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The Role of Relational Mobility in Cultural Expression of Social Anxiety in Context

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By

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Master's Thesis

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Jerry T. Geffre-Barnett

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A Thesis
Presented to
The Faculty of
Western Washington University

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Abstract

In the U.S. social anxiety is commonly recognized as idiocentric, meaning it focuses on the fear of causing embarrassment to one's self. In Japan an allocentric type of social anxiety, Taijin Kyofusho, is commonly recognized. Taijin Kyofusho is the fear of offending others with one's actions or presence. This study examined the role of relational mobility and self-construal in explaining cultural differences in social anxiety. In societies with lower relational mobility and independent self-construal, such as Japan, people tend to value maintaining harmony in friend groups. The current study measured idiocentric and allocentric social anxiety after participants in Japan (n = 80) and the U.S. (n = 125) were asked to imagine scenarios with a friend and a stranger. Idiocentric social anxiety with a friend was lower than with a stranger in the U.S, while no difference was found between social partners in Japan. Those in the U.S. and Japan had less allocentric social anxiety with a friend than a stranger. However, the difference tended to be larger in the U.S. More allocentric social anxiety was reported in Japan than the U.S. Differences in independent self-construal fully mediated this effect. Relational mobility was greater in the U.S., but did not mediate in any cultural differences. Although allocentric social anxiety was higher in Japan than the U.S., there was no cultural difference in allocentric social anxiety when statistically accounting for independent self-construal. These results demonstrate that cultural differences in social anxiety may be partially due to cultural differences in self-construal.
Keywords: social anxiety, relational mobility, independent self-construal, interdependent self-construal, cross-cultural research

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The Role of Relational Mobility in Cultural Expression of Social Anxiety in Context

Imagine you are on a bus sitting by a stranger, and he decides to ask you about yourself. This may be an uncomfortable interaction for many people. Now imagine, as you respond, you stumble over your words and say something that makes no sense. This may leave you feeling embarrassed and worried the stranger might be judging you as unintelligent or awkward. Now think about how this situation would be if the stranger was replaced by a close friend. Most people in the U.S. might laugh it off, feeling slight embarrassment, but they would not expect judgment from their friends like they would with the stranger. However, some people in the scenario with their friend may feel only slightly less embarrassed and concerned about being judged than when this situation occurs around a stranger. People may be concerned about judgment from their friend because they are fearful that damaging the friendship would be hard to overcome. For example, in Japan, compared to the United States, people generally have fewer opportunities to make new friends (Yuki & Schug, 2012). So, if their friend's opinion of them changes for the worse, they may be stuck with an awkward relationship or loneliness because it might be more difficult to find new friends to fill the void. Therefore, if someone has fewer opportunities to make new friends it could lead them to worry about making mistakes around their current friends, and thus experience social anxiety.

Social anxiety, the fear of being judged or negatively evaluated by others, is prevalent among many individuals in many cultures (Hofmann, Asnaani, & Hinton, 2010). Different social contexts may change people's levels of social anxiety, such as being around strangers compared to being around friends (Gudykunst & Nishida, 2001; Sznycer et al., 2012). The current study explored cross-cultural similarities and differences, between samples from Japan and the U.S., in

expression of social anxiety based on the context of interacting with a stranger or a friend, and why cultural differences occur.

Social Anxiety

The two types of social anxiety most prevalent in the research literature are Social Anxiety Disorder (SAD) and trait social anxiety. Both SAD and trait social anxiety are characterized by increased nervousness, anxiety, or fear in specific social situations in which an individual might be negatively evaluated (Brockveld, Perini, & Rapee, 2014).

The definition for trait social anxiety has many components, including a person's level of social inhibition, shyness, phobias, and anxiety in social situations (Crozier & Alden, 2005). In general it is a measure of distress in social interactions. Trait social anxiety has been found to be broadly distributed within populations internationally (Crozier & Alden, 2001) and it has been shown to be close to normally distributed in countries including the U.S., Taiwan, and China (Heimberg et al., 1999; Luo et al., 2018, Yen et al., 2012). The function of trait social anxiety is to increase awareness and attention in social situations to help the person inhibit behavior that may be negatively evaluated (Crozier & Alden, 2001). Therefore, having some social anxiety may be beneficial. Being aware of behaviors that could be viewed negatively might help one follow social norms and prevent negatively viewed actions.

Higher levels of trait social anxiety are associated with higher self-consciousness, greater self-deprecation, and a heightened sensitivity to social threat (Crozier & Alden, 2001). Although most people have a general level of trait social anxiety, it is important to recognize certain situations may change a person's level of state anxiety. For example, a person is likely to be more shy, anxious, and afraid when having a meeting with the CEO of their workplace compared to talking with a family member. A measure of someone's level of anxiety taken during the

meeting would be a measurement of state anxiety. Measurements of trait social anxiety ideally should reflect how the different situations affect individual's state anxiety. People high in trait social anxiety have been shown to have higher state anxiety during social interactions than people low in trait social anxiety (Leal, Goes, da Silva, & Teixeira-Silva, 2017).

People with SAD typically have high levels of trait anxiety, but also have to meet a number of criteria to be diagnosed with SAD (American Psychiatric Association, 2013). First, they must have fear or anxiety about one or more social situations in which they are exposed to possible scrutiny in front of others. Such situations may include social interactions, being observed, or performing in front of others. Second, they must fear that they will be negatively evaluated due to the way they act or due to their showing anxiety symptoms. For SAD, the social situations must always provoke fear or anxiety, and the individual must try to avoid these situations or endure them with intense fear or anxiety. The fear must also be determined by a clinician to be out of proportion to the actual threat posed by the situation. The cause of this fear or anxiety must not be due to the effects of a substance, medical condition, or another mental health disorder. This fear must cause an impairment or distress in important areas of functioning, such as social or occupational functioning. Some researchers have argued that the only criterion that prevents someone with high trait social anxiety being diagnosed with SAD is whether or not the social anxiety causes impairment or life interference (Brockveld et al., 2014).

Social Anxiety Across Cultures

Most cultural comparative research on social anxiety has examined differences among East Asian countries, such as Japan, and Western countries, such as the United States (e.g. Hong & Woody, 2007; Norasakkunkit, Kitayama, & Uchida, 2012). One way some researchers examine cultural comparative differences in social anxiety is to compare the prevalence of SAD

diagnoses across countries. Twelve-month prevalence rates in Western countries, such as the U.S. (7.1%: Stein et al., 2017), Canada (7.2%; Stein, Torgrud & Walker, 2000), Australia (4.2%; Stein et al., 2017), New Zealand (5.3%; Stein et al. 2017), France (2.6%; Stein et al., 2017), and Northern Ireland (4.0%; Stein et al., 2017), are greater than in East Asian countries, such as Japan (0.7%; Stein et al., 2017), China (0.4%; Stein et al., 2017), and South Korea (0.2%; Cho et al., 2007). Although SAD is more commonly diagnosed in Western countries, cultural comparative research has found higher levels of trait social anxiety in East Asian countries compared to Western countries (Hong & Woody, 2007; Woody, Miao, & Kellman-McFarlane, 2015).

Why is SAD more common in Western countries while people in East Asian countries tend to report higher levels of trait social anxiety? A possible explanation for this discrepancy might be that using the prevalence rate of SAD does not account for cultural differences in how mental health is viewed or diagnosed. Tseng, Asai, Kitanishi, McLaughlin, and Kyomen (1992) gave Japanese and American psychiatrists a set of real case histories and videotaped interviews of Japanese patients from Tokyo and Japanese-Americans from Hawaii and asked the psychiatrists to give the patients a diagnosis. All patients had been previously diagnosed with SAD, but this diagnosis was not included in the case files. They found that Japanese psychiatrists diagnosed the Japanese patients with SAD but not the Japanese-American patients. The American psychiatrists diagnosed all patients with SAD as well as other diagnoses. This demonstrates the culture of both the patient and the psychiatrist play a role in the diagnostic process. The increased likelihood of diagnosis by American psychiatrists compared to Japanese psychiatrists demonstrates the diagnosis is more likely in the U.S.

There may be fewer diagnoses of SAD in Japan because higher levels of anxiety may be seen as less detrimental. As stated earlier, in order for high trait social anxiety to meet the criteria for SAD the symptoms need to cause life impairments (American Psychiatric Association, 2013). Compared to participants in Western countries, Rapee et al. (2011) found participants in East Asian countries view shy and socially withdrawn behavior and traits as having relatively less of an effect on quality of life. This is likely because the withdrawn behaviors associated with social anxiety, such as being shy or quiet, are more likely to be valued in East Asian cultures (King & Bond, 1985). Shy and quiet behaviors are valued because they are believed to demonstrate modesty and promote social harmony (King & Bond, 1985). Therefore, if someone is shy or quiet they are fitting in with social expectations and values. In many Western cultures people are expected to be outgoing and self-promoting (Rapee et al., 2011). Therefore, in Western cultures shyness does not fit in as well with social expectations.

Since social anxiety may be seen as less detrimental, individuals in East Asian cultures may also be less likely to seek treatment. Hsu and Alden (2008) found that first generation Chinese college students in Canada were less likely to seek help for social anxiety than students with European heritage. Hsu and Alden believed that first generation Chinese students may have also been less likely to seek help with social anxiety due to high social stigma around seeking treatment and fear that it will bring shame to one's family in East Asian cultures. Seeking treatment may also be avoided by Asian individuals due to it causing increased stress. Taylor, Welch, Kim, and Sherman (2007) suggest that Asians and Asian-Americans may not benefit from support seeking the way European and European-Americans do. Asian and Asian-American participants had increased stress when seeking support. Less likelihood to seek

treatment help in East Asian cultures makes the use of SAD diagnoses for cross-cultural comparisons less representative of a true measure of social anxiety (Hofmann et al., 2010).

As mentioned earlier, having non-extreme social anxiety can be beneficial because it can help inhibit less appropriate social behaviors (Crozier & Alden, 2001). Another proposed reason why people in Japan have higher trait social anxiety but lower rates of SAD than in the U.S. is that in Japan there are generally more rules for social behavior regarding public face-saving, obedience, expressing emotion, and maintaining group harmony than in the U.S. (Singelis & Sharkey, 1995). Since there are more rules to follow it may be beneficial to have social anxiety to help focus awareness on what should and should not be expressed. It is unknown whether the greater social anxiety in Japan functions as tool to help promote adherence to social norms and rules or if it is caused by the existence of more norms and rules. Either way, this makes social anxiety more of a norm in Japanese culture rather than a disorder (Hofmann et al., 2010).

Since SAD is influenced by culture and cross-cultural comparisons are problematic, this paper will focus on trait social anxiety. From this point forward I will refer to trait social anxiety as "social anxiety".

Social Anxiety and Self-Construal

It is important to recognize that there are different cultural expressions of many psychological constructs, including social anxiety. An expression of social anxiety considered culturally specific to Japan and Korea is *Taijin Kyofusho* (TKS; Kleinknecht, Dinnel, Kleinknecht, Hiruma, & Harada, 1997; Takahashi, 1989). TKS is defined as an intense fear of causing shame by embarrassing or offending others with one's own actions or presence. Commonly feared actions include blushing, inappropriate staring, and making improper facial

expressions. Common fears with one's presence include having an offensive odor or physical deformity (Takahashi, 1989).

Taijin Kyofusho (TKS) is an allocentric version of social anxiety, which focuses on the fear of causing discomfort to others. Social anxiety in the U.S. is more idiocentric, which focuses on the fear of causing embarrassment to one's self (Kleinknecht et al., 1997).

TKS may be recognized more in Japan than the U.S. because of cultural differences in self-construal. In Japanese culture, a more interdependent and less independent self-construal is promoted than in the U.S. Western cultures generally support a more individualistic and independent self-construal (Singelis, 1994). Cultures higher in independent self-construal typically define their sense of self as separate from their group. The norm in Western cultures is typically to stand out by being unique and independent. In more independent contexts following and attempting to assimilate with others is viewed negatively since the person is not seen as being their "authentic self." Since individuals in independent contexts are expected to be autonomous, anything an individual does is attributed solely to the individual. This pattern leads to the focus of embarrassment on the individual, meaning the social anxiety people experience is rooted in the fear that they are being negatively evaluated by others. In this study I describe this type of social anxiety as idiocentric social anxiety.

