MODELING THE EFFECTS OF SOCIAL SUPPORT VISIBILITY ON PSYCHOLOGICAL WELL-BEING:
EXAMINING THE ROLE OF SELF-CONSTRUAL

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A Dissertation

Presented to

The Faculty of the Department

of Psychology

University of Houston

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In Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Philosophy

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By

Katie D. Garner

August 2015

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ABSTRACT

There are known benefits of receiving social support; however, support has also been shown to produce negative effects. Invisible support has been introduced (e.g., Bolger, Zuckerman, & Kessler, 2000) to resolve these conflicting findings. Invisible support is argued to be a buffer against negative effects of visible social support; however, recent research on the visibility of support and its positive and maladaptive effects is conflicting. Two studies were conducted to test the idea that type of social support (visible v. invisible) is related to well-being and that this relationship is moderated by self-construal. Study 1 (N = 1405), a correlational study, found that the correlation between interdependent self-construal and preference for invisible support was stronger than the correlation between independent self-construal and preference for invisible support. Further, the correlation between interdependent self-construal and instrumental social support seeking was stronger than the correlation between independent self-construal and instrumental social support seeking. Study 2 (N = 376) was an experimental study in which participants rated their emotions after recalling situations in which they either experienced visible or invisible social support. Results showed that individuals who had a low independent self-construal were less likely to benefit from visible support and were more likely to experience depressed mood after receiving visible support than those high in independent self-construal. Further, males who were low in independent self-construal and females who were high in independent self-construal were both more likely to experience negative outcomes after having received visible support and less likely to benefit from visible support

receipt than males who were high in independent self-construal and females who were low

in independent self-construal.

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Dedication

This work is in dedication to my daughter, Lydia Selah. You are truly my greatest

accomplishment. I hope that through me you will see that you can do anything that you

might dream – with hard work, dedication, and God's good grace.

**Modeling the Effects of Social Support Visibility on Psychological Well-Being:
Examining the Role of Self-Construal**

Much attention in the health and psychology fields has been given to understanding the process of social support and its positive and negative implications. Many definitions and methods of measurement of social support are presented in the literature. There are known benefits of receiving social support; however, support has also been shown to produce negative effects. Several hypotheses regarding the possible mechanisms behind the seeming effectiveness and ineffectiveness of the support process have been presented in the literature, including the influence of whether or not the support is visible. Nonetheless, numerous inconsistencies in the aforementioned areas of study remain.

The contradictions in the literature indicate that the same support may be perceived differently by different individuals and that cultural and individual factors may influence the link between social support and outcomes (Acitelli & Antonucci, 1994; Barbee, Cunningham, Winstead, Derlega, Gulley, Yankeelov, & Druen, 1993; Gleason, Iida, Shrout, & Bolger, 2008; Kim, Sherman, Ko, & Taylor, 2006; Lakey, Lutz, & Scorbia, 2004; Lakey & Scorbia, 2005). Previous research has provided evidence that support receipt may be interpreted differently by individuals with varying socio-cultural views (Acitelli & Antonucci, 1994; Antonucci & Akiyama, 1987; Barbee et al., 1993; Collins & Feeney, 2000; Cutrona, 1996; Gleason, et al., 2008; Uchida, Kitayama, Mesquita, Reyes, & Morling, 2008). Further, socio-cultural views shape individual beliefs regarding the role and motivations of the self (Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Kitayama, 1991) and norms and expectations in relationships (Adams & Plaut, 2003). In order to more fully understand the unhelpful and

helpful aspects of the social support process, mechanisms through which negative and positive outcomes occur must be examined. An assessment of the socio-cultural differences in the definition of the self may shed light on the issue. It is suggested that these differences shape how individuals perceive and use social support. As research on the socio-cultural context of social support is limited, research on socio-cultural perceptions of the self and visibility of social support is non-existent.

This dissertation provides a conceptual and empirical review of the social support literature and the social support visibility literature. Additionally, a research model is presented that incorporates a unique socio-cultural perspective in order to shed light on the literature and guide future research in social support and physiological and psychological well-being.

A model is illustrated in Figure 1. Generally, I propose that the relationship between social support and well-being is moderated by self-construal. Therefore, culturally-determined individual differences, namely independent/interdependent self- construals, influence one's perception of support receipt. These individual differences determine whether one views visible support as helpful or unhelpful, adaptive or maladaptive. This perception of support therefore has an effect on well-being outcomes. Specifically, visible support may undermine well-being outcomes in those with an interdependent self-construal and bolster well-being outcomes in those with an independent self-construal. On the other hand, invisible support may undermine well-being outcomes in those with an independent self-construal and bolster well-being outcomes in those with an interdependent self-construal. The proposed model integrates previous research and

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Moderator

Independent/
Interdependent Self-
Construal

Manipulation/
Independent Variable

Dependent Variable

Social Support
Receipt

Positive &
Negative Affect
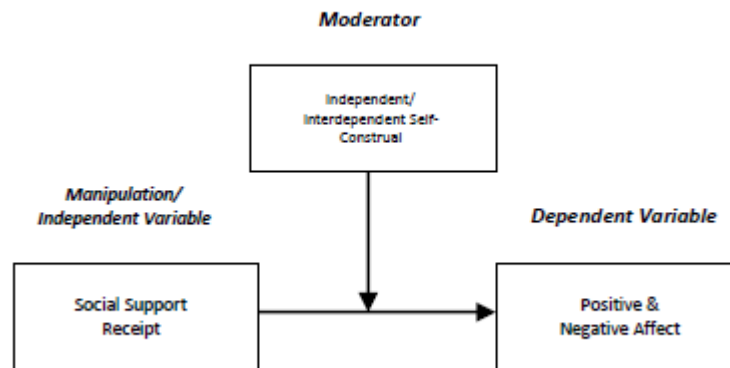
Figure 1. Proposed moderation model of social support, self-construal, and psychological outcomes.

expands the literature by creating a model that emphasizes the importance of independent/interdependent self-construal on the support process.

Social Support

Definitions of Social Support

The study of social support has proved to be important and relevant in a variety of academic and applied areas. Researchers from the social psychology, clinical psychology, developmental psychology, sociology, medical and nursing, public health, and social work fields have addressed the physiological and psychological implications of social support.

Generally, *social support* has been defined as responsiveness to the needs of another and specifically as actions that display caring, validate one's worth, feelings or actions, or facilitate coping through providing information, assistance or tangible resources (Cutrona, 1996). Specifically, supportive acts may be tangible or instrumental (financial assistance), esteem (encouraging competence or self-esteem), informational (advice), emotional (nurturance), and social integration or network/companionship (membership in a

group sharing a similar outlook) (Cutrona, 1990). Social support may be conceptualized as the tangible receipt of support or the perception of available support. Further, support may be provided from many different sources, including spouses, family, friends, colleagues, pets, and/or strangers. It is important to note that in early literature of supportive activity, social support is often referred to as *help* or *aid* (Fisher & Nadler, 1976). To maintain clarity, the terms "help or aid" and "social support" are used interchangeably in this paper and denote the same concept in the literature. Further, help or aid usually refers to instrumental support (DePaulo, Brown, Ishii, & Fisher, 1981; Fisher & Nadler, 1976; Sigall & Gould, 1977).

Social Support Measurement and Relevant Methodological Issues

In measurement, social support is generally categorized in two contrasting ways: structural support and functional support (Cohen & Wills, 1985). Structural measures of support address one's overall sense of connectedness with others or one's social integration, while functional measures tap into a particular relationship's ability to provide specific functions to an individual. Social support is either measured globally, where a measure consists of multiple structural/functional measures, or specifically, where a measure focuses upon one specific structure/function (Cohen & Wills, 1985). Further, researchers may measure outcomes stemming from support receipt, support provision, and/or support-seeking behaviors.

When comparing findings in social support literature, one must consider methodological issues linked to sample and measurement parameters. Firstly, there are many means of measurement employed in social support research. Therefore, social

support is not always created equal in that it is not always defined or examined consistently. Social support has been known to affect individuals differently depending on aspects of the social support situation, provider, and recipient, and how it is measured (Cutrona, 1990).

In addition, the timing of assessments is important to consider in social support research. One must distinguish between cross-sectional and longitudinal research when interpreting findings. Cross-sectional measures of social support study the effects of social support in a limited point in time. Often, cross-sectional measures of support are argued to be confounded by the likelihood that those who experience more problems are more likely to receive support (Cohen & Wills, 1985). Therefore, changes, specifically decreases, in well-being are arguably speculative and cannot be assumed unless well-being is controlled. Longitudinal measures of social support study the effects of social support over a period of time and are often thought to be more reliable investigations of the relational phenomena. Longitudinal data have a greater ability to determine causal links.

Two main models of social support: Buffering and main-effects models

Social support research can be grouped into two overarching models: the buffering and main-effects models. According to Cohen and Wills (1985),

"One model proposes that support is related to well-being only (and primarily) for persons under stress. This is termed the *buffering* model because it posits that support "buffers" (protects) persons from the potentially pathogenic influence of stressful events. The alternative model proposes that social resources have a beneficial effect irrespective of whether persons are under stress. Because the

evidence for this model derives from the demonstration of a statistical main effect of support with no Stress X Support interaction, this is termed the *main-effect model*. (p. 310)"

According to the buffering model, support may prevent a particular situation from being appraised as stressful by an individual. Support may also intervene between stress and the onset of a negative outcome by affecting an individual's reaction or physiological processes. In terms of measurement, a global and structural measurement typically supports the main-effect model while a specific and functional measurement supports the buffering model.

<div align="center">Social Support Outcomes</div>

Research on the process of social support and its outcomes has resulted in conflicting findings.

Positive Outcomes of Social Support

There are known benefits of social support in a variety of social science and health fields (Cutrona, 1990a; House, Landis, & Umberson, 1988). Social support has been shown to promote physiological health. Previous research has supported the notion that social support is a great tool for coping with the negative effects of stress (Thoits, 1995). Furthermore, social support has been found to result in adaptive coping with chronic illnesses, such as coronary artery disease (Holahan, Moos, Holahan, & Brennan, 1997), childhood leukemia (Magni, Silvestro, Tamiello, & Zanesco, 1988), rheumatoid arthritis (Goodenow, Reisine, & Grady, 1990), HIV (Turner-Cobb, Gore-Felton, Marouf, Koopman, Kim, Israelski, & Spiegel, 2002), stroke (Robertson & Suinn, 1968), and cancer (Penninx, van Tilburg, Boeke, Deeg, Kriegsman, & van Eijk, 1998; Stone, Mezzacappa, Donatone, &

Gonder, 1999). In addition, social support has been shown to have a positive effect on immunity. Cohen, Doyle, Skoner, Rabin, and Gwaltney (1997) found that those with more social ties were less likely to become ill following exposure to a cold or flu virus. Further, those who did become infected and had more social ties had a shorter experience with the illness and were able to recover more quickly than those with fewer social ties. Social support has also been linked to health benefits for those in high-risk populations. Specifically, social support results in fewer issues during pregnancy and childbirth (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993), better diabetes control (Marteau, Bloch, & Baum, 1997), faster recovery from coronary artery disease surgery (King, Reis, Porter, & Norsen, 1993), lower coronary heart disease (CHD) rates (House et al., 1988), and less pain among arthritis patients (DeVellis, DeVellis, Sauter, & Harring, 1986).

