similar to my own to help much.

WT8. I can get help discussing my problems with people who don't know me very well without feeling obligated to help them in return.

WT9. People I'm not intimate with tend to judge me less harshly than my close friends and family members.

WT10. My family and close friends often tend to judge me when I discuss my problems with them.

Objectivity Subscale

WT11. I find people who don't know me very well see things more objectively than my family and close friends.

WT12. People who are not involved with me emotionally can offer me better advice about my problems.

WT13. Often times I can get a more objective perspective discussing my problems with relative strangers who are different from me, than I can from family or close friends.

WT14. I can discuss personal problems in greater depth with people I don't know very well than with my family and close friends.

WT15. I feel as though my close friends and family provide me with better advice about personal problems than people who don't know me very well. (reverse-coded)

WT16. I find that I can get more objective information about my problems from people who are not close friends or family members.

WT17. I get more understanding from people who don't know me very well than from close friends and family.

WT18. People who don't know me very well offer the most objective viewpoints about my problems.

WT19. My close friends and family are able to offer objective advise despite their strong feelings about me. (reverse-coded)

Dropped Items:

WT20. People who aren't all that close to me listen to my problems without expecting me to return the favor.

WT21. Close friends and family just seem to see my problems the same way I do. (reverse-coded)

WT22. I would rather not take chances talking about my problems with people who do not know me very well. (reverse-coded)

WT23. I am usually able to help my close family and friends when they have problems. (reverse-coded)

WT24. My close friends and family do not tell me what they really think about me and my problems.