In East Asian cultures, a more collectivistic or interdependent self-construal is usually supported (Kim, Triandis, Kagistcibasi, Choi, & Yoon, 1994), such that it is common to view the self as an extension of one's social or familial group. For this reason, deviation from the group is less acceptable than in more independent contexts, since each person perceives themselves as a representation of the larger group. Therefore accomplishments and failures reflect the larger

group. In interdependent contexts the importance of not offending others is emphasized, since the group is seen as part of the self (Choy, Schneier, Heimberg, Oh, & Liebowitz, 2008).

Research has examined the role self-construal plays in cultural differences in social anxiety. Using a Korean-Canadian and European-Canadian sample, Hong and Woody (2007), found that those in the Korean sample reported significantly higher social anxiety than the European sample. However, the relationship between culture and social anxiety was fully mediated by a measure of independent self-construal. The European sample tended to show higher independent self-construal than the Korean sample. After statistically considering the difference in self-construal they found that social anxiety did not differ between the Korea and European samples.

Although cultures promote different self-construal, individuals within a country can vary greatly in how they define themselves (Green, Deschamps, & Paez, 2005). Kleinknecht et al. (1997) found that more interdependent self-construal was related to more TKS for participants in the U.S., suggesting that TKS is a more interdependent expression of social anxiety. They also found that more independent self-construal was related to lower TKS for participants in Japan.

A majority of previous cross-cultural research has only considered Western expressions of social anxiety which focus on the self, such as social phobia and the fear of negative evaluation (Heinrichs et al., 2006; Hong & Woody, 2007; Norasakkunkit & Kalick, 2009). In these situations, the research likely does not have cultural equivalence (Trimble & Vaughn, 2014). Since the construct of social anxiety differs between cultures, it is important to examine both TKS and the Western expression of social anxiety. If researchers are using solely a measure of TKS or a Western expression of social anxiety then the construct of social anxiety is not being

measured correctly in one of the cultures being compared. Therefore, levels of social anxiety would be incomparable between cultures.

Relational Mobility

The current study examines whether relational mobility may play a role in the level and type of social anxiety experienced in different cultural contexts. Relational mobility is defined as the degree to which people in a society have opportunities to voluntarily form new relationships and terminate old ones (Schug, Yuki, Horikawa, & Takemura, 2009). Research has shown cultures differ in average level of relational mobility; participants from Japan report lower relational mobility than those from the United States (Sato, Yuki, & Norasakkunkit, 2014; Schug, Yuki, & Maddux, 2010; Thomson et al., 2018). Relational mobility also has an effect on many social differences between cultures.

Relational mobility may play a role in social interactions because it may affect the way people understand social relationships (Yuki & Schug, 2012). Since there are many opportunities to make friends in cultures with high relational mobility, such as the U.S., it is relatively easy to choose friends. By contrast, in cultures with low relational mobility, such as Japan, people are more exclusively embedded within their established friend groups (Yamagishi, Jin, & Miller, 1998). Since it is harder to pick and choose new friends, it is important to maintain group harmony. It is important to maintain group harmony because people may feel trapped in an uncomfortable and unharmonious group if relational mobility is low (Kito, Yuki, & Thomson, 2017). The pressure to maintain group harmony is placed upon everyone in the group. Compared to low mobility societies the pressure of maintaining group harmony is less in high mobility societies. If group harmony is hurt in a high mobility society it is much easier to find a new

group than in a low mobility society. Pressure to not offend others in lower mobility societies may promote thoughts and behaviors in social settings that differ from high mobility societies.

Since people can make new friendships and end old ones more easily in higher mobility societies they can be more selective in friendship choices. The social flexibility allowed in high mobility societies allows people to choose friends who are more similar to them (Schug, Yuki, Horikawa, & Takemura, 2009). High relational mobility also may reduce the focus on possibly ruining friendships and maintaining group harmony since people can more easily obtain new ones (Yuki & Schug, 2012). Living in a society high in relational mobility allows people to take more risks in interpersonal relationships, such as discussing feelings, sharing secrets, and disagreeing with others (Li, Hamamura, & Adams, 2016; Schug, Yuki, & Maddux, 2010; Thomson & Ito, 2012). All of these cultural differences are seen as ways in which thoughts and behaviors are adaptive to cultural context and social environment.

Although limited research has focused on the role relational mobility plays in social anxiety across cultures, Sato et al. (2014) did examine the relationship between relational mobility and TKS. They found participants from Japan reported lower relational mobility and higher TKS than participants from Canada. They also found that country-level differences in TKS were partially mediated by relational mobility. The findings suggest that the tendency for Japanese participants to have higher TKS than Canadian participants is related to the difference in relational mobility of the societies. Since Sato et al. only examined TKS; the effects of relational mobility on idiocentric social anxiety still need to be examined.

Thomson et al. (2018) also found that relational mobility is also related to cultural differences in self-construal. They theorized a culture's relational mobility is related to historical and ecological threats of the environment along with differences in historical subsistence styles,

such as farming and herding. They found that places with more historical and ecological threats have lower relational mobility, likely because those threats bring about group cohesiveness and promote strong norms to help overcome adversity. Cultures that begin with farming as a subsistence style are more likely to be lower in relational mobility because they require stable communities for labor exchange; this makes tight reciprocal relationships important. Cultures that begin with herding as a subsistence style are more likely to be high in relational mobility because herders have to move more, which gives more opportunity to make and break relationships. Thomson et al. found the subsistence style in the U.S. was close to the herding end of a herding/ farming spectrum, while the subsistence style in Japan was close to the farming end of that spectrum.

Thomas et al.'s research found that ecological threats and subsistence predict relational mobility, which then predict cultural characteristics such as self-construal, homogeneity, and strength of norms. In contrast, models using self-construal to predict relational mobility were not supported. This pattern demonstrates that the structure of the social environment is high on the causal chain of culture characteristics and norms. Thomson et al. also found that relational mobility was a stronger and more consistent predictor of cultural differences in trust, intimacy, and self-disclosure than individualism and self-construal. Individualism and independent self-construal have been heavily examined in how they affect social anxiety. If relational mobility affects a culture's self-construal and individualism, it should also be examined in relation to social anxiety.

Importance of Context in Social Anxiety

It is important to recognize social context when examining the relationship between relational mobility and social anxiety. Since relational mobility affects how people think and

interact in relationships, relational mobility's influence on social anxiety should be most noticeable for cultural comparisons in relationships. Sznycer et al. (2012) examined the effect of relational mobility on proneness to shame in established relationships (friendships) and with strangers. Although not specifically examining social anxiety, proneness to shame is similar to social anxiety. Shame is defined as painfully scrutinizing and negatively evaluating the self (Tangney, Wagner, & Gramzow, 1992). Sznycer et al. (2012) examined participants in Western countries (U.S. & U.K.) and in Japan. Participants reported proneness to shame with close friends and with strangers. Although those from all countries reported more proneness to shame with strangers than with friends, this difference was smaller for Japanese participants than for participants from the U.S and U.K. Japanese participants reported more proneness to shame around friends than participants in the U.S. and U.K.

Sznycer et al. theorized that cultural differences in the likelihood and cost of devaluation may help explain the differences in proneness to shame. The authors described the likelihood of devaluation as the likelihood that a shameful act would devalue the person or their group in the eyes of others. Cost of devaluation is how harmful a shameful act would be and how much it would devalue the person or their group. In all cultures the likelihood of devaluation tends to be greater around strangers compared to friends, since any actions perceived by strangers may be their first and only impression. However, friends share history and knowledge that affects how actions are perceived, making devaluation less likely. The cost of devaluation from a stranger should also be similar across cultures, since the relationship with a stranger is weak, and hurting the relationship should not matter much. Sznycer et al. did not find a cultural difference in proneness to shame around a stranger. In close relationships however, cultural differences in the cost of devaluation may be partially due to differences in relational mobility. The cost of

devaluation around a friend is expected to be greater in Japan because relational mobility is lower, meaning if the person hurts their close relationships, it may be more difficult to find new relationships (Sato et al., 2014). This pattern was supported by Sznycer et al. Participants in Japan reported greater proneness to shame with close friends than participants in the U.S. & U.K. When statistically considering relational mobility, the relationship between culture and proneness to shame toward a friend was weakened.

Current Study

The current study examined the role of relational mobility in cultural comparative differences in social anxiety. This study examined self-reports of social anxiety in response to an imagined scenario around a stranger and around a close friend for a sample in the U.S. and in Japan. In order to make the measurement of social anxiety accommodating to the different cultures we examined both idiocentric and allocentric measures of social anxiety (TKS). The goal of the study was to help answer five main questions.

Question 1: Do relational mobility and self-construal differ between the U.S. & Japan?

I hypothesized that participants in the U.S. would have higher relational mobility and independent self-construal, but lower interdependent self-construal than participants in Japan (Sato, Yuki, Norasakkunkit, 2014; Schug, Yuki, & Maddux, 2010; Singelis, 1994; Thomson et al., 2018).

Question 2: Is social anxiety higher in Japan than in the U.S.?

It was hypothesized that Japanese participants would report higher ratings of allocentric social anxiety than U.S. participants (Sato, Yuki, & Norasakkunkit, 2014). Japanese participants were expected to report higher interdependent self-construal than U.S participants, and those cultural differences should predict more allocentric focused social anxiety, such as TKS

(Kleinknecht et al, 1997; Sato, Yuki, & Norasakkunkit, 2014). Along with allocentric social anxiety, it was hypothesized that Japanese participants would also report higher idiocentric social anxiety than participants in the U.S. since independence has been shown to have a strong negative correlation with western social anxiety scales such as the Social Interaction Anxiety (SIA) and Social Phobia (SP) scales (Kleinknecht et al., 1997). Participants in the U.S. were hypothesized to report higher idiocentric social anxiety than allocentric social anxiety, since most social anxiety measures in the U.S. focus on idiocentric social anxiety. However, there was no research to support a hypothesis on if there was more allocentric or idiocentric social anxiety in Japan.

Question 3: Does the level of social anxiety differ based on social partner?

It was hypothesized that people from both countries would report higher levels of social anxiety in an imagined scenario with a stranger compared to with a friend. I further hypothesized an interaction, such that the difference in social anxiety between a friend and stranger would be greater in the U.S. than in Japan due to participants in Japan reporting higher levels of social anxiety with close friends compared to participants in the U.S.

Question 4: Do differences in relational mobility account for differences between cultures in social anxiety with a friend?

Relational mobility was hypothesized to partially mediate cultural differences in social anxiety with friends, but not with strangers. The mediation was hypothesized to be specifically prevalent for allocentric social anxiety with a friend because people low in relational mobility may worry more about how their actions affect their relationships (Sato, Yuki, & Norasakkunkit, 2014; Yuki & Schug, 2012).

Question 5: Is relational mobility a better predictor of cultural differences in social anxiety with a friend than independent self-construal?

Thomson et al. (2018) suggests relational mobility may partially cause differences in self-construal, which suggests it may be a better predictor of social anxiety than self-construal. Since research on this question was minimal, this question was exploratory. To explore this question, the mediating effect of relational mobility and independent self-construal mediating on the relationship of country and social anxiety around friends was compared. No hypotheses were made in comparing the mediating effect of relational mobility to the mediating effect of independent self-construal on social anxiety. This was important to examine since it helps in understanding if relational mobility mediates social anxiety above and beyond independent self-construal.

Method

Participants

Screening and Cleaning. An a priori power analysis was conducted using G*Power 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007) to determine the desired sample size. Analysis was based on a repeated measures ANOVA between two groups, with a medium effect size ($f = .25$), an alpha of .05, and a conservative power of .95. Results indicated a total sample at least 158 participants with equal groups of 79 participants per country would be required. A total of 221 participants were recruited, 136 from the U.S. and 85 from Japan.

As described below, during the screening and cleaning phase, data from 16 participants were removed due to failed manipulation checks (11 from the U.S. and five from the Japanese sample). Four participants in the U.S. sample, along with three participants in Japan reported thinking of a relationship partner when asked to envision a scenario with a close friend. Four

participants in the U.S. thought of a stranger and one thought of a family member in this same scenario. One participant in the U.S. and one participant in Japan reported thinking of a friend when asked to envision a scenario around a stranger. One participant in Japan reported thinking of a family member during the friend scenario.

Mahalanobis distance was used to detect multivariate outliers in each country separately (De Maesschalck, Jouan-Rimbaud, & Massart, 2000). Allocentric social anxiety with a friend, allocentric social anxiety with a stranger, idiocentric social anxiety with a friend, and idiocentric social anxiety with a stranger were used to estimate Mahalanobis distance for each participant. This analysis had four degrees of freedom, which leads to a critical Chi-square value of 18.47 ($\alpha = .001$). No cases had a Mahalanobis distance that exceeded this value.