Social support has been found to have positive effects on mental health, as well. Social support can reduce depression and anxiety during stressful events (Sarason, Sarason, & Gurung, 1997; Fleming, Baum, Gisriel, & Gatchel, 1982; Lin, Ye, & Ensel, 1999) and has even been shown to buffer against cognitive decline in aged populations (Seeman, Lusignolo, Albert, & Berkman, 2001). In the clinical and counseling psychology literature, behavioral couples therapy (e.g., Christensen, Atkins, Yi, Baucom,& George, 2006) and couples research (e.g., Gottman & Gottman, 2008) are two areas of research assessing the benefits of social support in relationships. Traditional and integrative behavioral couples therapy emphasizes acceptance in relationships, supportive and active behavior in relationship conflict, and emotional reactivity and has long-term implications for couple satisfaction and stability (Christensen et al., 2006). Moreover, Driver and Gottman (2004)

stress the importance of "caring days" as a characteristic of intervention. These "caring days" employ behaviors such as washing dishes or calling a spouse during the day that make a partner feel supported in the relationship and have been proven to increase positivity in the relationship. Gottman's work has shown that increasing positive interactions and positive affect in the relationship is related to couple satisfaction and longevity. These "caring days" are a vital means of "refocus[ing] the relationship to caring and thoughtful actions, thereby increasing positive affect between the spouses" (Gurman & Jacobson, 2002; Driver & Gottman, 2004). According to the industrial-organizational psychology literature, several studies report that social support at work is related to psychological well-being (Deelstra, Peeters, Schaulfeli, Stroebe, Ziljstra, & Doornen, 2003; Viswesvaran, Sanchez, & Fisher, 1999; Buunk, De Jonge, Ybema, De Wolff, 1998). Specifically, employees who have supportive supervisors and frequently receive positive feedback concerning their skills and abilities from others are less vulnerable to job-related burnout (Russell, Altmaier, & Van Velzen, 1987). Furthermore, support from different sources, including coworkers, and supervisors, and even family, has also been negatively associated with burnout and positively associated with satisfaction and productivity in the workplace (Baruch-Feldman, Brondolo, Ben-Dayan, & Schwartz, 2002). Moreover, research in educational psychology has even shown social support to have a positive impact in the classroom. Specifically, at-risk first grade students in classrooms with higher instructional and emotional support show improvement in achievement scores and student–teacher relationships while at-risk students in less supportive classrooms have lower achievement and more conflict with teachers (Hamre & Pianta, 2005). Further, perceived support from teachers and peers has

been shown to increase academic prosocial goals and academic social responsibility goals which in turn predict social acceptance and positive social behavior (Wentzel, 1994).

Inconsistencies in the Relationship between Support Receipt and Outcomes: Negative Outcomes of Social Support

Contrary to popular belief, research has shown that the process of social support is less than straightforward. Positive outcomes are often dependent upon certain factors of the supportive process, and social support has repeatedly been shown to produce negative effects in the individual receiving support.

Much evidence exists in the literature supporting the idea that social support is negatively related to physiological outcomes. Tangible support has been linked with higher mortality rates (Forster & Stoller, 1992; Krause, 1999; Penninx, Van Tilburg, Deeg, & Kriegsman, 1997; Sabin, 1993). Specifically, population-based and age-specific studies have shown that increased social support is related to increased mortality for women. Schoenbach, Kaplan, Freedman, and Kleinbaum (1986) found that, for White women under 60, lower social support levels are related to lower mortality. Further, support from significant others failed to lower breast cancer patients' distress and boost physical recovery (Bolger, Foster, Vinokur, & Ng, 1996).

Social support has been shown to have negative effects on mental health, as well. Increased depression, anger, and anxiety have been reported by recipients of social support (Bolger et al., 2000; Gleason et al., 2003; Shrout et al., 2006), and social support has been shown to have a negative effect on recipients if received by certain network members (Dakof & Taylor, 1990; Wortman and Dunkel-Schetter, 1987). Research has distinctly shown

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that *actual support*, the overt enactment of social support, either shows a decrease in well-being in the recipient (Barrera, 1986; Bolger et al., 2000; Gleason et al., 2003; Shrout et al., 2006) or does not show any evidence of enhanced adjustment to stressors in most other cases (Barrera, 1986; Lieberman, 1986; Bolger, Foster, Vinokur & Ng, 1996; Brown, 1978; Wethington & Kessler, 1986). Some studies have shown that tangible support, specifically, results in more distress in some ethnic populations and specific situations (Abraído-Lanza, 2004; Ingersoll-Dayton & Antonucci, 1988; Arling, 1987). This can have long-lasting effects as Newsom, Schultz, and Friedman (1978) have shown that increased distress from daily support receipt is related to depressive symptoms one year later. Likewise, emotional support has been found to either have no positive effect or negative effects on well-being (Barrera, 1986; Bolger & Amarel, 2007; Bolger, Foster, Vinokur, & Ng, 1996; Bolger, Zuckerman, & Kessler, 2000).

The optimal matching model claims that social support is deemed appropriate only when it matches the needs of the recipient, and multiple research studies have supported this notion (Cohen & Wills, 1985; Cutrona, 1990; Cutrona, Shaffer, Wesner, & Gardner, 2007). Principally, the needs of the recipient may be determined by the type of stressor the recipient is experiencing or the phase of the stress experience (Cutrona, 1990; Cutrona, Shaffer, Wesner, & Gardner, 2007; Lazarus & Folkman, 1984). In addition, reciprocity has been shown to be the strongest predictor of happiness in relational transactions (Antonucci & Akiyama, 1987) and has many implications for the positive effect of support receipt (Liang, Krause, & Bennett, 2001; Antonucci & Akiyama, 1987; Ingersoll-Dayton & Antonucci,

1988). However, the specific function of reciprocity depends on age of the respondent (Ingersoll-Dayton & Antonucci, 1988).

Explaining the Inconsistency: Perceived Availability of Support

Although research has repeatedly shown that enacted social support fails to promote positive well-being, *perceived availability of social support* has been shown to repeatedly and consistently increase well-being in the individual. Therefore, the perception that one is capable of obtaining support if needed allows for avoidance of the costs of receiving support (Bolger et al., 2000). Perceived availability has also been shown to be associated with distinctly concrete positive benefits (Cohen, 1992; Cohen & Wills, 1985; Uchino, Cacioppo, & Keicolt-Glaser, 1996; Sarason, Sarason, & Gurung, 1997; Stroebe & Stroebe, 1996), such as higher immune functioning among spouses of cancer patients (Cutrona, 1990a). Helgeson (1993) also found that perceived availability had a beneficial impact on heart attack patients and their adjustment, while received support from close others had the opposite, negative effect.

Individuals who see themselves as having the best and most readily available social and personal resources are more apt to deal with stressful situations effectively (Brown, 1978). Perceived availability has also been shown to promote self-reliant behavior and encourage the development of self-supporting individuals (Wethington & Kessler, 1986). Although much is known about perceived availability and its benefits, the question still remains: why is perceived availability often adaptive while oftentimes the more tangible enacted support is not? The search for an answer to this question led to the formulation of another conceptualization of social support, invisible support.

Explaining the Inconsistency: Invisible Support

One explanation for the effectiveness of perceived availability of social support is

the idea that individuals "may have been getting support so smoothly that it is invisible to

them" according to Bolger et al., 2000 (p. 954). That is, perceived availability of social

support may actually be the result of support that the recipients do not see, or invisible

support. Invisible support was defined by Bolger et al. in 2000 as support transactions that

"may occur outside of the recipient's awareness…[or] the recipient may be aware of the act

but may not code it as support (p. 954)". For example, a spouse may complete unexpected

household duties without the other partner's knowledge or give advice indirectly without

increasing attention to the recipient's problem or short-comings in dealing with the

problem.

What makes support visible?

Bolger and Amarel (2007) present a figure (Figure 2) outlining the support visibility

process. The authors argue that support provision can occur at anterogatory points (1-4),
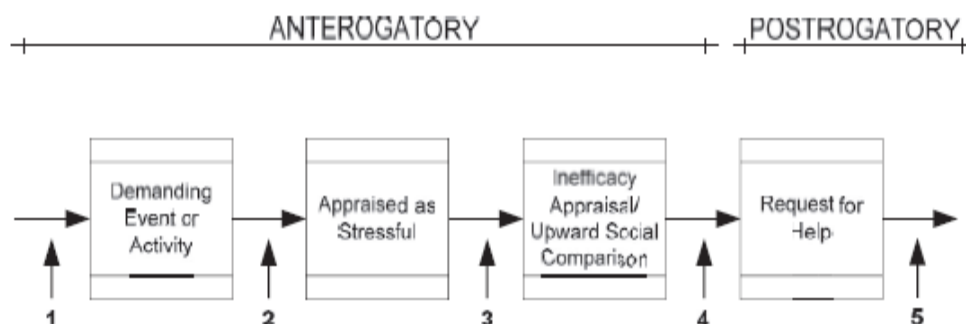

Figure 2. Bolger and Amarel's (2007) hypothetical stress and support process, showing points of support provision.

which occur before a recipient has asked for support, or at a postrogatory point (5), which occurs after a recipient has requested support. Bolger & Amarel (2007) argue that invisible support is most likely to occur and is most adaptive in the anterogatory stages and that visible support is most likely to occur and is most adaptive at the postrogatory stage. At the first point of support provision, a support provider can prevent a demanding event or activity from taking place. At the second point, a support provider prevents a demanding event or activity from being appraised as stressful by the recipient. At point 3, a provider can provide support after the recipient has noted a stressor but without the recipient having to overtly ask for the support. At point 4, a recipient has made the judgment that he or she is unable to effectively deal with the stressor without assistance but is not comfortable with openly asking for support. At the fifth point of support provision, a recipient overtly seeks support. Bolger & Amarel (2007) argue that visible support provided at this point can be adaptive if the support matches the needs of the recipient, consistent with the optimal matching model (Cutrona, 1990). Howland and Simpson (2010) successfully supported this distinction between visible and invisible support and showed that effective invisible support is comprised of both providers' skillful behavior and recipients' unawareness. Invisible support has also been shown to reduce anxiety (Biehle & Mickelson, 2012). However, recent research on the visibility of support and its positive and maladaptive effects is inconsistent.

Explaining the Inconsistencies in the Research: A Socio-Cultural Perspective

In 2003, Gleason et al. showed that receiving visible support coupled with reciprocity, or supportive equity, was related to higher levels of positive mood and lower

levels of negative mood. Further, Maisel and Gable (2009) showed that when the support is responsive, both invisible and visible support were beneficial. Gleason, Iida, Shrout, and Bolger (2008) found that visible support receipt was associated with an increase in both negative mood and closeness. Shrout et al. (2006) found that while emotional support receipt was related to negative outcomes, i.e. increases in anger, anxiety, and depressed mood, receipt of practical support was associated with positive outcomes, i.e. decreased fatigue and increased vigor. In an analysis of coaching behavior and its effects on basic need satisfaction, Reinboth, Duda, and Ntoumanis (2004) found that when a coach provided visible assistance and emotional support, players of a team felt a heightened sense of relatedness within their team. Invisible support has been shown to encourage long-term goal achievement; however, the costs and benefits of *visible* support are dependent upon recipients' needs in the same study (Girme, Overall, & Simpson, 2013). Further, one other study has shown that invisible support reduces anxiety in recipients; however, the same study also found that visible support was beneficial for a recipient's well-being in that it increased positive mood and lessened anxiety and depression, as well (Biehle & Mickelson, 2012).

In order to more fully understand the unhelpful and helpful aspects of the social support process, mechanisms through which negative and positive outcomes occur must be examined. An assessment of the socio-cultural differences in the definition of the self may shed light on the issue. It is suggested that these differences shape how individuals perceive and use social support. Previous research has provided evidence that support receipt may be interpreted differently by individuals with varying socio-cultural views

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(Acitelli & Antonucci, 1994; Antonucci & Akiyama, 1987; Barbee et al., 1993; Collins & Feeney, 2004; Cutrona, 1996; Gleason, et al., 2008; Uchida, Kitayama, Mesquita, Reyes, & Morling, 2008). Further, socio-cultural views shape individual beliefs regarding roles and motivations of the self (Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Kitayama, 1991) and norms and expectations in relationships (Adams & Plaut, 2003). As research on the socio-cultural context of social support is limited, research on socio-cultural perceptions of the self and visibility of social support is non-existent.

Conceptual Framework

The proposed model (Figure 1, p. 3) aims to explain the inconsistencies in the literature by highlighting the impact of self-construal on the relationship between social support receipt and psychological well-being. Generally, I propose that independent/interdependent self-construals influence one's perception of support receipt.

According to Markus & Kitayama (1991),

 "In America, 'the squeaky wheel gets the grease.' In Japan, 'the nail that stands out gets pounded down.' American parents who are trying to induce their children to eat their suppers are fond of saying 'think of the starving kids in Ethiopia, and appreciate how lucky you are to be different from them.' Japanese parents are likely to say 'Think about the farmer who worked so hard to produce this rice for you; if you don't eat it, he will feel bad, for his efforts will be in vain' (H. Yamada, February 16, 1989). A small Texas corporation seeking to elevate productivity told its employees to look in the mirror and say 'I am beautiful' 100 times before coming to work each day. Employees of a Japanese supermarket that was recently opened

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in New Jersey were instructed to begin the day by holding hands and telling each

other that 'he' or 'she is beautiful' ('A Japanese Supermarket,' 1989) (p. 224)."

These narratives outline the concept that cultures ascribe to contrasting views of the notion

of the self and the self's relation to others. Markus & Kitayama (1991) propose two

diverging views of the self: the independent self-construal and the interdependent self-

construal.

Independent and interdependent self-construals are intended to correspond with

Hofstede's cultural dimension of individualism-collectivism (Hofstede, 1980; Triandis, 1995;

Santamaria de la Mata, Hansen, & Ruiz, 2010) and are thought to be general tendencies

(Markus & Kitayama, 1991). The independent self functions on the notion that all persons

have an inherent separateness and are motivated to establish individual uniqueness in the

social environment (Markus & Kitayama, 1991). Relevant to many Western cultures, the

self is defined as independent, self-contained, and autonomous (Markus & Kitayama, 1991).

Individuals with this individualistic orientation are motivated to pursue *disjoint agency*, their

own positive attributes (Heine, Lehman, Markus, & Kitayama, 1999) and personal interests

removed from close others' interests (Markus & Kitayama, 2003). Those motivated to

pursue disjoint agency seek autonomy, self-expression, freedom and individual choice (Gore

& Cross, 2006). The independent self-construal is depicted in Figure 3A. The large circle

represents the self while the smaller circles represent close others. The Xs are

representative of various characteristics of the self. Xs that do not intersect with close

others represent aspects of the self that remain independent from relationships with others

and stable regardless of those relationships.

In contrast, the interdependent self functions on the premise that all human beings

share a fundamental connectedness (Markus & Kitayama, 1991). Evident in many non-

Western cultures, the interdependent individual is motivated to establish the self in

harmonious and reciprocal interpersonal relationships. The self is therefore not fully

understood when separated from the larger social context within which it exists (Markus &

Kitayama, 1991). Individuals with this collectivistic orientation are motivated to pursue

conjoint agency, personal interests and close others' interests (Markus & Kitayama, 2003)

and to mesh into the needs and expectations of close others (Heine, Lehman, Markus, &

Kitayama, 1999). The interdependent self-construal is depicted in Figure 3B. Again, the
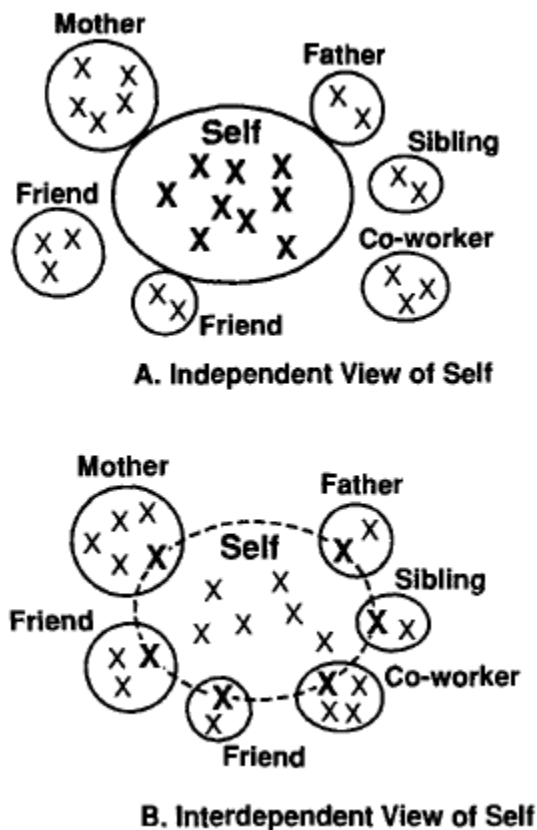

Figure 3. Markus and Kitayama's (1991) conceptual representations of the self. (A: Independent construal. B: Interdependent construal.)

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large circle represents the self while the smaller circles represent close others. The Xs are representative of various characteristics of the self. It is notable that Xs that do not intersect with close others are present within the interdependent self. Additionally, those instances where the circles and Xs intersect represent aspects of the self-in-relation-to-others or aspects of the self that are relevant to a particular social relation (Markus & Kitayama, 1991). These aspects are heavily weighted in one's relationships with others (i.e. "I am very polite in front of my mother").

Although self-construal is seen as differing between cultures, it varies within culture as well. For example, Cross and Madson (1997) argue that in Western societies, women are more likely than men to develop an interdependent self-construal and that men are more likely than women to develop an independent self-construal, and other studies have found significant variability of self-construals within the United States. As such, in the current study, self-construal will be examined as an individual difference variable within the United States.

These individual differences determine whether one views visible support as helpful or unhelpful, adaptive or maladaptive. This perception of support therefore has an effect on well-being outcomes. Specifically, visible support may undermine well-being outcomes in those with an interdependent self-construal and bolster well-being outcomes in those with an independent self-construal. On the other hand, invisible support may undermine well-being outcomes in those with an independent self-construal and bolster well-being outcomes in those with an interdependent self-construal. Well-being, in this case, will be determined by state affect. The proposed model integrates previous research and

expands the literature by creating a model that emphasizes the importance of independent/interdependent self-construal on the support process.

Social Support, Socio-Cultural Variables, and Well-Being Outcomes

Previous research has suggested that individuals with various backgrounds may perceive, give, and receive social support differently (Acitelli & Antonucci, 1994; Antonucci & Akiyama, 1987; Mickelson, Helgeson, & Weiner, 1995). Previous research has shown that European Americans are more likely to overtly seek support while Asians and Asian Americans are less likely to seek support (Kim, Sherman, Ko, & Taylor, 2006; Taylor et al., 2004). Further, Asian Americans and Latino Americans have reported social support seeking is not effective, even harmful in previous research (Kim et al., 2006). This research is consistent with the idea that individuals with independent and interdependent self-construals have different attitudes toward social support, given that the different socio-cultural groups have been shown to possess different self-construals.

European Americans are less preoccupied with maintaining and/or interrupting the harmony of close relationships (Kim et al., 2006) and therefore have fewer reservations about seeking support. It is argued that the ability to directly seek support allows for a personal sense of control for those with an independent self-construal (Uchida et al., 2008). A personal sense of control bolsters a sense of independence, self-efficacy, and a sense of dominance (Uchida et al., 2008; Kim et al., 2006; Leary et al., 1995). In fact, research has shown that experiencing a strong sense of personal control and mastery enhances both physiological and psychological well-being (Lachman & Weaver, 1998; Langer & Rodin, 1976) and task performance (Ji, Peng, & Nisbett, 2000) in European Americans.

Relationships, in this context, are viewed as more voluntary and highly controlled by the recipient (Kim et al., 2006). Therefore, it is argued that visible support at the postrogatory point is perceived as more adaptive for those with an independent self-construal.

Two arguments have been made in previous literature regarding why Asians and Asian Americans refrain from explicitly seeking support. The first argument is that seeking support presents a risk of burdening close others and thereby threatens relational harmony. Therefore, these relationship concerns, e.g., maintaining harmony, criticism avoidance, and saving face, drive the inhibition to seek support (Goffman, 1967; Kim et al., 2006). Secondly, receiving unsolicited support from close others results in a sense of connectedness and affirmation of genuine care and concern from others (Uchida et al., 2008). Thus, visible support at the postrogatory point is perceived as less adaptive for those with an interdependent self-construal. Invisible support at the anterogatory points is perceived as more adaptive. This can explain why emotional support is not helpful for Americans and is more beneficial for East Asians (Uchida et al., 2008).

Research in another domain of social support literature further supports the present claims. Research has shown that Asians and Asian Americans prefer *implicit support*, indirect, implied forms of social support, while European Americans prefer *explicit support*, or support that is actively sought from significant others. Implicit support, in this sense, is reminding oneself of close others without disclosing one's problems to those others, is similar to perceived support (Kim et al., 2008), and is not directly sought. This notion of implicit support refers to the beneficial effects one receives when feeling connected to or as if a member of a group without having to ask for support. Those with interdependent self-

construals benefit from a sense of belongingness that implies perceived support availability (implicit support) *and* support that is invisible to the recipient.   Implicit support is not necessarily invisible. The visibility of support dichotomy differs from the dichotomy of implicit/explicit support in that the visibility of support focuses on the awareness of the receipt of support whereas the implicit/explicit dichotomy focuses on the extent to which support is sought, not on its visibility. Studying the visibility of support allows for the examination of support of which one is not even aware.

To my knowledge, there are no studies that examine the role of independent/interdependent self-construal in relation to the visibility of social support receipt. The current studies are proposed to demonstrate the importance of visibility to the outcomes of social support in addition to examining the moderating role of self-construal.

Overview of Studies 1 and 2

Study 1 sought to establish the relationship between self-construal and beliefs regarding support receipt. Study 2 will expand these findings by not only analyzing the direction in which self-construal influences beliefs regarding support receipt but also by analyzing how these beliefs can influence well-being outcomes when support is enacted, the proposed moderation.