Final Sample. After screening and cleaning, the final sample included 205 participants, 125 in the U.S. and 80 in Japan. The U.S. sample was comprised of 125 (89 women, 35 men, 1 non-binary) Western Washington University students taking undergraduate psychology courses for research credit toward course requirements. The age range of participants was 18-32 (M = 20.38, SD = 2.00). Participants were predominantly White (62.4%), with 25 reporting as Mixed/ Multiracial (20.0%), 10 Asian (8%), seven Latinx/Hispanic (5.6%), and five reporting as African-American (1.6%), Middle Eastern (0.8%) or other racial/ethnic background (1.6%).

The sample in Japan was comprised of 80 (32 women, 47 men, 1 not reported) Hokkaido University students taking a cultural psychology course for extra-credit. The age range of participants was 19-23 (M = 20.08, SD = 1.02). Participants were predominantly Japanese (96%) with two participants reporting other race/ethnicity and one who did not report. Although three participants did not identify as ethnically Japanese I will refer to this sample as the "Japanese sample" for clarity.

Procedure

The study consisted of a Qualtrics online questionnaire with seven scales. All participants received the same scales and prompts. Participants in the U.S. received an English version of the questionnaire, while participants in Japan received a Japanese version. After giving consent, participants were asked to envision that they were taking this questionnaire before the COVID-19 pandemic because data was collected during the COVID-19 pandemic (May 20, 2020 to June 3, 2020; see Appendix A for exact wording). Participants then completed a social anxiety questionnaire twice. Prior to responding to each social anxiety questionnaire participants were given a prompt to envision being in a specific scenario. The scenarios were similar to those used in Sznycer et al. In one scenario participants imagined having a conversation on a bus with someone they consider their closest friend. In the other scenario participants imagined having a conversation on a bus with a stranger. Responses to the two scenarios form the within-subject variable of social partner. In an attempt to counterbalance the scenario order, participants were randomly assigned by Qualtrics to be given the friend scenario or the stranger scenario first. The order was not perfectly counterbalanced with 56% of the Japanese sample receiving the scenario with a friend first, while 46% of the U.S. sample received the scenario with a friend first. Overall 50% of participants received the scenario with a friend first. The prompt given in the friend scenario was as follows:

> Think of a non-family member you consider your closest friend. Imagine that you are traveling your daily commute on a bus and you happen to see your closest friend. You chat with your friend briefly. After chatting, you get off the bus alone and go about your day as usual.

The prompt given in the stranger scenario was as follows:

> Imagine that you are traveling in a different city than the city you are currently living in. In this new city, you meet a person on a bus whom you have never met before. This person, Person A, is your age, in college, and the same-sex as you. You chat with this person briefly, and then you get off the bus alone, to go about your day as usual.

After given the prompt participants completed modified versions of the Taijin Kyofusho Scale (Kleinknecht et al., 1997) and the Brief Fear of Negative Evaluation Scale-Revised (BFNE-II; Carleton, McCreary, Norton, & Asmundson, 2006). After filling out each scale, participants were given manipulation checks to see if they were imaging a scenario with their closest friend, family member, a relationship partner, or a stranger.

After the social anxiety scales participants completed the Relational Mobility Scale (Yuki et al., 2007), the independent and interdependent subscales of the Self-Construal Scale (Singelis, 1994), two items to measure the increase in stress and anxiety COVID-19 has caused participants, and provided demographics. After completion of the whole questionnaire participants were thanked for participation, given a debriefing along with an email address to use if they had any more questions.

Measures

Allocentric Social Anxiety. An adapted version of the *Taijin Kyofusho Scale* (Kleinknecht et al., 1997) was used to measure allocentric social anxiety. The scale was modified by removing items that did not appear to represent allocentric social anxiety (e.g., "I cannot really feel relaxed even when I chat with my friends"). Since the current study asked participants to envision being in a scenario, the scale was changed from measuring trait social anxiety to state social anxiety. Items that measured trait allocentric social anxiety were removed (e.g., "At a hair

dresser's shop, I cannot stand for the hair dresser to look me in the face"). The wording in the scale was also modified to make measure state allocentric social anxiety by changing words like "others" and "other people" to "my friend" in the close friend scenario and "the stranger" in the stranger scenario. The modified version of the *Taijin Kyofusho Scale* used in this study is a 7-point Likert scale including 13-items that ask participants to report how much the items represent how they would feel from 1 (totally false) to 7 (totally true). Responses to all 13 items were averaged to measure allocentric social anxiety.

A sample item in the friend scenario is, "I would be afraid that I may unintentionally hurt my friend's feelings," while a sample item in the stranger scenario is "I would be afraid that I may unintentionally hurt the stranger's feelings." This modified version of the *Taijin Kyofusho Scale* showed good reliability. Cronbach's α for the U.S. sample was .89 in the friend scenario and .91 in the stranger scenario. Cronbach's α for Japanese sample was .89 in the friend scenario and .88 in the stranger scenario. See Appendix B for the scale in the friend scenario and see Appendix C for the scale in the stranger scenario. See Table 1 for the means, standard deviations, and correlations of the variables for the overall sample, Table 2 for the U.S. sample, and Table 3 for the Japanese sample.

Idiocentric Social Anxiety. An adapted version of the *Brief Fear of Negative Evaluation Scale-Revised* (BFNE-II; Carleton et al., 2006) was used for the idiocentric form of social anxiety because it is a scale that mostly focuses on social anxiety due to other people's opinions of the individual feeling anxiety. Similar modifications to the *Taijin Kyofusho Scale* were made to the BNFE-II. The modified version of the BFNE-II used in this study is a 7-point Likert scale including 10 items that ask participants to report how much the items represent how they would

feel from 1 (totally false) to 7 (totally true). Responses to all 10 items were averaged to measure idiocentric social anxiety.

A sample item in the friend scenario is, "I would worry about what my friend was thinking about me," while a sample item in the stranger scenario is "I would worry about what the stranger was thinking about me." This modified version of the BNFE-II showed strong reliability. Cronbach's α for the U.S. sample were .91 in the friend scenario and .92 in the stranger scenario. Cronbach's α for Japanese sample were .92 in the friend scenario and .93 in the stranger scenario. See Appendix B for the scale in the friend scenario and see Appendix C for the scale in the stranger scenario.

Relational Mobility Scale. The *Relational Mobility Scale* (Yuki et al., 2007) measures participants' perception of relational mobility allowed by their environment. The Relational Mobility Scale is a 12 item (e.g. "it is easy for them [the people around you] to meet new people", "If they did not like their current groups, they would leave for better ones") 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Items of all 12 items were averaged to measure relational mobility. The Relational Mobility Scale had good reliability with Cronbach's α of .80 with the U.S. sample and .83 with the Japanese sample. See Appendix D for full scale.

Independent and Interdependent Self-Construal. *The Self-Construal Scale* (Singelis, 1994) was used to measure independent and interdependent self-construal. The Self-Construal Scale is a 24 item 7-point Likert scale that asks participants to report how much they agree with statements from 1 (strongly disagree) to 7 (strongly agree). Half of the items measure independent self-construal (e.g. "Speaking up during class is not a problem for me"), while the other half measure interdependent self-construal (e.g. "I will sacrifice my self-interest for the

benefit of the group I am in"). The 12 items used to measure independent self-construal were averaged to get a person measure of independent self-construal; the same was done with the items used to measure interdependent self-construal. The independent subscale had questionable reliability with Cronbach's α of .60 with the U.S. sample and .68 with the Japanese sample. The interdependent subscale showed unacceptable reliability in the U.S. sample (Cronbach's α = .49) and questionable reliability in the Japanese sample (Cronbach's α = .62). See Appendix E for full scale. The poor reliability of the interdependent self-construal scale in the U.S. makes it unreliable to include in analysis. Low reliability of the measure does not allow for powerful analyses on the role of interdependent self-construal on social anxiety. Therefore, interdependent self-construal was not explored in the results. Reliability problems with the interdependent self-construal scale have been common in other research (Fernández, Paez, & González, 2005; Okazaki, 2000).

Stress and Anxiety Impact of COVID-19. Two items were used to measure the added stress and anxiety caused by the COVID-19 pandemic. These items were in the form of a 7-point Likert scales which asked participants to report how much they agree with statements from 1 (strongly disagree) to 7 (strongly agree). The statement "I have increased anxiety as a result of Covid-19" was used to measure added anxiety due to COVID-19. The statement "Covid-19 has made my everyday life more stressful" was used to measure the added stress due to COVID-19. These items had a strong positive correlation (r (203) = .65, $p < .001$). Responses to these items were averaged together to form a measure of the impact of COVID-19.

Translation of Scales into Japanese. Previously translated versions of the *Relational Mobility Scale* (Yuki et al., 2007) and *the Self-Construal Scale* (Singelis, 1994) were used. The prompt asking participants to imagine taking the survey before the COVID pandemic, the

measure of stress and anxiety caused by the COVID-19 pandemic, demographic questions, along with the modified versions of *Taijin Kyofusho Scale* (Kleinknecht et al., 1997) and BNFE-II (Carleton et al., 2006) were translated from English into Japanese. These items were originally translated by The Language Exchange Inc., a professional translation company based in Washington State, U.S. Translated documents were then reviewed and edited for clarity by a native Japanese speaking professor, Masaki Yuki, Ph.D., at Hokkaido University.

Results

Research Question 1: Did Relational Mobility and Self-Construal Differ Between Cultures?

Those in the U.S. sample ($M = 4.72$, $SD = .77$) reported higher relational mobility than the participants in the Japanese sample (M = 4.11, SD = .85), $F\ (1, 203) = 27.89$, $p < .001$, $\eta_p^2 = .12$. Participants in the U.S. sample ($M = 4.59$, $SD = .67$) also reported higher independent self-construal than participants in the Japanese sample (M = 4.06, SD = .77), $F\ (1, 203) = 26.90$, $p < .001$, $\eta_p^2 = .12$. The differences of relational mobility and independent self-construal were as hypothesized.

Preliminary Analysis

The effect of participant demographic characteristics on the dependent variables was examined. Collapsing across both samples, participant age negatively correlated with social anxiety measures with a stranger and women had more idiocentric social anxiety with a stranger. See Table 4 for correlations for the entire sample, and see Table 5 for correlations separated by country. In the U.S. sample, age had a statistically significant negative correlation with allocentric and idiocentric social anxiety with a stranger. In the U.S. sample, gender did not statistically significantly correlate with any of the variables. In the Japanese sample, neither age nor gender had a statistically significant correlation with any of the dependent variables. In the

U.S. sample participant race, as well as whether they were born in the U.S. or not, did not statistically significantly correlate with any of the variables. Participants from rural hometowns did not statistically significantly differ from participants from urban hometowns with any of the variables.

The added stress and anxiety caused by the COVID-19 pandemic on the dependent variables was also examined. For the entire sample, the COVID-19 impact had a statistically significant positive correlation with idiocentric social anxiety with a stranger (see Table 4). In the U.S. sample the impact of COVID-19 had a statistically significant positive correlation with idiocentric and allocentric social anxiety around a stranger as well as idiocentric social anxiety around a friend (see Table 5). In the Japanese sample the impact of COVID-19 did not correlate with any of the dependent variables with statistical significance (see Table 5). In the U.S., stress due to COVID-19 had a weak, but statistically significant, negative correlation with relational mobility (r (123) = -.19, p = .031). In Japan, stress due to COVID-19 did not statistically significantly correlate with relational mobility (r (78) = -.06, p = .582). Participants in the U.S. (M = 5.10, SD = 1.67) reported more stress due to COVID-19 than participants in Japan (M = 4.24, SD = 1.86), F (1,203) = 11.99, p = .001, η_p^2 = .06.

Order effects were also examined. These analyses compared responses based on whether participants were given the scenario with the friend first compared to if they received the scenario with a stranger first. Overall participants who received the friend scenario first reported more allocentric social anxiety with a friend (F (1, 203) = 4.71, p = .031, η_p^2 = .02) than with a stranger (F (1, 203) = 5.49, p = .020, η_p^2 = .03; see Table 6 for means and standard deviations). The order effects were not statistically significant in the U.S. sample (see Table 7 for means and standard deviations). However, Japanese participants reported statistically significantly more

allocentric social anxiety with a stranger when given the scenario with a friend first, F (1, 78) = 6.03, p = .016, η_p^2 = .07 (see Table 7 for means and standard deviations).