Study 1 Overview and Hypotheses

This study was designed to analyze the relationship between self-construal and perceptions of social support receipt as well as tendencies to utilize instrumental social support. Participants were asked to complete questionnaires assessing self-construal, perceptions of support receipt, and tendencies to utilize instrumental social support. The

current study is a replication and extension of previous research (Taylor, Sherman, Kim, Jarcho, Takagi, & Dunagan, 2004). The aim of the study was to more fully understand the socio-cultural influences on the perception of social support receipt and the tendency to utilize instrumental social support. It was expected that culturally-determined beliefs, namely independent/interdependent self-construal, will be linked to the perception of support receipt and the tendency to utilize instrumental social support. Accordingly, I proposed the following hypotheses:

Hypothesis 1: Independent/Interdependent Self-Construal and Perception of Social Support

a) Independent self-construal will be positively related to a preference for support seeking. (Social Support Attitudes)
b) Independent self-construal will be positively related to a preference for visible support. (Social Support Attitudes)
c) Interdependent self-construal will be negatively related to a preference for support seeking. (Social Support Attitudes)
d) Interdependent self-construal will be positively related to a preference for invisible support. (Social Support Attitudes)

Hypothesis 2: Independent/Interdependent Self-Construal and Instrumental Social Support Use

a) Those who score high on independent self-construal will be more likely to display a coping style that prefers the use of instrumental social support. (COPE)
b) Those who score high on interdependent self-construal will be less likely to display a coping style that prefers the use of instrumental social support. (COPE)

Method

Participants

1405 participants (1196 females, 209 males) participated in this study. Participants were recruited from undergraduate Psychology courses at the University of Houston, online through the Sona system, and online through snowballing. To recruit participants from undergraduate Psychology courses at the University of Houston, a researcher or research

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assistant came to the course room and read the recruitment script (Appendix C). Interested

participants were handed information on how to sign up for the study. To recruit

participants through the Sona system and through snowballing, a description of the study

and eligibility requirements were listed via the system or via email format. If applicable,

participants received extra credit for their participation, and anonymity will be retained.

The mean age of participants was 23.49 (SD = 7.48). Of the participants in our

study, 18.9% identified themselves as African-American, 21.7% identified themselves as

Asian, 28.8% identified themselves as Caucasian (Non-Hispanic), 28.1% identified

themselves as Hispanic or Latino, 0.3% identified as American Indian or Alaskan Native,

0.1% identified as Native Hawaiian or Other Pacific Islander, and 2.1% identified themselves

as Other.

Procedure

Participants accessed the questionnaire via Qualtrics.com to complete the study.

Participants were presented with a consent form to review and confirm and then continued

with the study. Privacy and confidentiality were maintained during the administration of

the questionnaires as no identifying information was collected. Participants were instructed

not to input any identifying information on the online forms that they submitted. The

participants were allowed to take as much time as needed to complete the questionnaire

but the questionnaire required approximately 30 minutes. Participants were debriefed.

Measures

Independent/Interdependent Self-Construal. Participants completed the

Independent/Interdependent Self-Construal Scale, a 30-item measure designed to assess

two dimensions of self-image, the strength of an individual's interdependent and independent self-construals. These two images of self are conceptualized as reflecting the emphasis on connectedness and relations (interdependent) often found in non-Western cultures and the separateness and uniqueness of the individual (independent) stressed in the West. There are two subscales: independent self-construal and interdependent self-construal. Singelis, Triandis, Bhawuk, & Gelfand (1995) have shown that these two aspects of the self are indeed separate factors rather than opposite poles of a single construct. Therefore, it is argued that a composite score loses some of the meaning, and each participant should receive both an independent and interdependent score. Fifteen questions were averaged to create an independent score, while fifteen questions were averaged to create an interdependent score. Each participant received two scores. See Appendix K. Cronbach's alpha of the independent subscale was .805, and the alpha coefficient of the interdependent subscale was .807.

Instrumental support use. Participants completed the COPE Inventory, a 60-item measure developed to assess a broad range of coping responses. There are fifteen subscales in this measure. The use of instrumental social support subscale was used to test the hypotheses and one's tendency to utilize instrumental support. There are 4 items in this subscale. See Appendix M. Cronbach's alpha of this scale was .936.

Perception of Support. Participants completed the Social Support Attitudes Scale, a 5-item questionnaire designed to measure attitudes towards support seeking and preference for visible and invisible as well as implicit and explicit social support receipt.

Only four items were used due to a typographical error in one item in the online questionnaire. See Appendix N.

Ethnicity. Participants were asked to select the racial category to which they most identify choosing from the following options: Caucasian (A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.); Hispanic or Latino (A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.); American Indian or Alaska Native (A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.); Asian (A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.); African or African American (A person having origins in any of the black racial groups of Africa.); Native Hawaiian or Other Pacific Islander (A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.); or Other (please specify). See Appendix E.

<div align="center">Results and Discussion</div>

Descriptive Results

Means, standard deviations, and correlations among the main study variables are presented in Table 1. Ns differed for some correlations due to missing data and will be noted in the text.

Table 1

Means, Standard Deviations, and Correlations between Main Study Variables

	Mean	S.D.	1	2	3	4	5	6
1. Independent Self-Construal	4.67	.685	--					
2. Interdependent Self-Construal	4.54	.721	.326**	--				
3. Preference for Support seeking	4.78	1.380	.189**	.172**	--			
4. Preference for visible support	5.66	1.172	.222**	.239**	.289**	--		
5. Preference for invisible support	3.83	1.157	.148**	.224**	.357**	.043	--	
6. Utilization of Support	3.01	.884	.129**	.242**	.144**	.352**	.068*	--

Note. **Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Self-Construal and Perception of Social Support

For the following hypotheses, preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. Hypothesis 1a, that there would be a positive relationship between independent self-construal (as measured by the Self-Construal Scale) and preference for support seeking (as measured by the Social Support Attitudes Scale), was given modest support (r=.189, n=1273, p<.0005). To investigate Hypothesis 1b, the expectation of a positive relationship between independent self-construal and preference for visible support (as measured by the Social Support Attitudes Scale), there was a significant correlation between the two variables (r=.222, n=1273, p<.0005). These findings give modest support to the expectation that those high in independent self-construal may prefer support seeking and prefer visible support.

There was a positive correlation ($r=.172$, $n=1273$, $p<.0005$) between interdependent self-construal (as measured by the Self-Construal Scale) and preference for support seeking contrary to Hypothesis 1c. Supporting Hypothesis 1d, there was a positive correlation ($r=.224$, $n=1273$, $p<.0005$) between interdependent self-construal and preference for invisible support. Thus, it is consistent with previous literature and the hypotheses of the current study that those high in interdependent self-construal may prefer invisible support. However, the findings of the current study are contrary to the prediction that those high in interdependent self-construal will be less likely to prefer support seeking and seem to contradict previous findings in the literature. This seeming contradiction is discussed further with the findings that relate to Hypothesis 2b below.

Self-Construal and Instrumental Social Support Use

Supporting Hypothesis 2a, there was a positive correlation between independent self-construal and use of instrumental social support (as measured by the COPE Inventory) ($r=.129$, $n=1273$, $p<.0005$). This result is consistent with the research showing that the ability to directly seek support allows for a personal sense of control for those with an independent self-construal (Uchida et al., 2008).

For Hypothesis 2b, I expected that those who score high on interdependent self-construal would be unlikely to display a coping style that prefers the use of instrumental social support. However, contrary to expectations, there was a positive correlation between the two variables, ($r=.242$, $n=1273$, $p<.0005$). Previous literature has only measured differences between East Asians and European Americans and has shown that East Asians are typically less likely to seek instrumental social support. Interdependent self-

construal is a different variable theoretically than ethnicity or even collectivism. This finding

may be one instance in which this difference is evident. Perhaps those high in

interdependent self-construal value connection and community and may attempt to

establish connection and community by seeking support from others or by disclosing. It is

also important to note that independent self-construal and interdependent self-construal

were also moderately correlated, r=.326, n=1273, p<.0001. Therefore, those who were high

in independent self-construal were also likely to be high in interdependent self-construal.

Thus, independent self-construal is not a direct opposite of interdependent self-construal in

the current study in the same way that collectivism and individualism in Eastern vs. Western

cultures are traditionally viewed.

Post Hoc Analyses: Self-Construal and Differences between Correlation Coefficients

Although none of the hypotheses predicting negative correlations were supported, post

hoc comparisons using the z-test for dependent correlations revealed interesting findings

(Meng, Rosenthal, & Rubin, 1992). There was a positive correlation between

interdependent self-construal and the preference for invisible support and independent

self-construal and the preference for invisible support. The difference between the

correlations between independent self-construal and the preference for invisible support

and interdependent self-construal and the preference of invisible support was statistically

significant, z_{obs}=2.075, p=.019. Thus, it appears that the relationship between

interdependent self-construal and the preference for invisible support was significantly

stronger than the relationship between independent self-construal and the preference for

invisible support. This finding lends support to the current research study hypotheses.

Further, there was a correlation between independent self-construal and instrumental social support use, $r=.129$, $n=1273$, $p<.0005$, and interdependent self-construal and instrumental social support use, $r=.242$, $n=1273$, $p<.0005$, with high levels of both independent and interdependent self-construal associated with high levels of instrumental social support use. However, the difference between these correlation coefficients was statistically significant, $z_{obs}=-2.85$, $p=.002$, in that the relationship between interdependent self-construal and instrumental social support use was significantly stronger than the relationship between independent self-construal and instrumental social support use. This finding is counter to the current hypotheses. This contradiction again suggests that independent and interdependent self-construals are not opposites and that interdependence might actually encourage support-seeking. On the contrary, because the relationship is only a correlation, it is just as plausible that being in a supportive group (getting lots of social support) might help shape a self that is more interdependent. Experimental evidence could help shed light on the question.

It is possible that the correlation between independent and interdependent self-construals may influence these results. Thus, regression analyses were performed to assess whether each type of self-construal contributed unique variance to the social support outcomes. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The two self-construals equally contributed unique variance to the preference for visible support and preference for support seeking. Further, both self-construals contributed unique variance to the preference for visible support and the use of instrumental social support. However, there

was a stronger relationship between interdependent self-construal and the preference for invisible support (*beta* = 6.80, *p* <.001) than independent self-construal and the preference for invisible support (*beta* = 2.93, *p* = .003). Further, there was a stronger relationship between interdependent self-construal and the use of instrumental social support (*beta* = 7.846, p <.001) than independent self-construal and the use of instrumental social support (*beta* = 1.96, *p* = .051). Accordingly, the regression analyses reflected the findings of the correlational analyses.

Exploratory Research Questions and Analyses

Examining social support in different cultures is beyond the scope of this dissertation; however, one of the future goals of this research is to examine the role (if any) that culture plays in the relationship between support outcomes and self-construal. Therefore, in Study 1, I explored research questions suggested by the literature. The majority of participants identified themselves as fitting into one of four ethnic/racial groups.

Because the relevant social support literature mainly addresses differences between Caucasians and Asians, I will limit my expectations to these comparisons. All other comparisons between ethnic groups will be explored. A diverse sample in Study 1 allowed for exploration of these questions:

a) How do various ethnic groups perceive social support receipt?
b) How does ethnicity relate to social support seeking?
c) How does ethnicity relate to self-construal?

It was expected that Caucasians would be more likely to seek support and prefer visible support receipt while Asian Americans would be less likely to seek support and more likely to prefer invisible support receipt. It was also expected that Caucasians and Asian

Americans would differ in self-construal with Caucasians higher in independence and Asian Americans higher in interdependence.

Four one-way between-groups analyses of variance were conducted to explore the impact of ethnicity on the preference for type of support, the tendency and preference to seek support, and self-construal. Participants were divided into four groups based on participant self-identification (Caucasian, Hispanic or Latino, Asian, and African or African American). There was not a statistically significant difference between means at the $p < .05$ level in preference for visible support scores for the four groups: F (3, 1237) = 1.11, p = .342.

There was a statistically significant difference between means at the $p < .05$ level in preference for invisible support scores for the four groups: F (3, 1237) = 5.78, p = .001. Post hoc comparisons using the Tukey HSD test indicated that the mean score for invisible social support for Asian Americans (M = 4.06, SD = 1.21) was significantly higher than the means for Caucasians (M = 3.74, SD = 1.09) and Hispanics and Latinos (M = 3.71, SD = 1.05). African Americans (M = 3.87, SD = 1.34) did not differ significantly from any of the other groups (see Table 2). Thus, results showed the expected difference – that Asians prefer invisible support more than Caucasians do.

There was a marginally significant difference between the means of the preference for support seeking for the four groups: F (3, 1237) = 2.16, p = .091. Post hoc comparisons using the Tukey HSD test indicated that the mean score for African Americans (M = 4.90, SD = 1.49) was marginally different from Caucasians (M = 4.64, SD = 1.42). Asian Americans (M = 4.77, SD = 1.34) and Hispanics and Latinos (M = 4.84, SD = 1.31) did not differ significantly from any of the other groups (see Table 2). There was not a statistically significant

difference at the $p < .05$ level in the tendency to seek instrumental support scores between the four groups. In four out of six comparisons, African Americans did not significantly differ from any other ethnic group. One comparison indicates that African Americans may be more likely to prefer seeking support than Caucasians and Asian Americans. However, because this finding was unexpected and only marginal, instead of interpretations, recommendations will be made for future research exploration of these comparisons.

More importantly, the expectation that Asians are more likely than Caucasians to prefer invisible support was supported. Although these were exploratory analyses, consistency with previous research bolsters confidence in these findings. The results also showed that Hispanic and Latino preferences were similar to those of Caucasians. Because the analyses

Table 2
ANOVA: Means for outcome variables within ethnic groups

	N	Preference for Visible Support	Preference for Invisible Support	Preference for Support Seeking	Independent Self-Construal	Interdependent Self-Construal
Caucasian	366	5.75 (1.12)	3.74 (1.09)[b]	4.64 (1.42)	4.65 (.691)[b]	4.44 (.712)[b]
Hispanic or Latino	368	5.69 (1.17)	3.71 (1.05)[b]	4.84 (1.31)	4.67 (.613)[b]	4.52 (.693)[b]
Asian	275	5.58 (1.24)	4.06 (1.21)[a]	4.77 (1.34)	4.55 (.723)[b]	4.80 (.717)[a]
African or African American	232	5.66 (1.24)	3.87 (1.34)	4.90 (1.49)*	4.86 (.684)[a]	4.45 (.712)[b]
Total	1241	5.46 (1.16)	3.83 (1.16)	4.78 (1.38)	4.67 (.682)	4.55 (.721)

* $p = .091$ (mean marginally higher in this group than the other 3 groups)
Note: Means with superscript [a] are significantly higher than means with superscript [b].

were exploratory, it is not clear whether the results reflect cultural values, acculturation levels, or a chance finding due to sampling issues.

There was a statistically significant difference between means at the $p < .05$ level in independent self-construal: F (3, 1265) = 9.53, $p < .001$. Post hoc comparisons using the Tukey HSD test indicated that the mean score for independent self-construal for African Americans (M = 4.86, SD = .684) was significantly higher than the means for Caucasians (M = 4.65, SD = .691), Hispanics and Latinos (M = 4.67, SD = .613), and Asian Americans (M = 4.55, SD = .723) (see Table 2).

There is little existing research assessing independent/interdependent self-construal in African Americans. More studies are needed to replicate this finding. However, this is an interesting result especially in tandem with the previous analyses. African Americans scored highest in independent self-construal of the four ethnic groups compared in this study and were also significantly more likely to prefer support seeking. Future research should test the hypothesis that, for African Americans, independent self-construal may help explain the likelihood to prefer support seeking.

There was a statistically significant difference between means at the $p < .05$ level in interdependent self-construal, F (3, 1265) = 16.487, $p < .001$. Post hoc comparisons using the Tukey HSD test indicated that the mean score for interdependent self-construal for Asian Americans (M = 4.80, SD = .717) was significantly higher than the means for Caucasians (M = 4.44, SD = .712), Hispanics and Latinos (M = 4.52, SD = .693), and African Americans (M = 4.45, SD = .712) (see Table 2). This finding is in line with expectations and indications from previous research assessing cultural orientations for Asians in that Asian

Americans were significantly higher in interdependent self-construal than the other three ethnic groups compared in this study.

Study 1 was intended to establish the framework of this research by analyzing the relationship between independent/interdependent self-construal and perceptions of social support receipt and tendencies to utilize social support (beliefs regarding visibility of support). Study 1 was fairly successful in demonstrating the relationship between self-construal and beliefs regarding support receipt. Study 2 will expand these findings by not only analyzing the direction in which self-construal influences beliefs regarding support receipt but also by analyzing how these beliefs can influence well-being outcomes when support is enacted, the proposed moderation.

Study 2 Overview and Hypotheses

The design of this study included a series of questionnaires aimed at uncovering the relationship between self-construal and the perception of social support (visible v. invisible). It was expected that there is a moderating effect of self-construal and social support on affect as depicted in Figure 1 (p. 3). The moderator (self-construal) was expected to specify the conditions under which the direction or strength of the relationship between the independent and dependent variables (social support and affect) vary.

Accordingly, I proposed the following hypotheses:

Hypothesis 3: Visibility of social support is expected to be positively related to positive affect when a person is high in independent self-construal (compared to those who are low in independent self-construal) such that the relationship between visibility of support and positive affect will be stronger (more positive) the more one's self-construal is independent.
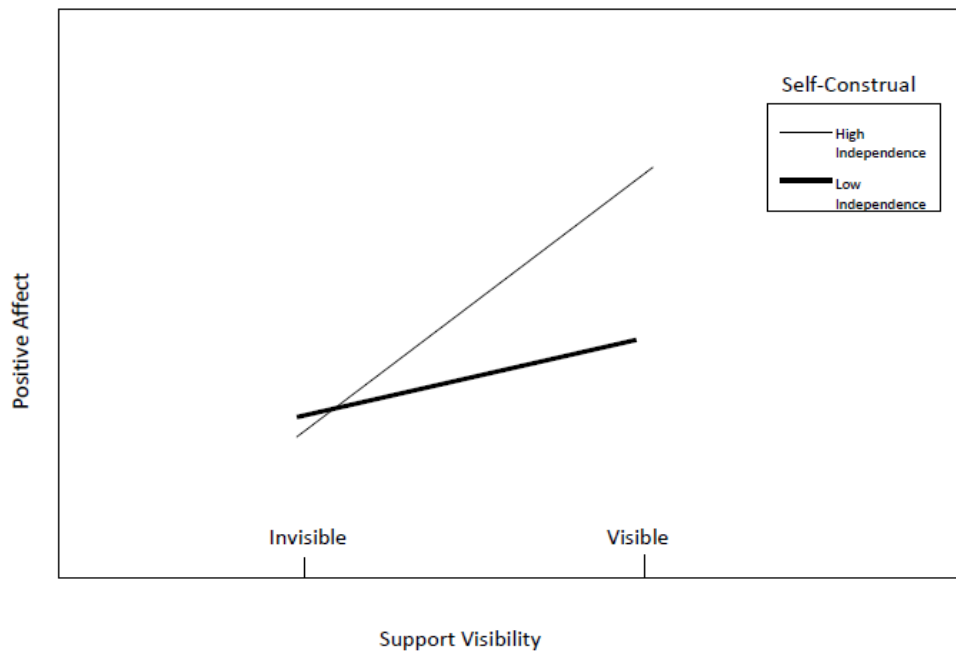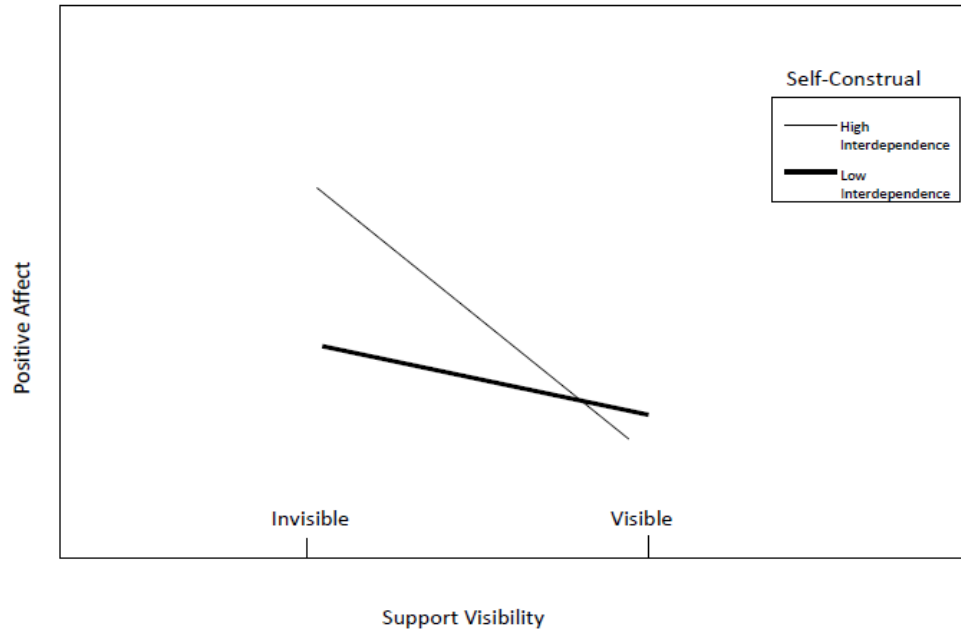
34

Figure 4. Expected results for Hypothesis 3: Independent Self-Construal, Support Visibility, and Positive Affect.

Hypothesis 4: Visibility of social support is expected to be negatively related to positive affect when a person is high in interdependent self-construal (compared to those who are low in interdependent self-construal) such that the relationship between visibility of support and positive affect will be stronger (more negative) the more one's self-construal is interdependent.
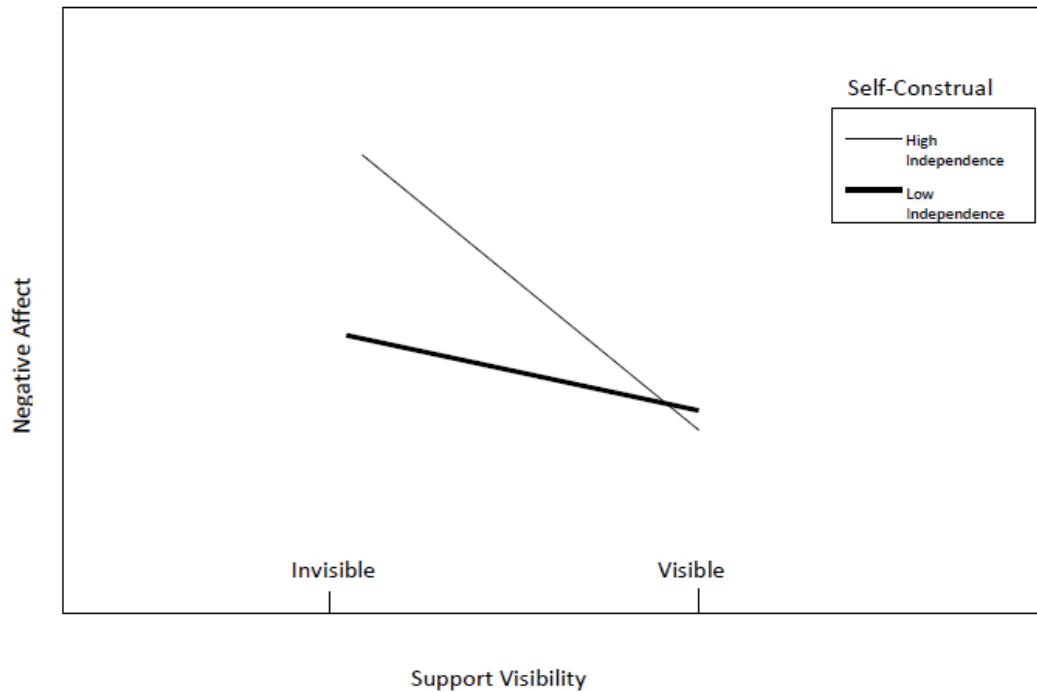
Figure 5. Expected results for Hypothesis 4: Interdependent Self-Construal, Support Visibility, and Positive Affect.