Due to age, gender, the impact of COVID, and scenario order having statistically significant correlations with some of the independent variables, the following analyses were examined with and without age, gender, the impact of COVID, and the scenario order as covariates.

Research Questions 2 and 3: Did Social Anxiety Differ by Country and Social Partner?

A 2 (social partner: stranger vs. friend) x 2 (social anxiety type: allocentric vs. idiocentric) x 2 (country: U.S. vs. Japan) mixed ANOVA with repeated measures on the first two variables without any covariates was used to test whether social anxiety was higher in Japan than in the U.S. and if the level of social anxiety differed based on the social partner. A statistically significant three-way interaction was found which qualified other main effects and two-way interactions. See Table 8 for 2x2x2 ANOVA results. See Table 9 for means and standard deviations of dependent variables.

Exploring the three-way interaction. To explore the three-way interaction it seemed most efficient to explore the social partner x country interaction results separated by type of social anxiety. To examine this I ran two 2 (social partner) x 2 (country) Mixed ANOVAs separated by types of social anxiety. See Table 10 for ANOVA results with allocentric social anxiety as the dependent variable and Table 11 for ANOVA results with idiocentric social anxiety as the dependent variable. The three-way interaction was evident through differences in the social partner x country interactions between the two types of social anxiety. See Figure 1 for a visual representation of the three-way interaction. Although the social partner x country interaction was statistically significant when using idiocentric social anxiety as the dependent

variable, there was no social partner x country interaction when using allocentric social anxiety as the dependent variable.

Simple effect follow-up tests were used to further examine the country x social partner interaction with idiocentric social anxiety as the dependent variable. The U.S. sample had more idiocentric social anxiety with a stranger than a friend, t (124) = 2.86, p = .005, d = .26. However, the Japanese sample did not statistically significantly differ in idiocentric social anxiety based on social partner, although it trended towards more idiocentric social anxiety around a friend, t (79) = 1.69, p = .094, d = .19. Simple effects tests also showed that the U.S. and the Japanese samples did not differ in idiocentric social anxiety when with a friend (F (1, 203) = 1.707, p = .193, η_p^2 = .01) or with a stranger (F (1, 203) = 3.74, p = .054, η_p^2 = .02).

A priori tests of social partner x country interaction. Although a statistically significant two way social partner x country interaction was not found for allocentric social anxiety, a priori hypotheses predicted that participants in the U.S. and Japan would differ in allocentric social anxiety by social partner. Because of this I used one-way ANOVAs to examine the trends in allocentric social anxiety by country. There was a statistically significant difference between cultures when with a friend, F (1, 203) = 13.56, p <.001, η_p^2 = .26; but not when with a stranger, F (1, 203) = 2.19, p = .140, η_p^2 = .01. As hypothesized, the Japanese sample tended to have higher allocentric social anxiety around friends than the U.S. sample. There was an effect of social partner with participants overall reporting more allocentric social anxiety around a stranger (M = 3.36, SEM = .09) than around a friend (M = 2.60, SEM = .08). There was an effect of country for allocentric social anxiety. The Japanese sample (M = 3.19, SEM = .12) on average had more allocentric social anxiety than the U.S. sample (M = 2.77, SEM = .09).

Exploring the social anxiety x social partner interaction. To examine the statistically significant social anxiety x social partner interaction I ran two 2 (social partner) x 2 (social anxiety) within-subjects ANOVAs separated by country. See Table 12 for ANOVA results for the U.S. sample and Table 13 for the Japanese sample. Both samples had a social anxiety x social partner interaction. See Figure 2 for a visual representation of these interactions. The Japanese sample reported more idiocentric social anxiety than allocentric social anxiety with a friend (t (79) = 11.75, p <.001, d = 1.31), but no difference was found with a stranger (t (79) = 1.82, p = .07, d = .20). Although the social anxiety x social partner interaction was statistically significant in the U.S. sample, simple effect follow-up tests are all in the same direction as the main effects. Analyses show that idiocentric social anxiety was greater than allocentric social anxiety both with a friend (t (124) = 15.19, p < .001, d = 1.36) and with a stranger (t (124) = 8.07, p <.001, d = .72) in the U.S. sample, though the difference was greater with friends.

Analyses with Covariates

When running the same analyses with each of the covariates separately, the statistical significance of the three-way interaction varied depending on which of the different covariates was used. The three-way interaction was no longer statistically significant when using gender or scenario order as a covariate. See Table 14 for the ANCOVA with gender as a covariate and Table 15 for the ANCOVA with scenario order as a covariate. The three-way interaction was even more pronounced when using the impact of COVID-19 as a covariate, as shown in Table 16. When using age as a covariate the three-way interaction was still statistically significant but was weaker, as shown in Table 17.

Although the three-way interaction differed somewhat for each of the covariates analyses, the social partner x country interaction remained for idiocentric social anxiety. There also

remained no social partner x country interaction for allocentric social anxiety. Although the ANCOVAs do not clearly show a three-way interaction that was found without the covariates, graphs using the covariate adjusted means show the same trends as the three-way interaction. When using the covariate adjusted means, all pairwise comparisons were in the same direction as the results with no covariates, demonstrating the same simple effects.

For simplicity I will present the results that include all of the covariates. Although there was no statistically significant three-way interaction in this 2x2x2 ANCOVA (F (1, 197) = 2.50, p = .115, η_p^2 = .01), there was a statistically significant social partner x country interaction F (1, 197) = 5.82, p = .017, η_p^2 = .03. When separating by type of social anxiety there was a social partner x country interaction with idiocentric social anxiety as a dependent variable F (1, 197) = 6.41, p = .012, η_p^2 = .03 but not with allocentric social anxiety as the dependent variable F (1, 197) = 2.69, p = .102, η_p^2 = .01. The results of social partner x country interaction were the same without covariates. When using pairwise comparisons with covariate adjusted means there was more idiocentric social anxiety around a stranger than a friend in the U.S. sample (F (1, 119) = 8.33, p = .005, η_p^2 = .07), but no statistically significant difference was found in the Japanese sample (F (1, 74) = 2.88, p = .094, η_p^2 = .04). This pattern with all of the covariates was very consistent with the results presented without covariates.

Research Question 4: Did Differences in Relational Mobility Account for Differences Between Cultures in Social Anxiety with a Friend?

Relational Mobility statistically significantly correlated with allocentric social anxiety with a friend (see Table 1). When including country and relational mobility as predictors of social anxiety with a friend in a multiple linear regression, relational mobility was not a statistically significant predictor of allocentric social anxiety, b = -.12, t (202) = -1.25, p =.215.

The relationship between relational mobility and allocentric social anxiety was too weak to consider as a possible mediator of the relationship between countries and allocentric social anxiety around a friend.

Research Question 5: Was Relational Mobility a Better Predictor of Cultural Differences in Social Anxiety with a Friend than Independent Self-Construal?

Although relational mobility did not predict cultural difference in social anxiety with a friend, independent self-construal did. Independent self-construal had a statistically significant negative correlation with allocentric social anxiety around a friend (Table 1). When including country and independent self-construal as predictors of social anxiety with a friend in a multiple linear regression, independent self-construal was a statistically significant predictor, b = -.29, t (202) = -2.74, p =.007. To see if differences in independent self-construal account for cultural differences in allocentric social anxiety around a friend I performed a simple mediation analysis using IBM SPSS Amos (Version 27.0; Arbuckle, 2020). I used a bootstrapping mediation method, since this method does not rely on the assumption of normal distribution (Preacher & Hayes, 2008). Country was dummy-coded (1 = Japanese sample, 2 = U.S. sample) and used as the independent variable predicting the dependent variable of allocentric social anxiety with a friend. The mediator variable for this analysis was independent self-construal. Independent self-construal did partially mediate the difference between the Japanese and U.S. samples in allocentric social anxiety with a friend. The indirect effect of country on allocentric social anxiety with a friend (effect = -.15, p = .014) was statistically significant with a 95% BCa (bias-corrected and accelerated) bootstrap confidence interval that did not include zero (C.I. (-.33, -.04)). Results are shown in Figure 3. I reran the mediation analysis with allocentric social anxiety with a friend as the mediator and independent self-construal as the dependent variable. Re-

running the analysis with the swapped mediator and dependent variables was important to test whether the original partial mediation occurred due to a strong relationship between independent self-construal and allocentric social anxiety with a friend or due to the hypothesized causal chain that cultural differences in independent self-construal affect cultural differences in allocentric social anxiety with a friend. In comparison to the original model, the new mediation analysis had a statistically significant yet smaller indirect effect (effect = .07, p = .030, C.I. (.02, .14)) than when using independent self-construal as the mediator.

When looking at social anxiety with a friend and a stranger combined, the Japanese sample (M = 3.19, SD = 1.06) had on average more overall allocentric social anxiety than the U.S. sample (M = 2.77, SD = 1.05; see Table 10 for ANOVA results). Since there was more allocentric social anxiety in the Japanese sample than the U.S. sample, I thought I should explore the role of self-construal on the cultural differences in allocentric social anxiety. When including country and independent self-construal as predictors of allocentric social anxiety in a multiple linear regression, independent self-construal was a statistically significant predictor, b = -.26, t (202) = -2.57, p =.011. I used the same mediation method described in the previous mediation model for this analysis. Country was dummy-coded (1 = Japanese sample, 2 = U.S. sample) and used as the independent variable predicting allocentric social anxiety. The mediator variable was independent self-construal. Independent self-construal fully mediated the difference between the Japanese and U.S. samples in allocentric social anxiety. The indirect effect of country on allocentric social anxiety (effect = -.14, p = .013) was statistically significant with a 95% BCa bootstrap confidence interval that did not include zero (C.I. (-.30, -.03)). Results are shown in Figure 4. Rerunning the analysis with allocentric social anxiety as the mediator and independent self-construal as the dependent variable demonstrates a partial mediation with a statistically

significant but much smaller indirect effect (effect = .05, p = .012, C.I. (.01, .11)) than when using independent self-construal as the mediator.

Discussion

The main goals of the current study were to explore cultural differences and similarities between Japanese and U.S. students in social anxiety in different social contexts. Another important goal was to examine the role of relational mobility in explaining any observed cultural differences.

In response to the research question of whether relational mobility and self-construal differ between the U.S. & Japan, the results show that the samples did differ in both relational mobility and self-construal between cultures. As hypothesized, students in the U.S. had higher relational mobility and independent self-construal than the Japanese students. Due to the unreliability of the interdependent self-construal scale in the U.S. (Cronbach's α = .49), there were no cross-cultural comparisons made.

A central research question for this study was whether social anxiety would be higher for participants in Japan than those in the U.S. The answer to this depends on the type of social anxiety being compared between cultures. When combining social anxiety with a friend and a stranger, the Japanese sample, as hypothesized, reported more allocentric social anxiety than the U.S. sample. Although it was hypothesized that the Japanese sample would have higher idiocentric social anxiety than the U.S. sample, no difference was found.

As hypothesized, the level of social anxiety did differ by social partner. Participants in both countries reported more allocentric social anxiety with a stranger compared to a friend. Also as hypothesized, participants in Japan did report more allocentric social anxiety with a friend than participants in the U.S. It was hypothesized that participants in both the U.S. and Japan

would have more idiocentric social anxiety with a stranger than a friend, country interacted with social partner. The U.S. participants had more idiocentric social anxiety with a stranger compared to a friend. The Japanese participants, on the other hand, tended to have more idiocentric social anxiety with a friend compared to a stranger; however this difference was not statistically significant (see Figure 1). The trend found supports the hypothesis that the pattern of less social anxiety with a friend than a stranger would be greater in the U.S. than in Japan.

The research also examined whether cultural differences in relational mobility accounted for cultural differences in social anxiety with a friend. There was no support to say that relational mobility affected cultural differences in social anxiety. More relational mobility slightly related to more allocentric social anxiety with a friend. However, this relationship was small in magnitude. In this study relational mobility was not a strong enough predictor of allocentric social anxiety to account for Japanese participants having more allocentric social anxiety than the U.S participants.

The final research question was whether relational mobility was a better predictor of cultural differences in social anxiety around friends than independent self-construal. In this study, independent self-construal was a better predictor of cultural differences in social anxiety around a friend than relational mobility. Independent self-construal did partially account for cultural difference in allocentric social anxiety with a friend. After statistically considering the difference in independent self-construal no difference was found between cultures in allocentric social anxiety when combining allocentric social anxiety with a friend and stranger.

Reasons for Cultural Differences in Social Anxiety

Since no effect of relational mobility was found on the findings in this study, it was important to examine other possible explanations for cultural differences in social anxiety. The

first finding to examine is that those in Japan had higher overall allocentric social anxiety than those in the U.S. This finding was expected. Allocentric social anxiety is more recognized in Japan, as is evident by the recognition of *Taijin Kyofusho* (Kleinknecht et al, 1997; Takahashi, 1989). Specifically, previous explanations of why Japan has more allocentric social anxiety than the U.S. have focused largely around self-construal. Previous research indicates that people in the U.S. have on average higher levels of independent self-construal than people in Japan, and this difference in independent self-construal can help explain relatively elevated social anxiety for people in Japan compared to those in the U.S. (Hong & Woody, 2007; Kleinknecht et al., 1997). Those with more independent self-construal are more likely to value their uniqueness and believe in the consistency of their personal attributes (Kanagawa, Cross, & Markus, 2001). If someone has a more independent self-construal it may not be beneficial to worry about how their actions are influencing others. Worrying about how one's actions may impact others could change the way one acts, which impedes the ability to be consistent with their unique self (Hong & Woody, 2007). This theoretical framework was supported by independent self-construal fully mediating the cultural difference in allocentric social anxiety.

Idiocentric social anxiety was lower in the friend scenario compared to the stranger scenario in the U.S., but no difference was found between social partners in Japan. One possible explanation for this could be due to cultural differences in friendship comfortability. Participants in the U.S. have reported their friendships to be closer, indicated they were more willing to self-disclose, and that they were less sensitive to rejection with their closest friend compared to participants in Japan (Sato, Yuki, & Norasakkunkit, 2014; Schug, Yuki, and Maddux, 2010). This pattern could lead to participants in the U.S. feeling more comfortable and less anxious around their friends than participants in Japan.

This study also found cultural differences in type of social anxiety. As hypothesized, idiocentric social anxiety was higher than allocentric social anxiety in the U.S. sample. The U.S. sample's higher idiocentric than allocentric social anxiety could be related to the U.S. sample having higher independent self-construal (Hong & Woody, 2007; Kleinknecht et al., 1997). Although the Japanese participants reported more idiocentric social anxiety than allocentric social anxiety with a friend, there was no difference between idiocentric social anxiety and allocentric social anxiety with a stranger. There was likely less allocentric social anxiety than idiocentric social anxiety with a friend because there is more rapport with a friend than a stranger. Due to a close friend being accustomed to the way another friend looks, talks, or communicates there is likely little fear of offending them. However, even with a friend there may be fear of saying or doing something that embarrasses oneself. With a stranger there is no rapport, therefore there may be concern for offending them as well as doing something to embarrass oneself.

Examining the Role of Relational Mobility

It is surprising that relational mobility did not explain cultural differences in social anxiety. The hypothesis was that the U.S. would have a larger difference between friends and strangers than Japan. This hypothesis was made because of relational mobility research. The relational mobility theories support that more social anxiety with a friend would be beneficial in low mobility societies, since more social anxiety would decrease the chance of hurting social harmony with friends (Li, Hamamura,& Adams, 2016; Sato et al. 2014; Schug, Yuki, & Maddux, 2010; Sznycer et al., 2012; Thomson & Ito, 2012; Yuki & Schug, 2012). Relational mobility should not affect social anxiety with a stranger, since there is no pre-existing relationship with a stranger (Sznycer et al., 2012). Since relational mobility should not affect

social anxiety with a stranger but should predict greater social anxiety with a friend, it makes sense that the U.S. sample had a bigger gap between social anxiety with a friend and a stranger than the Japanese sample.

A major factor that could have influenced the role of relational mobility is that data collection for this study took place during the COVID-19 pandemic. Due the COVID-19 pandemic, both universities at which data were collected changed to an all online format (McNerthney, 2020; Sugishita, Kurita, Sugawara, & Ohkusa, 2020). Washington State was in a lockdown, which closed access to many places commonly used for social gatherings such as bars, restaurants, libraries, and event centers (McNerthney, 2020). Although Japan was not in lockdown when this study was conducted, stores and high-risk locations were requested to close and citizens were asked to avoid closed spaces, crowded spaces, and close contact settings (Sugishita et al., 2020). These realities make relational mobility very low in both societies, since most gathering places are prohibited.

To minimize the effect of COVID-19 on participant answers, participants were asked to imagine they were taking this survey before the COVID-19 pandemic. Ignoring COVID-19 however may have not been entirely feasible, and the pandemic may have still had an effect on how participants responded in the study. One possible indication of participants not being able to ignore COVID-19 was the fact that participants in the U.S. who reported more stress due to COVID-19 also reported less relational mobility. Although stress and anxiety due to COVID-19 may have affected responses in the U.S. it may have not strongly affected responses in Japan. In Japan, stress due to COVID-19 did not relate to reported relational mobility. Participants in the U.S. also reported more stress due to COVID-19 than participants in Japan. If more stress due to COVID-19 predicts lower relational mobility in the U.S., and participants in the U.S. report

higher stress due to COVID-19 than participants in Japan, it is possible that relational mobility in the U.S. could have been underestimated.

Even though the relationship between relational mobility and allocentric social anxiety with a friend was not strong enough to be considered a mediator, participants with lower relational mobility did report higher levels of allocentric social anxiety with a friend (see Table 1). In the U.S., stress and anxiety due to COVID-19 was not related to allocentric social anxiety with a friend (see Table 5). Therefore, without COVID-19 participants in the U.S. could have had higher ratings of relational mobility and similar ratings of allocentric social anxiety. This would likely strengthen the relationship between relational mobility and allocentric social anxiety with a friend, possibly allowing relational mobility to operate as a mediator.

Limitations

One limitation of this study is that both the U.S. and Japanese samples are likely not representative of their country. All participants were students at a university, and their average ages were about 20 years old, and all were taking a psychology course. This fact makes it troublesome to generalize to the entire population of each country (Henrich, Heine, & Norenzayan, 2010). Students are unlikely to adequately represent older individuals, individuals of lower socio-economic status, and non-white individuals in the U.S. Using only one university sample for each country provided participants only from specific areas of each country. To help get more representative samples, future studies may find it beneficial to use social media to disseminate surveys in each country.

Since the study used self-reports from participants who were taking college-level psychology courses, they may be familiar with one or more of the constructs investigated in this study. For example, the Japanese sample was taken from a class taught by a professor who has

studied and written on relational mobility. If students in the class have explored their professor's work it is possible that they know about relational mobility. This knowledge could have affected their responses to the relational mobility measure. Psychology students may be particularly likely to try to guess the purpose of the study, this may affect the way they answer questions (Orne, 1962). Participants may try to help or hinder the results they believe the study is looking for.

There were some limitations of the within-subject design. Participants likely recognized that the items were similar for the friend and stranger scenarios, which could have influenced their responses. There were also order effects. Participants who received the measures of social anxiety with a friend before social anxiety with a stranger responded with more allocentric social anxiety on average than participants who first read the stranger condition. This problem could have been avoided by turning the within-subject variables into between-subject variables. This method would require more participants and less power, but it would have prevented the order effects and could help prevent hypothesis guessing. A preliminary between-subjects analysis of only the first scenario each participant received indicated similar results to the main analyses reported in this study. Although the differences in the between-subjects analysis were not statistically significant, likely due to sample size, participants in the U.S. tended to have less social anxiety with a friend than a stranger while participants in Japan did not differ by social partner.

Differing sample sizes could have also been a limitation. Although the Japanese (n = 80) and the U.S. (n = 125) sample sizes did meet the G*Power 3.1 (Faul et al., 2007) desired sample size of 79, the U.S. sample had a lot more participants. By having such unequal sample sizes it could negatively affect overall power and estimates of variability (Rusticus & Lovato, 2014)

Another limitation was due to comparing responses from differing cultures. The allocentric and idiocentric anxiety scales were developed in English and presented in two different languages. Different languages have different structures and words that may make perfect translations unlikely, leading to the surveys lacking linguistic equivalence (Trimble & Vaughn, 2013). There was also no strong analysis of measurement equivalence between cultures. It is possible that those in one culture may be more inclined to answer on extremes than the other culture. There may also be cultural differences in how participants weigh Likert scale options. For example putting a 5 instead of a 4 on a 7-point Likert scale in one culture could be just as important as putting a 6 instead of a 4 in another culture. There could also be cultural differences on which items better indicate a person's true score on a variable. For example, imagine two items used to measure social anxiety. The items ask how anxious would you be "to blush around a stranger" and "sweat around a stranger". If most people in one culture are more likely to report high scores on "to blush around a stranger" but low on "to sweat around a stranger", choosing a 5 on a 7-point Likert scale for both items is not the same measurement of anxiety in that culture. The only analysis used to examine the measures was reliability analysis, which is not a strong approach for establishing measurement equivalence. Other measurements such as confirmatory factor analysis, differential item functioning analysis, or Rasch analysis would have been better tools (Gerber et al., 2002; Trimble & Vaughn, 2013). For future research it may be beneficial to performing analyses such as confirmatory factor analysis, differential item functioning analysis, or Rasch analysis to help remove redundant and confusing items, or to find more important items in each culture.

There was also a limitation in the measurement of interdependent self-construal. Singelis (1994) interdependent self-construal scale had very low reliability in the U.S., making it

problematic to use. Problems with the interdependent self-construal scale were not completely unexpected. A meta-analysis examining interdependence in East Asian and Western cultures found expected differences only one-third of the time (Levine et al., 2003). Since Singelis' interdependent self-construal scale had reliability problems in this study, as well as others, future studies could benefit from using another measure of interdependent self-construal (Fernández, Paez, & González, 2005; Okazaki, 2000)

Another limitation was due to the COVID-19 pandemic. The COVID-19 pandemic caused increased anxiety and stress (Rajkumar, 2020), and the details and timing of the COVID-19 pandemic varied by country (McNerthney, 2020; Sugishita et al., 2020). This increase in overall anxiety and stress likely affected the participants' social anxiety. In the U.S., participants who reported more stress and anxiety caused by COVID-19 also reported more social anxiety with a stranger as well as more idiocentric social anxiety with a friend (see Table 2). Participants were asked to envision having a conversation with the other person on a bus, because of the requirement of social distancing the bus setting would be more stressful during the COVID-19 pandemic.

Implications and Future Research

Some results in this study should be further explored in future research with more representative samples. A major finding of this study was that the U.S. sample had a less idiocentric social anxiety with a friend than a stranger, while the Japanese sample showed no statistically significant difference. This finding is in line with previous research on independent self-construal, group harmony, and relational mobility (Hong & Woody, 2007; Sznycer et al. 2012). Social anxiety with strangers was expected to be high because the likelihood of being evaluated is higher than with a friend. However, it is more beneficial to have high social anxiety

with a friend in societies low in relational mobility and independent self-construal than it is in societies high in relational mobility and independent self-construal. In societies low in relational mobility and societies that do not promote an independent self-construal it is important to maintain group harmony due to a high cost of hurting relationships. High social anxiety with friends can help prevent embarrassing actions that could hurt group harmony (Crozier & Alden, 2001). In societies with high relational mobility there is a lower cost to such embarrassment because it is easier to make new friendships. In societies that emphasize independent self-construal, being unique and embracing one's true self is promoted, which reduces the risk of performing embarrassing actions with friends. Since the results of this study were consistent with relational mobility research, a similar study would benefit by not occurring during a pandemic. The COVID-19 pandemic affected reports of relational mobility as well as levels of social anxiety in the U.S. (see Table 2).

Another result that could be explored further is the cultural differences in type of social anxiety. Participants in the U.S. reported lower allocentric social anxiety than those in Japan. However, when statistically considering the cultural differences in independent self-construal, no cultural difference in allocentric social anxiety was found. This result supports previous research which suggests that allocentric forms of social anxiety, such as TKS, are more recognized in Japan largely due to culturally endorsed views of the self (Hong & Woody, 2007; Kleinknecht et al., 1997; Takahashi, 1989).

Independent self-construal was also associated with less of all types of social anxiety (see Table 1). Future research should continue to examine if encouraging independent self-construal can influence social anxiety. Gardner, Gabriel, and Lee (1999) demonstrated that independent and interdependent self-construal can be influenced by successfully priming participants to think

more independently or interdependently. When Norasakkunkit and Kalick (2009) primed participants to think more independently, participants in Japan and the U.S. reported less social anxiety. Because Norasakkunkit and Kalick only considered idiocentric social anxiety measures, future research should also explore how priming independent self-construal affects allocentric social anxiety measures.