Hypothesis 5: Visibility of social support is expected to be negatively related to negative affect when a person is high in independent self-construal (compared to those who are low in independent self-construal) such that the relationship between visibility of support and negative affect will be stronger (more negative) the more one's self-construal is independent.
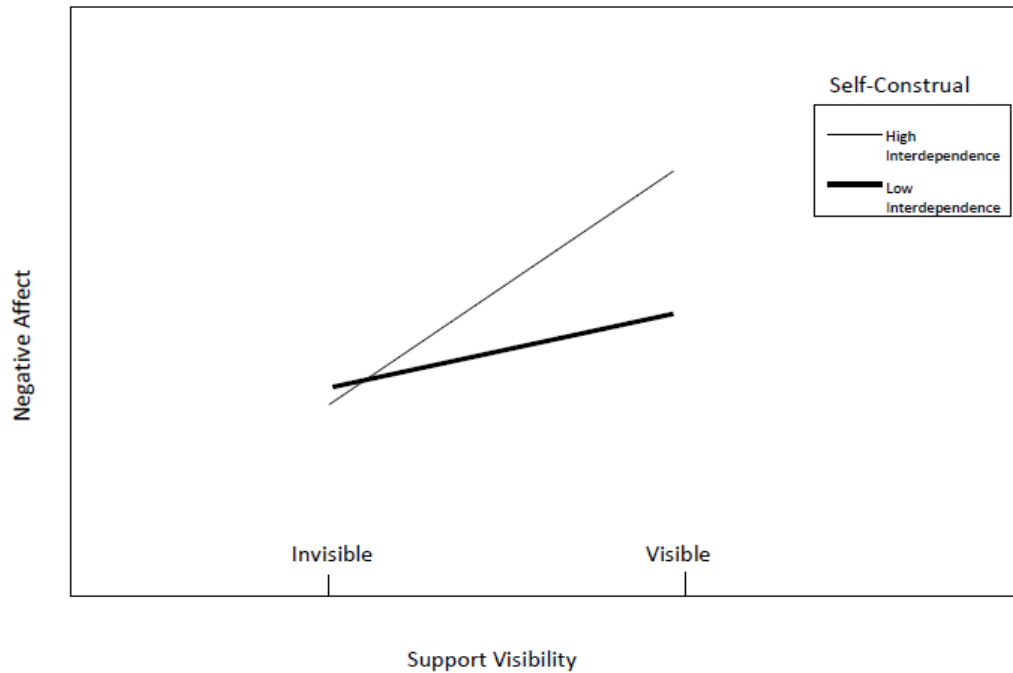
Figure 6. Expected results for Hypothesis 5: Independent Self-Construal, Support Visibility, and Negative Affect.

Hypothesis 6: Visibility of social support is expected to be positively related to negative affect when a person is high in interdependent self-construal (compared to those who are low in interdependent self-construal) such that the relationship between visibility of support and negative affect will be stronger (more positive) the more one's self-construal is interdependent.

Figure 7. Expected results for Hypothesis 6: Interdependent Self-Construal, Support Visibility, and Negative Affect.

Table 3 illustrates the hypothesized outcomes as a function of the interaction between self-construal and visibility of support.

Method

Participants

376 participants (282 females, 94 males) participated in this study. Participants were recruited from undergraduate Psychology courses at the University of Houston, online

Table 3
Predicted Outcomes of Social Support as a Function of the Interaction Between Self-Construal and Visibility of Social Support

	Visible Support	Invisible Support
Independent Self-Construal	More Positive Affect Less Negative Affect	More Negative Affect Less Positive Affect
Interdependent Self-Construal	More Negative Affect Less Positive Affect	More Positive Affect Less Negative Affect

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through the Sona system, and online through snowballing. To recruit participants from undergraduate Psychology courses at the University of Houston, a researcher or research assistant came to the course room and read the recruitment script (Appendix C). Interested participants were handed information on how to sign up for the study. To recruit participants through the Sona system and through snowballing, a description of the study and eligibility requirements were listed via the system or via email format. If applicable, participants received extra credit for their participation, and anonymity will be retained.

The mean age of participants was 31.62 (SD = 14.59). Of the participants in our study, 3.3% identified themselves as African-American, 2.5% identified themselves as Asian, 70% identified themselves as Caucasian (Non-Hispanic), 21.3% identified themselves as Hispanic or Latino, 1.1% identified as American Indian or Alaskan Native, and 1.9% identified themselves as Other.

Missing Data

Although there were 376 total participants in the study, missing data reduced the sample size for the current study analyses. Several participants did not complete the items at the end of the survey. Cases were excluded analysis by analysis (pairwise) if there were missing values for the variables of interest. Accordingly, degrees of freedom in each analysis differ, and sample sizes are reported with the results. After reflection, the participants in the control group were also excluded from the current study analyses as the control scenario was deemed irrelevant to social support receipt.

Procedure

Participants accessed the questionnaire and consent form via Qualtrics.com. Privacy and confidentiality will be maintained as no identifying information was collected. The participants were allowed to take as much time as needed to complete the questionnaire. Participants were then debriefed.

All participants completed an online questionnaire, including a baseline self-report questionnaire, a scenario, and a final self-report questionnaire. The current study was a replication and extension of previous research (Taylor et al., 2007) in order to more fully understand the process of socio-cultural influences on perceptions of social support receipt. Participants were randomly assigned to one of three conditions and read a specific scenario: 1) visible support condition, 2) invisible support condition, and 3) control condition. In this study, social support included advice and practical support. Each scenario was different; therefore, participants in each condition read a unique scenario.

Those in the visible support condition were asked to "Think about one person to whom you are close. Write about a time when you were aware that this person provided advice or practical support to you on an upcoming task/challenge. Describe the situation. What did you disclose to the person about the situation? What did you ask for? What did the person do for you? Please include any other details that you would like."

Those in the invisible support condition were asked to "Think about one person to whom you are close. Write about a time when that person provided advice or practical support to you on an upcoming challenge/situation without you realizing it at the time. Describe the situation. What did the person do for you? When did you come to the

realization that this person provided advice or practical support to you? Please include any other details that you would like."

Finally, those in the control condition were asked to "Think about local landmarks and then write about the places that you would recommend for a city tour".

The final questionnaire included the Positive and Negative Affect Scale (PANAS) and the Profile of Mood States (POMS). The outcome variables were determined from the recipients' responses to these scales. The scales included instructions asking participants to indicate how they felt in response to the support scenario and to answer accordingly. Lastly, participants were debriefed.

Measures

Independent/Interdependent Self-Construal. See Study 1 and Appendix K for description. The Cronbach's alpha for the independent self-construal subscale was .808, and the alpha coefficient for the interdependent self-construal subscale was .818.

Individualism/Collectivism Orientation. Participants completed the Individualism/Collectivism Orientation Scale, a 32-item measure designed to assess individualism and collectivism orientation. Participants receive two scores: an individualism and a collectivism score. The two are argued to be separate constructs and are not argued to be two ends of a continuous spectrum. An example question assessing individualism is "I often do 'my own thing'". An example question tapping into the collectivism dimension is "My happiness depends very much on the happiness of those around me". See Appendix L. The Cronbach's alpha for the individualism subscale was .831, and the alpha coefficient for the collectivism subscale was .848.

Positive and Negative Affect. Participants completed the Positive and Negative Affect Scale, a 20-item questionnaire with two affect subscales: a 10-item positive affect subscale (interested, excited, proud, etc.) and a 10-item negative affect subscale (guilty, nervous, upset, etc.). It was scored on a 5-point Likert-type scale with 1 being "very slightly or not at all" and 5 being "extremely." This scale included instructions asking participants to imagine how they felt in response to the support scenario and to answer accordingly. See Appendix O.   The Cronbach's alpha for the positive affect subscale was .919, and alpha coefficient for the negative affect subscale was .895.

Elation, Depressed Mood, and Anxiety. Participants completed the Profile of Mood States, a 12-item questionnaire derived from the original scale containing 72 adjectives assessing the mood states of depression, anxiety, and elatedness (POMS; Lorr & McNair, & Fischer, 1982). The items tapping depression were "sad," "blue," "unhappy," and "gloomy." Anxious items were "nervous, "tense," "on edge," and "anxious." Elated items were "happy," "satisfied," "pleased," and "elated." The degree to which the adjective described their feelings ranged from 1 (not at all) to 5 (extremely). This scale included instructions asking participants to imagine how they felt in response to the support scenario and to answer accordingly. See Appendix P. The Cronbach's alpha for the elation subscale was .834, the alpha coefficient for the depressed mood subscale was .894, and the alpha coefficient for the anxiety subscale was .889.

<div align="center">Results and Discussion</div>

This results and discussion section has four sections. The first section is self-explanatory (Descriptive Results). The second section will explain the analyses and results

for the hypotheses (Hypothesized Moderators). The third section, Post Hoc Analyses:

Three-Way Interactions, will present additional analyses designed to help explain

unexpected results in the second section. The fourth section, Exploratory Analyses,

presents analyses that parallel the testing of hypotheses, by substituting individualism and

collectivism for independent and interdependent self-construals.

Descriptive Results

Means, standard deviations, and correlations among the main study variables are

presented in Table 4. The means for the outcomes variables for two conditions are

presented in Table 5. The main focus of this study was the relationship between

independent/interdependent self-construal, social support receipt, and the outcome

Table 4
Means, Standard Deviations, and Correlations between Main Study Variables

	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Independent Self-Construal	4.70	.667	--								
2. Interdependent Self-Construal	4.47	.772	.308**	--							
3. Positive Affect	34.53	8.880	.305**	.088	--						
4. Negative Affect	19.53	8.523	.079	-.015	-.061	--					
5. Elation	11.16	2.983	.220**	.062	.608**	-.264**	--				
6. Anxiety	7.49	3.364	-.003	-.092	.042	.722**	-.197*	--			
7. Depressed Mood	6.42	3.065	-.086	-.159	-.134	.618**	-.401**	.676**	--		
8. Collectivism	4.86	.823	.170	.774**	.102	.028	.155	-.037	-.145	--	
9. Individualism	4.83	.750	.580**	.081	.245**	.255**	.107	.210*	.156	.030	--

Note. **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

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Table 5

Means for Outcome Variables in the Two Conditions

	Positive Affect	Negative Affect	Elation	Anxiety	Depressed Mood
Visible Support	33.73 (9.04)	20.89 (9.02)[a]	10.75 (3.03)[b]	8.32 (3.44)[a]	6.6 (3.25)
Invisible Support	35.48 (8.74)	17.88 (7.69)[b]	11.6 (2.9)[a]	6.59 (3.07)[b]	6.22 (2.87)

Note: Means with superscript [a] (within column) are significantly higher than means with superscript [b].

variables (positive or negative feelings). The independent variable (support

visibility/invisibility) was a categorical variable that was determined by the condition in

which the participant was assigned and was dummy coded, 0 for invisible support receipt

and 1 for visible support receipt. The moderating variable (independent/interdependent

self- construal) was determined from the recipients' responses on the

Independent/Interdependent Self- Construal Scale. Each subject received two scores on

this scale: one for the strength of the independent self and one for the interdependent self.