Norasakkunkit and Kalick (2009) found that even though priming independent self-construal decreased levels of social anxiety, the priming did not increase emotional well-being. It is important to recognize that higher levels of trait social anxiety do not always negatively affect emotional well-being (Crozier & Alden, 2001). For example, high social anxiety may help prevent embarrassing actions and promote group harmony (Crozier & Alden, 2001). Although high social anxiety is not always detrimental to emotional well-being, high levels of social anxiety in people with SAD can lead to life impairments (American Psychiatric Association, 2013). Future research could examine how priming independent self-construal affects social anxiety in individuals with SAD. Decreasing social anxiety of people with SAD may increase well-being.

Conclusion

The current study found the predicted pattern that participants in the U.S. had less social anxiety when thinking about a friend compared to a stranger than did participants in Japan. Although these results are consistent with previous research on relational mobility, relational mobility had little to no effect on the results. High social anxiety with a stranger was expected in both cultures since these actions affect first impressions. With a stranger there is more opportunity to do something that is negatively evaluated or offends a stranger. However the pattern found for friends can be explained by the type of self-construal promoted in each culture.

A more interdependent view of the self is promoted in Japan than the U.S. (Markus & Kitayama, 1991). More emphasis is placed on maintaining group harmony in cultures that promote an interdependent view of the self. This cultural context makes having more social anxiety around friends beneficial because it can help prevent saying or doing something that could negatively affect the group or how one is viewed by the group (Crozier & Alden, 2001).

Japanese participants had more allocentric social anxiety than those in the U.S. This pattern was hypothesized because allocentric social anxiety is more commonly recognized in Japan than in the U.S. (Hong & Woody, 2007; Kleinknecht et al., 1997) However, when statistically accounting for independent self-construal there was no difference in allocentric social anxiety between cultures. The full mediation demonstrates that culturally endorsed values and norms can affect interpersonal social anxiety. An interdependent cultural view emphasizes adjusting actions to comfortably fit into the social context. Allocentric social anxiety may be helpful in meeting this goal and adjusting social actions. By focusing on what may be uncomfortable for the other person, actions can be adjusted to prevent the other person from feeling discomfort. Cultures that promote an independent view of the self, like in the U.S., emphasize staying consistent regardless of the social context. Worrying about how personal actions could make another person uncomfortable would hurt self-consistency because it could lead to adjusting interpersonal style based on the social context. These results support the theory that culture-specific levels and types of social anxiety may be due to culturally endorsed values and norms (Markus & Kitayama, 1991). This study did not find that cultural differences in social anxiety were affected by socioecological features such as relational mobility. Future studies should continue to explore how cultural values and norms affect levels and types of social anxiety, perhaps by focusing on specific values, such as promoting group harmony, rather than

independent self-construal. Due to the effect of COVID-19 on reports of relational mobility in the U.S., future studies should also continue to examine the role or socioecological features such as relational mobility.

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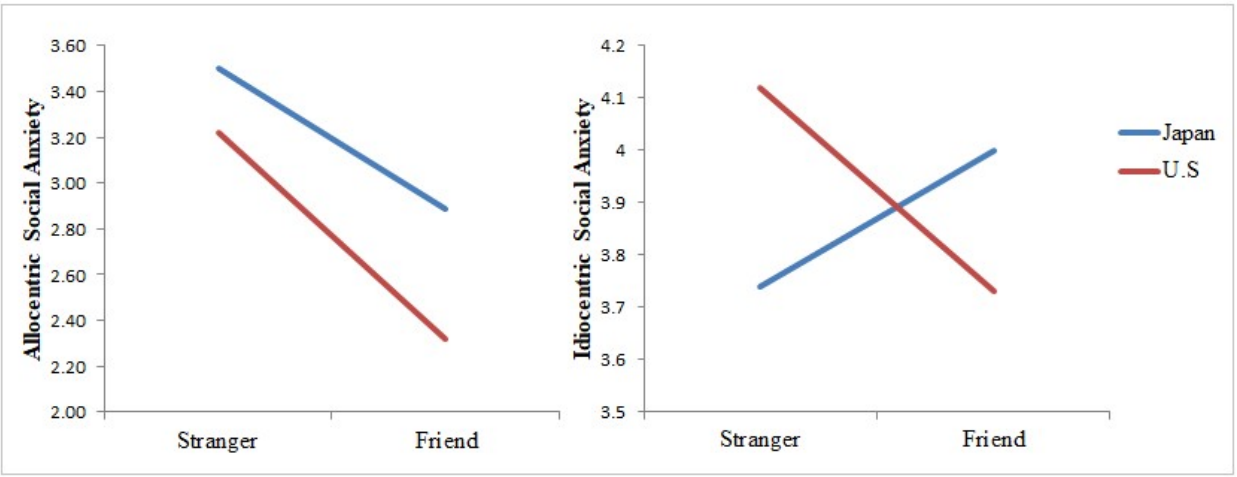
Figure 1

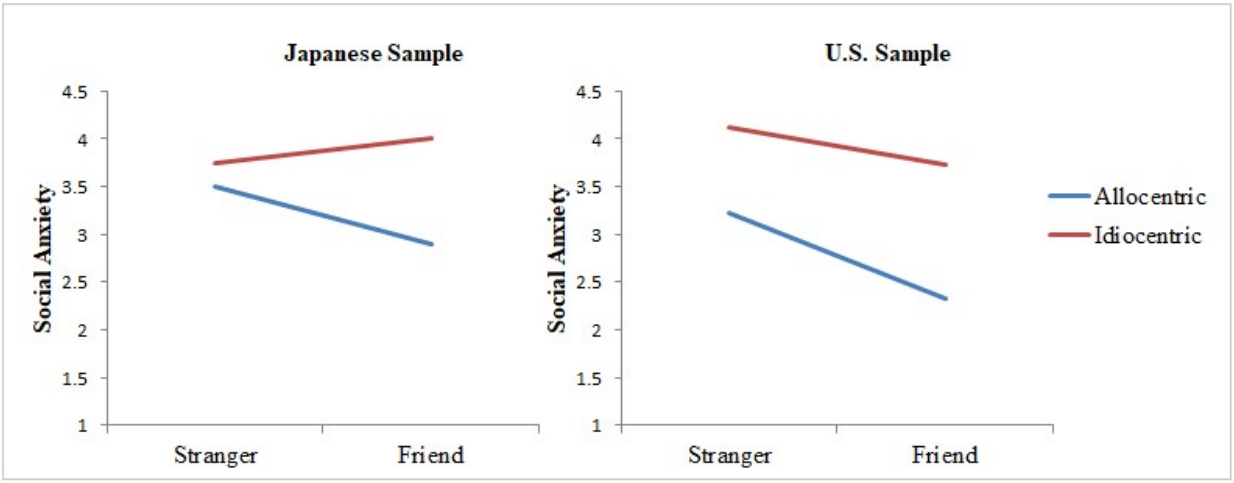
2 (Country) x 2 (Social Partner) Interaction Separated by Type of Social Anxiety



Note. Plot points represent means. Country x social partner interaction was not statistically significant for allocentric social anxiety, F (1, 203) = 3.36, p = .068. Country differences in allocentric social anxiety with a friend were statistically significant, F (1, 203) = 13.56, p <.001, η_p^2 = .06. Country x social partner interaction was statistically significant for idiocentric social anxiety F (1, 203) = 9.60, p = .002, η_p^2 = .05. No country differences in idiocentric social anxiety were statistically significant. The U.S. sample had more idiocentric social anxiety with a stranger than a friend, t (124) = 2.86, p = .005, d = .26. In the Japanese sample, the level of idiocentric social anxiety was not statistically significantly different when with a friend compared to a stranger t (79) = 1.69, p = .094, d = .19.

Figure 2

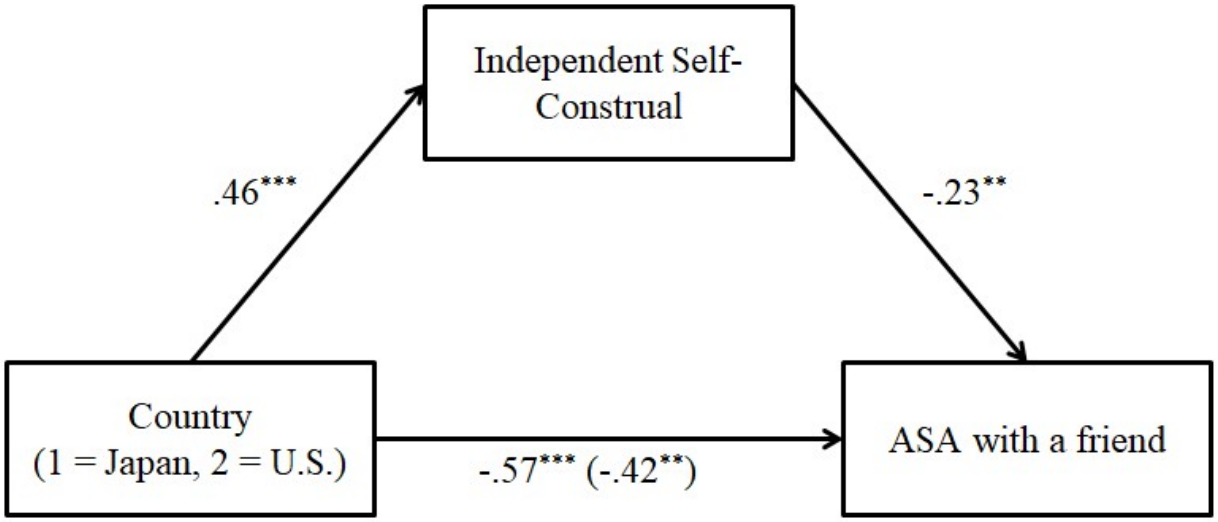
2 (Social Partner) x 2 (Social Anxiety) Interaction Separated By Country



Note. Plot points represent means. The social anxiety x social partner interaction was statistically significant in Japan (F (1, 79) = 39.16, $p < .001$, $\eta_p^2 = .33$) & the U.S. (F (1, 124) = 21.82, $p < .001$, $\eta_p^2 = .15$). The Japanese sample reported more idiocentric social anxiety than allocentric social anxiety with a friend (t (79) = 11.75, $p < .001$, $d = 1.31$), but no difference was found with a stranger (t (79) = 1.82, $p = .07$, $d = .20$). Idiocentric social anxiety was greater than allocentric social anxiety both with a friend (t (124) = 15.19, $p < .001$, $d = 1.36$) and with a stranger (t (124) = 8.07, $p < .001$, $d = .72$) in the U.S. sample, though the difference was greater with friends.