The dependent variables were determined from the recipients' responses on the Positive

and Negative Affect Scale and the three subscales of the Profile of Mood States Scale. The

scores for individualism and collectivism are also included as these variables were used in

follow-up analyses.

It is important to note that the positively-valenced variables - positive affect and

elation - and the negatively-valenced variables - negative affect, anxiety, and depressed

mood - are related in the expected direction (see Table 4). Independent self-construal and

individualism are significantly correlated, $r=.580$, $n=123$, $p<.0005$, while interdependent

self-construal and collectivism are significantly correlated, $r=.774$, $n=123$, $p<.0005$, as expected.

Hypothesized Moderators

Self-construal was examined as a moderator of the relation between social support receipt and affect by performing multiple regression analyses using Preacher and Hayes Process Macro in SPSS (Preacher and Hayes, 2004; Aiken & West, 1991). The variables were centered, and to test moderation, multiple regression analyses were performed examining the following equation: Positive Affect$_i$ = b_0Intercept + b_1Support Visibility$_i$ + b_2Self-Construal$_i$ + b_3Interaction$_i$ + eError$_i$. For Hypothesis 3, the outcome, Positive Affect, was regressed on Support Visibility, Independent Self-Construal, and finally the interaction of the predictor and the moderator, or Support Visibility X Independent Self-Construal. For Hypothesis 4, Positive Affect was regressed on Support Visibility, Interdependent Self-Construal, and Support Visibility X Interdependent Self-Construal. Hypotheses 5 and 6 were tested in the same manner as Hypotheses 3 and 4 except that the variable "Negative Affect" was substituted for "Positive Affect" in each regression analysis.

Table 6 presents results for each of the models. There are two models for each outcome variable (e.g., positive affect), because there are two separate predicted moderators (independent and interdependent self-construal). Results with positive and negative affect scores (from the PANAS) as outcomes will be discussed first (Models 1-4). Then, results using elation, depressed mood, and anxiety (from the POMS) as outcomes will follow (Models 5-10).

The first overall model was significant, F (3, 118) = 5.61, p = .0013, R^2= .1103. There

was no main effect for support visibility, b = -2.04, t (118) = -1.30, p = .195, a main effect for

independent self-construal, b = 4.04, t (118) = 3.67, p < .001, ΔR^2 = .136, and no significant

interaction between independent self-construal and support visibility, b = 1.68, t (118) = .76,

p = .45, ΔR^2 = .001. The second overall model produced no significant results. The third

overall model was not significant, F (3, 118) = 1.62, p = .19, R^2= .04. There was a marginal

main effect for support visibility, b = 2.83, t (118) = 1.84, p = .06, no main effect for

independent self-construal, b = 1.05, t (118) = .89, p = .38, ΔR^2 = .006, and no significant

interaction between independent self-construal and support visibility, b = -2.13, t (118) = -

.92, p = .36, ΔR^2 = .001. The fourth overall model was not significant, F (3, 118) = 1.14, p =

.34, R^2= .03. There was a marginal main effect for support visibility, b = 2.88, t (118) = 1.84,

p = .068, no main effect for interdependent self-construal, b = -.30, t (118) = -.26, p = .80,

ΔR^2 = .004, and no significant interaction between interdependent self-construal and

support visibility, b = -.29, t (118) = -.12, p = .90, ΔR^2 = .006. Thus, there were no significant

findings for the proposed hypotheses using the PANAS to score positive and negative affect

(Models 1-4, Table 6).

Using the POMS, elation, depressed mood, and anxiety scores were also used to

represent positive and negative affect for the dependent variable (Models 5-10). The fifth

overall model was significant, F (3, 117) = 4.13, p = .008, R^2 = .08. There was a marginal

main effect for support visibility, b = -.93, t (117) = -1.74, p = .08, a main effect for

independent self-construal, b = 1.00, t (117) = 2.83, p = .005, ΔR^2 = .070, and no significant

interaction between interdependent self-construal and support visibility, b = .77, t (117) = 1.08, p = .28, ΔR^2 = .001. The sixth overall model was not significant, F (3, 117) = 1.44, p = .23, R^2 = .03. There was a marginal main effect for support visibility, b = -.34, t (117) = -1.72, p = .08, no main effect for interdependent self-construal, b = .31, t (117) = 1.02, p = .31, ΔR^2 = .011, and no significant interaction between interdependent self-construal and support visibility, b = -.34, t (117) = -.55, p = .58, ΔR^2 = .001.

When examining the main effects of independent self-construal and support visibility on depressed mood and the interaction of independent self-construal and support visibility on depressed mood, the moderations were significant. The seventh overall model was not significant, F (3, 117) = 1.798, p = .15, R^2 = .05. There was not a main effect for either support visibility, b = .308, t (117) = .55, p =.58 nor independent self-construal, b = -.38, t (117) = -.87, p = .38, ΔR^2 = .000; however, the interaction effect of independent self-construal and support visibility was significant, b = -1.98, t (117) = -2.28, p = .02, ΔR^2 = .000 (see Table 6). When I controlled for age and sex, results were the same. The relationship between depressed mood and support visibility was significant in the low independent self-construal group, but not in the high independent self-construal group (see Figure 8). The simple regression equations and tests of simple slopes for support visibility revealed that for high independent self-construal, there was no relationship between support visibility and depressed mood, b = -.994, t (115) = -1.30, p = .196. For low independent self-construal, decrease in independent self-construal was significantly predictive of increases in depressed mood, b = 1.61, t (115) = 1.94, p = .05. By using the Johnson-Neyman technique, I was able to see that when independent self-construal was low, support visibility and

Table 6

Regression Analyses Testing the Proposed Moderation Models

	F	R^2	ΔR^2	df	b	t	p
Model 1. Outcome = Positive Affect	5.61	.110		3, 118			.0013**
1. Support Visibility		.004		118	-2.04	-1.30	.195
2. Independent Self-Construal		.140	.136	118	4.04	3.67	<.001**
3. Support Visibility x Independent Self-Construal		.142	.001	118	1.68	.76	.45
Model 2. Outcome = Positive Affect	.77	.02		3, 118			.51
1. Support Visibility		.004		118	-2.13	-1.29	.20
2. Interdependent Self-Construal		.034	.029	118	1.11	.977	.33
3. Support Visibility x Interdependent Self-Construal		.038	.004	118	.15	.07	.98
Model 3. Outcome = Negative Affect	1.62	.04		3, 118			.19
1. Support Visibility		.011		118	2.83	1.84	.06
2. Independent Self-Construal		.017	.006	118	1.05	.89	.38
3. Support Visibility x Independent Self-Construal		.018	.001	118	-2.13	-.92	.36
Model 4. Outcome = Negative Affect	1.14	.03		3, 118			.34
1. Support Visibility		.011		118	2.88	1.84	.068
2. Interdependent Self-Construal		.015	.004	118	-.30	-.26	.80
3. Support Visibility x Interdependent Self-Construal		.017	.003	118	-.29	-.12	.90
Model 5. Outcome = Elation	4.13	.08		3, 117			.008**
1. Support Visibility		.001		117	-.93	-1.74	.08
2. Independent Self-Construal		.071	.070	117	1.00	2.83	.005**
3. Support Visibility x Independent Self-Construal		.072	.001	117	.77	1.08	.28
Model 6. Outcome = Elation	1.44	.03		3, 117			.23
1. Support Visibility		.001		117	-.34	-1.72	.08
2. Interdependent Self-Construal		.012	.011	117	.31	1.02	.31
3. Support Visibility x Interdependent Self-Construal		.013	.001	117	-.34	-.55	.58
Model 7. Outcome = Depressed Mood	1.80	.05		3, 117			.15
1. Support Visibility		.022		117	.308	.55	.58
2. Independent Self-Construal		.022	.000	117	-.38	-.87	.38
3. Support Visibility x Independent Self-Construal		.023	.000	117	-1.98	-2.28	.02*
Model 8. Outcome = Depressed Mood	.73	.035		3, 117			.53
1. Support Visibility		.022		117	.38	.66	.51
2. Interdependent Self-Construal		.023	.000	117	-.63	-1.21	.23
3. Support Visibility x Interdependent Self-Construal		.030	.008	117	-.60	-.58	.57
Model 9. Outcome = Anxiety	3.47	.079		3, 117			.018*
1. Support Visibility		.005		117	1.62	2.68	.008**
2. Independent Self-Construal		.008	.002	117	-.03	-.06	.95
3. Support Visibility x Independent Self-Construal		.008	.000	117	-1.46	-1.61	.11
Model 10. Outcome = Anxiety	3.01	.072		3, 117			.03*
1. Support Visibility		.005		117	1.68	2.79	.006**
2. Interdependent Self-Construal		.006	.001	117	-.49	-1.11	.27
3. Support Visibility x Interdependent Self-Construal		.008	.002	117	-.28	-.31	.76

Note. **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).
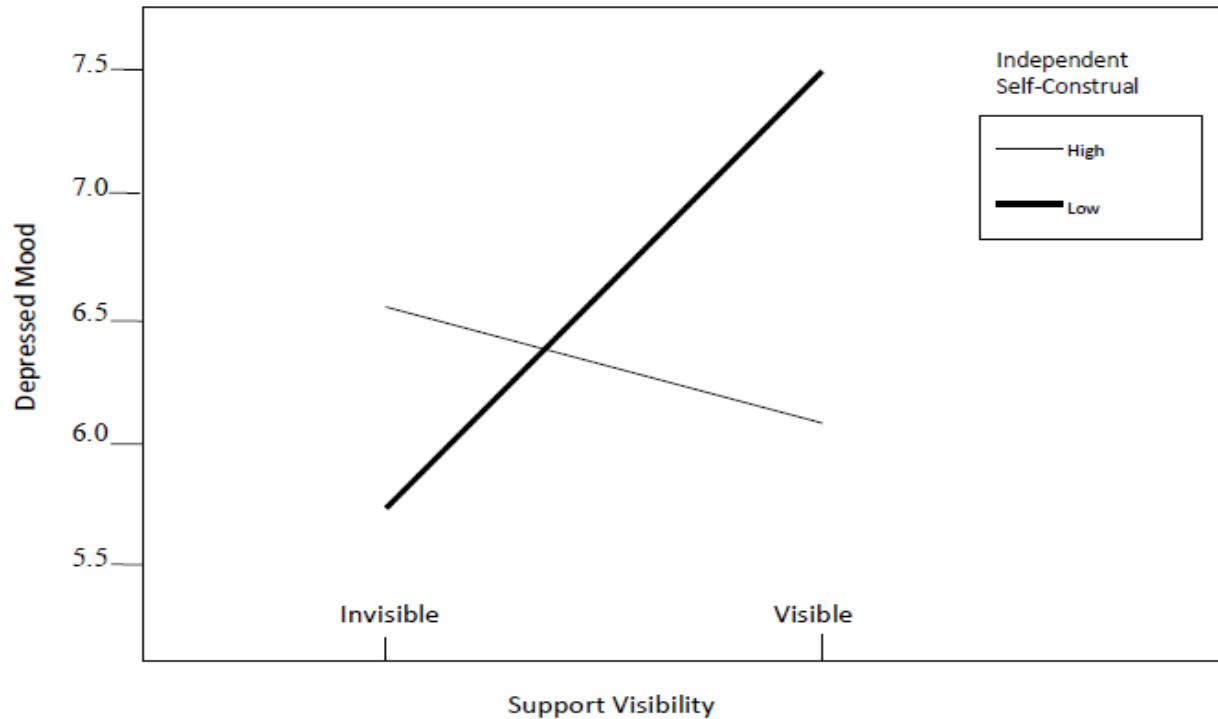
Figure 8. Graph of the interaction between support visibility and self-construal on depressed mood.

depressed mood are significantly related, b = 1.71, t (115) = 1.98, p = .05. Further, as

independent self-construal decreases, the relationship between support   visibility and

depressed mood becomes more positive with the lowest level of independent self-

construal, b = 3.56, t (115) = 2.26, p = .025. Thus, individuals who have a low independent

self-construal are less likely to benefit from visible support and more likely to experience

depressed mood after receiving visible support.