Figure 3

The Mediating Effect of Independent Self-Construal on the Between Country Difference in Allocentric Social Anxiety with a Friend

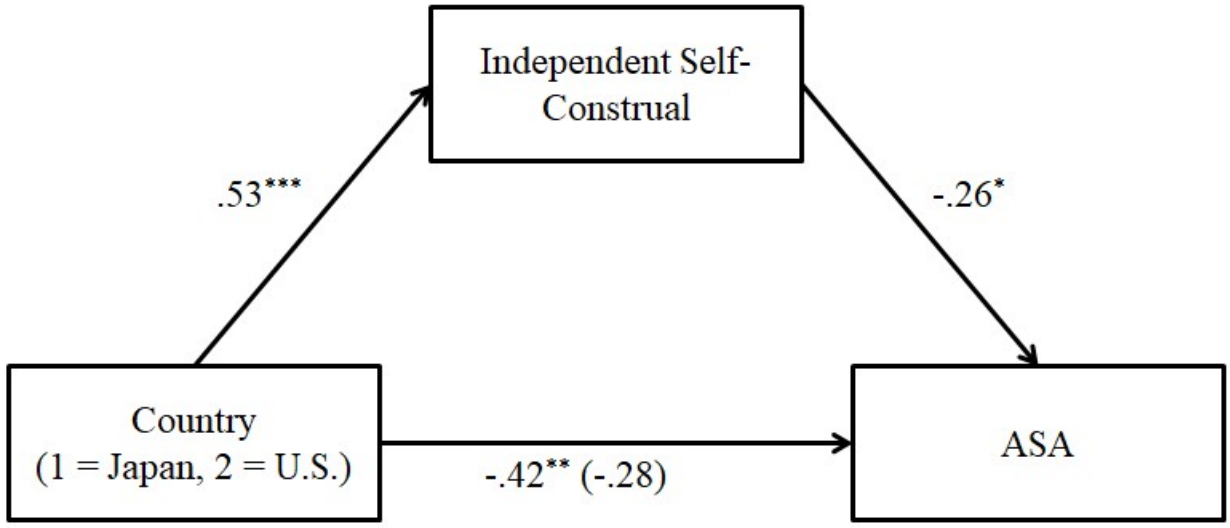


Note. Unstandardized regression coefficients are shown. On the bottom path the value outside of the parentheses is the unstandardized regression coefficient for the total effect without the mediating variable, while the value inside of the parentheses is the unstandardized regression coefficient for the direct effect with the mediating variable.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 4

The Mediating Effect of Independent Self-Construal on the Between Country Difference in Allocentric Social Anxiety with a Friend and Stranger Combined



Note. Unstandardized regression coefficients are shown. On the bottom path the value outside of the parentheses is the unstandardized regression coefficient for the total effect without the mediating variable, while the value inside of the parentheses is the unstandardized regression coefficient for the direct effect with the mediating variable.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 1

Means, Standard Deviations, and Correlations of Variables (N = 205)

	M	*SD*	1	2	3	4	5	6	7
1. ASA Stranger	3.33	1.30	-	-	-	-	-	-	-
2. ISA Stranger	3.97	1.41	.57***	-	-	-	-	-	-
3. ASA Friend	2.54	1.11	.57***	.25***	-	-	-	-	-
4. ISA Friend	3.84	1.45	.44***	.44***	.74***	-	-	-	-
5. Relational Mobility	4.48	.85	-.12	.05	-.17*	-.04	-	-	-
6. Independent SC	4.39	.75	-.16*	-.24**	-.26***	-.28***	.19**	-	-
7. Interdependent SC	4.62	.64	.03	.11	.03	.07	.07	-.00	-
8. COVID Impact	4.70	1.68	.15*	.21**	.03	.12	.01	.11	.14

Note. *N* = number of participants for the entire sample. ASA = Allocentric Social Anxiety. ISA = Idiocentric Social Anxiety. SC = Self-construal. COVID Impact = the amount of added stress and anxiety the COVID-19 pandemic has caused participants.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

U.S. Sample Means, Standard Deviations, and Correlations of Variables (n = 125)

	M	*SD*	1	2	3	4	5	6	7
1. ASA Stranger	3.22	1.32	-	-	-	-	-	-	-
2. ISA Stranger	4.12	1.39	.58***	-	-	-	-	-	-
3. ASA Friend	2.32	1.07	.52***	.19*	-	-	-	-	-
4. ISA Friend	3.73	1.47	.39***	.43***	.71***	-	-	-	-
5. Relational Mobility	4.72	.77	-.05	.04	-.12	.03	-	-	-
6. Independent SC	4.59	.67	-.16	-.27**	-.17	-.24**	.12	-	-
7. Interdependent SC	4.78	.57	.04	.07	.08	.01	.02	-.05	-
8. COVID Impact	5.02	1.62	.31***	.35***	.10	.19*	-.15	.00	.05

Note. *n* = sample size. ASA = Allocentric Social Anxiety. ISA = Idiocentric Social Anxiety. SC = Self-construal. COVID Impact = the amount of added stress and anxiety the COVID-19 pandemic has caused participants.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

Japanese Sample Means, Standard Deviations, and Correlations of Variables (n = 80)

	M	*SD*	1	2	3	4	5	6	7
1. ASA Stranger	3.50	1.25	-	-	-	-	-	-	-
2. ISA Stranger	3.74	1.42	.62***	-	-	-	-	-	-
3. ASA Friend	2.89	1.09	.65***	.47***	-	-	-	-	-
4. ISA Friend	4.00	1.40	.52***	.51***	.80***	-	-	-	-
5. Relational Mobility	4.11	.85	-.15	-.05	-.04	-.06	-	-	-
6. Independent SC	4.06	.64	-.09	-.36**	-.21	-.32*	.05	-	-
7. Interdependent SC	4.35	.77	.12	.08	.19	.24*	-.13	-.23*	-
8. COVID Impact	4.20	1.66	-.01	-.06	.09	.09	.02	.08	.08

Note. *n* = sample size. ASA = Allocentric Social Anxiety. ISA = Idiocentric Social Anxiety. SC = Self-construal. COVID Impact = the amount of added stress and anxiety the COVID-19 pandemic has caused participants.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Correlations of Covariates with Variables in Total Sample (N = 205)

Covariate	ASA Stranger	ISA Stranger	ASA Friend	ISA Friend
Gender	.01	-.23**	.09	-.06
Age	-.15*	-.16*	-.00	-.07
COVID Impact	.15*	.21**	.03	.12
Scenario order	-.16*	.13	-.15*	.02

Note. *N* = number of participants for the entire sample. ASA = Allocentric Social Anxiety. ISA = Idiocentric Social Anxiety. SC = Self-construal. Gender is coded as 0 = Woman, 1 = Man. Scenario order is coded as 1 = received social context of being with a friend first, 2 = received social context of being with a stranger first. COVID Impact = the amount of added stress and anxiety the COVID-19 pandemic has caused participants.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5

Correlations of Covariates with Variables by Country

U.S. (n = 125)				
Covariate	ASA Stranger	ISA Stranger	ASA Friend	ISA Friend
Gender	-.06	-.18	.09	-.09
Age	-.22*	-.21*	.03	-.05
COVID Impact	.31***	.35***	.10	.19*
Scenario order	-.09	.10	-.12	.02
Japan (n = 80)				
Gender	.03	-.22	-.09	-.10
Age	.10	.-10	-.00	-.10
COVID Impact	-.01	-.06	.09	.09
Scenario order	-.27*	.16	-.15	.04

Note. n = number of participants in each sample. ASA = Allocentric Social Anxiety. ISA = Idiocentric Social Anxiety. SC = Self-construal. Gender is coded as 0 = Woman, 1 = Man. Scenario order is coded as 1 = received social context of being with a friend first, 2 = received social context of being with a stranger first. COVID Impact = the amount of added stress and anxiety the COVID-19 pandemic has caused participants.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6

Means and standard deviations for levels of social anxiety as a function of 2 (Social Anxiety) x 2 (Social Partner) x 2 (Scenario Order) for the Total Sample (N = 205)

	Scenario Order			
	Friend First (*n* = 103)		Stranger First (*n* = 102)	
Social Anxiety	*M*	*SD*	*M*	*SD*
ASA Stranger	3.54	1.33	3.12	1.24
ISA Stranger	3.79	1.47	4.16	1.32
ASA Friend	2.71	1.12	2.37	1.08
ISA Friend	3.81	1.41	3.86	1.49

Note. *n* = sample size. *M* = mean. *SD* = standard deviation. ASA = allocentric social anxiety. ISA = idiocentric social anxiety.

Table 7

Means and standard deviations for levels of social anxiety as a function of 2 (Social Anxiety) x 2 (Social Partner) x 2 (Scenario Order) by Country

	Scenario Order			
U.S. (*n* = 125)	Friend First (*n* = 58)		Stranger First (*n* = 67)	
Social Anxiety	*M*	*SD*	*M*	*SD*
ASA Stranger	3.34	1.35	3.12	1.31
ISA Stranger	3.98	1.43	4.25	1.34
ASA Friend	2.46	1.09	2.20	1.07
ISA Friend	3.70	1.41	3.76	1.53
	Scenario order			
Japan (*n* = 80)	Friend first (*n* = 45)		Stranger first (*n* =35)	
Social anxiety	*M*	*SD*	*M*	*SD*
ASA Stranger	3.79	1.29	3.12	1.11
ISA Stranger	3.53	1.50	3.99	1.29
ASA Friend	3.03	1.10	2.71	1.07
ISA Friend	3.95	1.42	4.06	1.40

Note. *n* = sample size. *M* = mean. *SD* = standard deviation. ASA = allocentric social anxiety. ISA = idiocentric social anxiety.

Table 8

2 (Social Anxiety) x2 (Social Partner)x 2 (Country) Mixed ANOVA Results without Covariates

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	9235.01	1	9235.01	2131.03	.000	.91
Social Anxiety	164.24	1	164.24	197.57	.000	.49
Social Partner	32.89	1	32.89	24.46	.000	.11
Country	6.43	1	6.43	1.48	.225	.01
Social Anxiety x Social Partner	23.57	1	23.57	61.49	.000	.23
Social Anxiety x Country	11.28	1	11.28	13.56	.000	.06
Social Partner x Country	11.06	1	11.06	8.23	.005	.04
Social Anxiety x Social Partner x Country	1.61	1	1.61	4.21	.041	.02
Error (Social Anxiety)	168.76	203	.83			
Error (Social Partner)	272.91	203	1.34			
Error (Social Anxiety x Social Partner)	77.81	203	.38			
Error (Between-subjects)	879.72	203	4.33			

Note. Social partner and social anxiety are within-subjects variables. Country is a between subjects variable. Country is a dichotomous variable in which 1 = Japanese sample & 2 = U.S. sample.

Table 9

Means and standard deviations for levels of social anxiety as a function of 2 (Social Anxiety) x 2 (Social Partner) x 2 (Country)

	Social Anxiety			
	Allocentric		Idiocentric	
Social Partner	M_{JPN} (SD_{JPN})	$M_{U.S.}$ ($SD_{U.S.}$)	M_{JPN} (SD_{JPN})	$M_{U.S.}$ ($SD_{U.S.}$)
With a Stranger	3.50 (1.25)	3.22 (1.32)	3.74 (1.42)	4.12 (1.39)
With a Friend	2.89 (1.09)	2.32 (1.07)	4.00 (1.40)	3.73 (1.47)

Note. M_{JPN} = mean for the Japanese sample. SD_{JPN} = standard deviation for Japanese sample. $M_{U.S.}$ = mean for the U.S. sample. $SD_{U.S.}$ = standard deviation for the U.S. sample.

Table 10

2 (Social Context) x2 (Country) Mixed ANOVA Results with Allocentric Social Anxiety as Dependent Variable

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	3468.06	1	3468.06	1563.47	.000	.89
Social Context	56.07	1	56.07	89.28	.000	.31
Country	17.36	1	17.36	7.83	.006	.04
Social Context x Country	2.11	1	2.11	3.36	.068	.02
Error (Social Context)	127.49	203	.63			
Error (Country)	450.29	203	2.22			

Table 11

2 (Social Context) x2 (Country) Mixed ANOVA Results with Idiocentric Social Anxiety as Dependent Variable

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	5931.19	1	5931.19	2012.81	.000	.91
Social Context	.39	1	.387	.35	.553	.00
Country	.34	1	.34	.12	.735	.00
Social Context x Country	10.56	1	10.56	9.60	.002	.05
Error (Social Context)	223.23	203	1.10			
Error (Country)	598.19	203	2.95			

Table 12

2 (Social Anxiety) x2 (Social Context) Within-subjects ANOVA Results in the U.S. Sample

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	5608.16	1	5608.16	1349.72	.000	.92
Social Anxiety	167.58	1	167.58	177.65	.000	.59
Social Partner	52.59	1	52.59	34.90	.000	.22
Social Anxiety x Social Partner	8.23	1	8.23	21.82	.000	.15
Error (Social Anxiety)	116.97	124	.94			
Error (Social Partner)	186.83	124	1.51			
Error (Social Anxiety x Social Partner)	46.77	124	.38			
Error (Between-subjects)	515.23	124	4.16			

Table 13

2 (Social Anxiety) x2 (Social Partner) Within-subjects ANOVA Results in the Japanese Sample

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	3988.76	1	3988.76	864.52	.000	.92
Social Anxiety	36.67	1	36.67	55.94	.000	.42
Social Partner	2.38	1	2.38	2.19	.143	.03
Social Anxiety x Social Partner	15.38	1	15.38	39.16	.000	.33
Error (Social Anxiety)	51.79	79	.66			
Error (Social Partner)	86.09	79	1.09			
Error (Social Anxiety x Social Partner)	31.03	79	.39			
Error (Between-subjects)	364.49	79	4.61			

Table 14

2 (Social Anxiety) x2 (Social Context)x 2 (Country) Mixed ANCOVA Results with Gender as a Covariate

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	5202.08	1	5202.08	1232.07	.000	.86
Social Anxiety	125.67	1	125.67	157.40	.000	.44
Social Anxiety x Gender	7.59	1	7.59	9.51	.002	.05
Social Context	26.06	1	26.06	19.29	.000	.09
Social Context x Gender	1.70	1	1.70	1.26	.264	.01
Country	7.92	1	7.92	1.88	.172	.01
Gender	8.37	1	8.37	1.98	.161	.01
Social Anxiety x Social Context	10.05	1	10.05	26.02	.000	.12
Social Anxiety x Social Context x Gender	.37	1	.37	.97	.326	.01
Social Anxiety x Country	5.06	1	5.06	6.34	.013	.03
Social Context x Country	7.93	1	7.93	5.87	.016	.03
Social Anxiety x Social Context x Country	.98	1	.98	2.54	.112	.01
Error (Social Anxiety)	159.68	200	.80			
Error (Social Context)	270.18	200	1.35			
Between-subjects Error	844.45	200	4.22			
Error (Social Anxiety x Social Context)	77.20	200	.39			

Note. Social Context and Social Anxiety are within-subjects variables. Country is a between subjects variable. Country is a dichotomous variable in which 1 = Japan Sample & 2 = U.S. Sample. Gender is treated as a dichotomous variable in which 0 = Woman & 1 = Man.

Table 15

2 (Social Anxiety) x2 (Social Context)x 2 (Country) Mixed ANOVA Results with Scenario Order as a Covariate

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	1029.08	1	1029.08	236.54	.000	.54
Social Anxiety	.206	1	.21	.27	.603	.00
Social Anxiety x Order	15.35	1	15.35	20.21	.000	.09
Social Context	1.92	1	1.92	1.42	.234	.01
Social Context x Order	.25	1	.25	.19	.666	.00
Country	5.92	1	5.92	1.36	.245	.01
Order	.89	1	.89	.20	.652	.00
Social Anxiety x Social Context	8.01	1	8.01	21.28	.000	.10
Social Anxiety x Social Context x Order	1.76	1	1.76	4.67	.032	.02
Social Anxiety x Country	8.80	1	8.80	11.58	.001	.05
Social Context x Country	10.64	1	10.64	7.88	.005	.04
Social Anxiety x Social Context x Country	1.29	1	1.29	3.43	.065	.02
Error (Social Anxiety)	153.41	202	.76			
Error (Social Context)	272.66	202	1.35			
Between-subjects Error	878.83	202	4.35			
Error (Social Anxiety x Social Context)	76.05	202	.38			

Note. Social Context and Social Anxiety are within-subjects variables. Country is a between subjects variable. Country is a dichotomous variable in which 1 = Japan Sample & 2 = U.S. Sample. Order = order in which participant received items by Social Context. Order is treated as a dichotomous variable in which 1 = received scenario with friend first & 2 = received scenario with stranger first.

Table 16

2 (Social Anxiety) x2 (Social Context)x 2 (Country) Mixed ANOVA Results with COVID-19 Emotional Impact as a Covariate

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	738.66	1	738.66	176.44	.000	.47
Social Anxiety	11.85	1	11.85	14.26	.000	.07
Social Anxiety x COVID	.95	1	.95	1.14	.288	.01
Social Context	.55	1	.55	.41	.525	.00
Social Context x COVID	1.66	1	1.66	1.24	.268	.01
Country	14.91	1	14.91	3.56	.061	.02
COVID	34.06	1	34.06	8.14	.005	.04
Social Anxiety x Social Context	.97	1	.97	2.54	.113	.01
Social Anxiety x Social Context x COVID	.50	1	.50	1.31	.254	.01
Social Anxiety x Country	9.16	1	9.16	11.03	.001	.05
Social Context x Country	8.52	1	8.52	6.35	.013	.03
Social Anxiety x Social Context x Country	1.97	1	1.97	5.14	.024	.03
Error (Social Anxiety)	167.81	202	.83			
Error (Social Context)	271.26	202	1.34			
Between-subjects Error	845.66	202	4.19			
Error (Social Anxiety x Social Context)	77.31	202	.38			

Note. Social Context and Social Anxiety are within-subjects variables. Country is a between subjects variable. Country is a dichotomous variable in which 1 = Japan Sample & 2 = U.S. Sample. COVID = Level of stress and anxiety due to COVID-19.

Table 17

2 (Social Anxiety) x2 (Social Context)x 2 (Country) Mixed ANOVA Results with Age as a Covariate

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
(Intercept)	133.30	1	133.30	31.81	.000	.14
Social Anxiety	5.30	1	5.30	6.37	.012	.03
Social Anxiety x Age	1.49	1	1.49	1.79	.182	.01
Social Context	9.06	1	9.06	6.84	.010	.03
Social Context x Age	6.43	1	6.43	4.85	.029	.02
Country	3.13	1	3.13	.75	.389	.00
Age	11.94	1	11.94	2.85	.093	.01
Social Anxiety x Social Context	.48	1	.48	1.24	.267	.01
Social Anxiety x Social Context x Age	.08	1	.08	.21	.651	.00
Social Anxiety x Country	11.80	1	11.80	14.18	.000	.07
Social Context x Country	12.61	1	12.61	9.52	.002	.05
Social Anxiety x Social Context x Country	1.54	1	1.54	3.98	.047	.02
Error (Social Anxiety)	167.26	201	.83			
Error (Social Context)	266.39	201	1.33			
Between-subjects Error	842.26	201	4.19			
Error (Social Anxiety x Social Context)	77.72	201	.39			

Note. Social Context and Social Anxiety are within-subjects variables. Country is a between subjects variable. Country is a dichotomous variable in which 1 = Japan Sample & 2 = U.S. Sample.

Appendix A

Covid-19 Prompt & Measurements of added Stress & Anxiety due to COVID-19

Covid-19 prompt

As you fill out this survey, envision that you are taking this survey before the COVID-19 outbreak, and there are no major pandemics to worry about.

Measurements of added Stress & Anxiety due to COVID-19

Please indicate how much you agree with the following statements: (1 = totally false; 2 = mostly false; 3 = partly false; 4 = neither true or false; 5 = partly true; 6 = mostly true; 7 = totally true)

1. Covid-19 has made my everyday life more stressful.
2. I have increased anxiety as a result of Covid-19.

Appendix B

Scales of Allocentric and Idiocentric Social Anxiety with a Friend

Allocentric Social Anxiety with a Friend (Modified Taijin Kyofusho Scale; Kleinknecht et al., 1997)

Use the rating scale below to describe how strongly you would experience the following feelings in this scenario:

(1 = totally false; 2 = mostly false; 3 = partly false; 4 = neither true or false; 5 = partly true; 6 = mostly true; 7 = totally true)

1. I would be afraid that I may unintentionally hurt my friend's feelings.

2. I would be afraid, if talking with my friend, that my trembling voice would offend them.

3. I would be afraid, if talking with my friend, that my trembling head, hands, and/or feet would offend them.

4. I would be afraid that my presence would offend my friend.

5. I am afraid I would blush in front of my friend and as a result offend them.

6. If I was with my friend I might feel that I am stupid and feel sorry for them for being with me.

7. I would be afraid, if talking with my friend, that my stiff facial expressions would offend them.

8. I would be afraid that my sweating or having nervous perspiration would offend my friend.

9. I would be afraid that my body odors would offend my friend.

10. I would be afraid that I would offend my friend by staring at their body parts.

11. I would be afraid that I would release intestinal gas in the presence of my friend and offend them.

12. I would be afraid that eye contact with my friend would offend them.

13. I would be afraid that my physical appearance would in some way offend my friend.

Idiocentric Social Anxiety with a Friend (Modified BFNE-II; Carleton et al., 2006)

1. I worry about what my friend would think of me even if I knew it doesn't make any difference.

2. It would bother me if I knew my friend was forming an unfavorable impression of me.

3. I would be afraid of my friend noticing my shortcomings.

4. I would worry about what kind of impression I was making on my friend.

5. I would be afraid my friend would not approve of me.

6. I would be afraid that my friend would find fault with me.

7. I would be concerned about my friend's opinions of me.

8. I would worry about what my friend was thinking about me.

9. If I knew my friend was judging me, it would bother me.

10. I would be too concerned with what my friend thought of me.

Appendix C

Scales of Allocentric and Idiocentric Social Anxiety with a Stranger

Allocentric Social Anxiety Around Stranger

Use the rating scale below to describe how strongly you would experience the following feelings in this scenario:

(1 = totally false, 2 = mostly false, 3 = partly false, 4 = neither true or false, 5 = partly true, 6 = mostly true, 7 = totally true)

1. I would be afraid that I may unintentionally hurt the stranger's feelings.

2. I would be afraid, if talking with the stranger, that my trembling voice would offend them.

3. I would be afraid, if talking with the stranger, that my trembling head, hands and/or feet would offend them.

4. I would be afraid that my presence would offend the stranger.

5. I am afraid I would blush in front of the stranger and as a result offend them.

6. If I was with the stranger I might feel that I am stupid and feel sorry for them for being with me.

7. I would be afraid, if talking with the stranger, that my stiff facial expressions would offend them.

8. I would be afraid that my sweating or having nervous perspiration would offend the stranger.

9. I would be afraid that my body odors would offend the stranger.

10. I would be afraid that I would offend the stranger by staring at their body parts.

11. I would be afraid that I would release intestinal gas in the presence of the stranger and offend them.

12. I would be afraid that eye contact with the stranger would offend them.

13. I would be afraid that my physical appearance would in some way offend the stranger.

Idiocentric Social Anxiety Around Stranger

1. I worry about what the stranger would think of me even if I knew it doesn't make any difference.

2. It would bother me if I knew the stranger was forming an unfavorable impression of me.

3. I would be afraid of the stranger noticing my shortcomings.

4. I would worry about what kind of impression I was making on the stranger.

5. I would be afraid the stranger would not approve of me.

6. I would be afraid that the stranger would find fault with me.

7. I would be concerned about the stranger's opinions of me.

8. I would worry about what the stranger was thinking about me.

9. If I knew the stranger was judging me, it would bother me.

10. I would be too concerned with what the stranger thought of me.

Appendix D

Relational Mobility Scale (Yuki et al., 2007)

How much do each of the following statements accurately describe the people in the immediate society (your school, workplace, town, neighborhood, etc.) in which you live?

Please indicate how true you feel each statement to be for the people around you by checking the appropriate number on the scale provided.

(1 = Strongly Disagree; 4 = Neither Agree or Disagree; 7 = Strongly Agree)

1. They have many chances to get to know other people.
2. It is common for these people to have a conversation with someone they have never met before.
3. They can choose who they interact with.
4. There are few opportunities for these people to form new friendships. (reverse coded)
5. It is uncommon for these people to have a conversation with people they have never met before. (reverse coded)
6. If they did not like their current groups, they would leave for better ones.
7. It is often the case that they cannot freely choose who they associate with. (reverse coded)
8. It is easy for them to meet new people.
9. Even if these people were not completely satisfied with the group they belonged to, they would usually stay with it anyway. (reverse coded)
10. These people are able to choose the groups and organizations they belong to.
11. Even if these people were not satisfied with their current relationships, they would often have no choice but to stay with them. (reverse coded)

12. Even though they might rather leave, these people often have no choice but to stay in groups they don't like. (reverse coded)

Appendix E

Self-Construal Scales (Singelis, 1994)

Interdependent Self-Construal Scale

Please indicate how much you agree with the following statements by checking the appropriate number on the scale provided. (1= Strongly Disagree; 4 = Neither Agree or Disagree; 7 = Strongly Agree)

1. I have respect for the authority figures with whom I interact.

2. It is important for me to maintain harmony within my group.

3. My happiness depends on the happiness of those around me.

4. I would offer my seat in a bus to my professor.

5. I respect people who are modest about themselves.

6. I will sacrifice my self-interest for the benefit of the group I am in.

7. I often have the feeling that my relationships with others are more important than my own accomplishments.

8. I should take into consideration my parents' advice when making education/career plans.

9. It is important to me to respect decisions made by the group.

10. I will stay in a group if they need me, even when I'm not happy with the group.

11. If my brother or sister fails, I feel responsible.

12. Even when I strongly disagree with group members, I avoid an argument.

Independent Self-Construal Scale (Singelis, 1994)

13. I'd rather say "No" directly, than risk being misunderstood.

14. Speaking up during a class is not a problem for me.

15. Having a lively imagination is important to me.

16. I am comfortable with being singled out for praise or rewards.

17. I am the same person at home that I am at school.

18. Being able to take care of myself is a primary concern for me.

19. I act the same way no matter who I am with.

20. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.

21. I prefer to be direct and forthright when dealing with people I've just met.

22. I enjoy being unique and different from others in many respects.

23. My personal identity independent of others, is very important to me.

24. I value being in good health above everything.