The eighth overall model produced no significant effects (see Table 6). The ninth

overall model was significant, F (3, 117) = 3.47, p = .018, R^2 = .079. There was a main effect

for support visibility, b = 1.62, t (117) = 2.68, p =.008. There was not a main effect for

independent self-construal, b = -.03, t (117) = -.06, p = .95, ΔR^2 = .002, and the interaction

effect of independent self-construal and support visibility was also not significant, b = -1.46,

t (117) = -1.61, *p* = .11, Δ*R²* = .000 (see Table 6). The tenth overall model was significant, *F* (3, 117) = 3.01, *p* = .03, *R²* = .072. There was a main effect for support visibility, *b* = 1.68, *t* (117) = 2.79, *p* =.006. There was not a main effect for interdependent self-construal, *b* = -.49, *t* (117) = -1.11, *p* = .27, Δ*R²* = .001, and the interaction effect of independent self-construal and support visibility was also not significant, *b* = -.28, *t* (117) = -.31, *p* = .76, Δ*R²* = .002 (see Table 6). Post hoc analyses will help explain the nonsignificant findings.

Post Hoc Analyses: Three-Way Interactions

Because social support has been shown to be perceived differently by men and women and independence and interdependence vary by gender in the United States, three-way interactions of self-construal, support visibility, and sex in predicting affect, such that the association between support visibility, self-construal, and affect will be different for men and women, were explored in hopes that examining the role of sex in the model would help explain the current findings. To test the three-way interaction effects, multiple regression analyses were performed examining the following equation: Positive (Negative) Affect = i_1 + b_1 Support Visibility + b_2Self-Construal + b_3Sex + b_4 Support Visibility*Self-Construal + b_5 Support Visibility*Sex + b_6Self-Construal*Sex + b_7Support Visibility*Self-Construal*Sex + e_Y. A conceptual representation of the three-way interaction, or the moderated moderation, can be found in Figure 9.

I first start with outcomes of positive and negative affect from the PANAS. I found that the magnitude of the moderation by self-construal of the effect of support visibility on affect depends on the sex of the recipient. There were no significant results when using
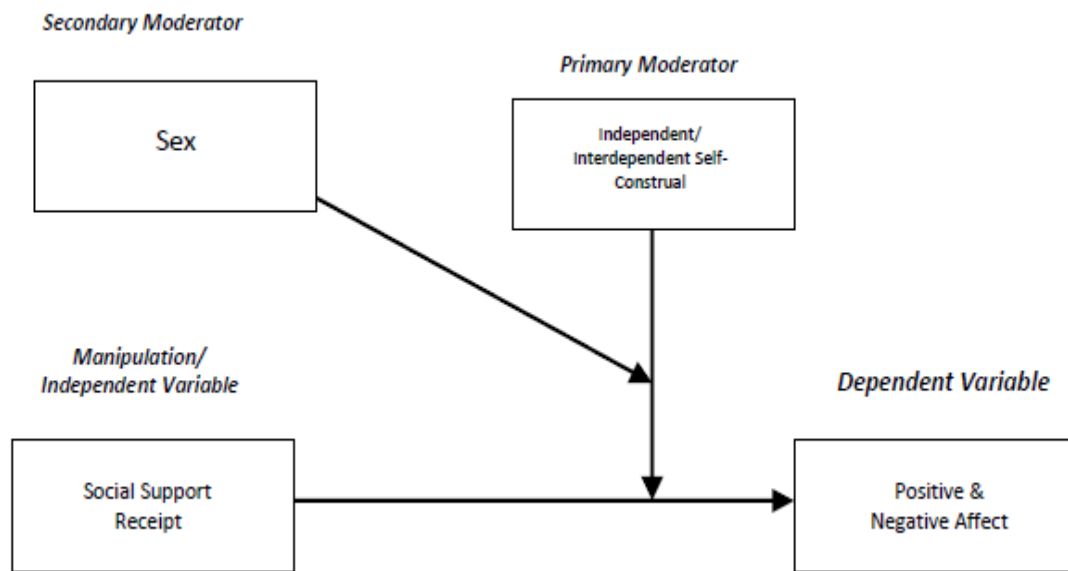
Figure 9. Moderated moderation model.

positive affect as the outcome. When using negative affect as the dependent variable, the three-way interaction between support visibility, independent self-construal, and sex was statistically significant, $b = 14.06$, $t(114) = 3.18$, $p = .002$. The relationship between negative affect and support visibility was significant in the low independent self-construal group, but only for males, $b = 10.75$, $t(114) = 3.09$, $p = .003$ (see Figure 10).

The simple regression equations and tests of simple slopes for support visibility in males revealed that for high independent self-construal, there was no relationship between support visibility and negative affect, 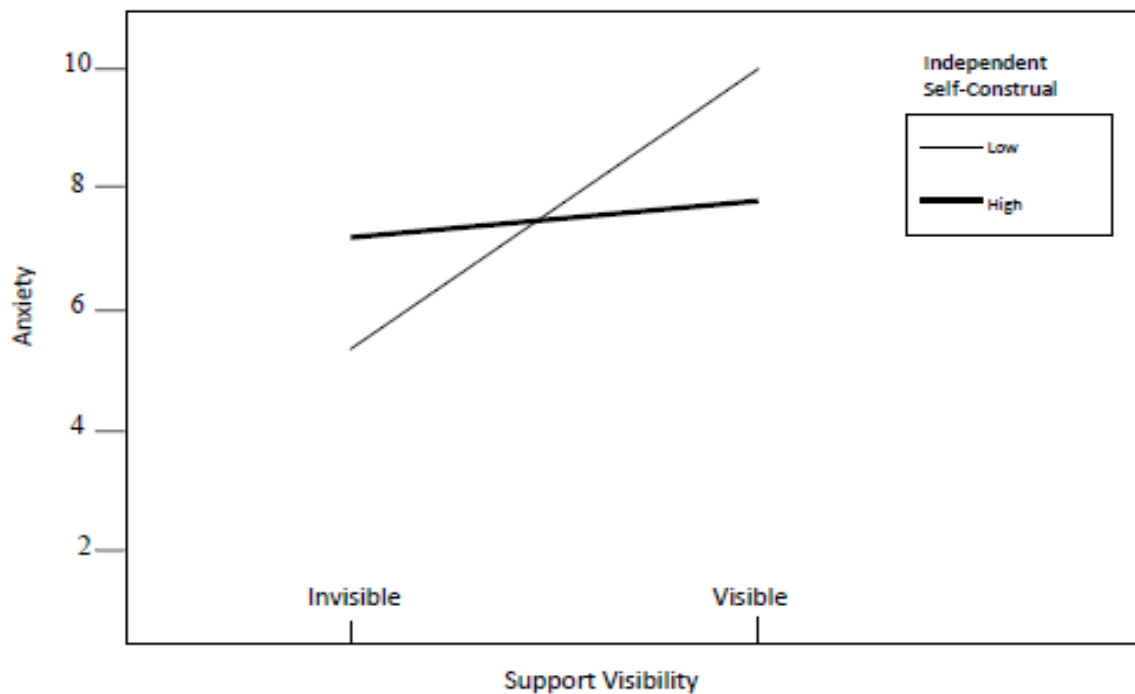$b = -2.63$, $t(114) = -.95$, $p = .34$. For low independent self-construal, decrease in independent self-construal was significantly predictive of increases in negative affect in men.
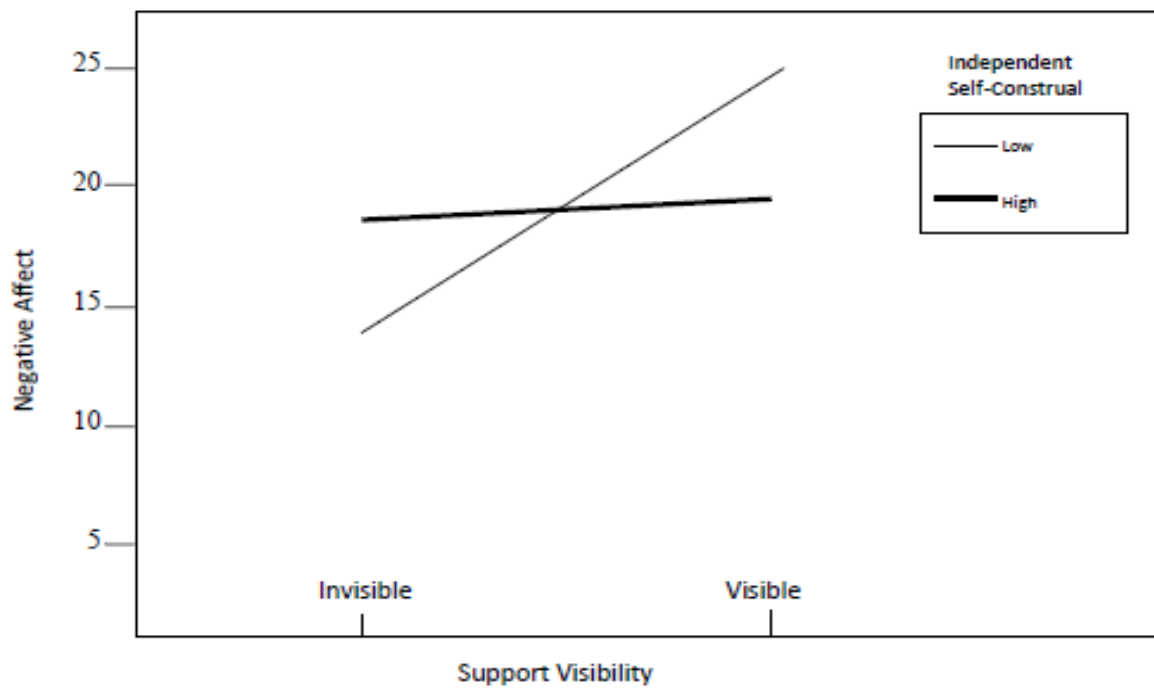
Figure 10. Graph of the three-way interaction between support visibility, independent self-construal, and sex on negative affect: males.

For females, the relationship between negative affect and support visibility was significant in the high independent self-construal group, $b = 6.28$, t (114) = 2.03, $p = .04$ (see Figure 11).   For women, when independent self-construal was low, there was no relationship between support visibility and negative affect, $b = .97$, t (114) = .37, $p = .72$. For high independent self-construal, increase in independent self-construal was significantly predictive of increases in negative affect in women. Thus, males who are low in independent self-construal and females who are high in independent self-construal are both more likely to experience negative affect after having received visible support and less likely to benefit from visible support receipt. Both groups may be more vulnerable to the negative aspects of visible social support.
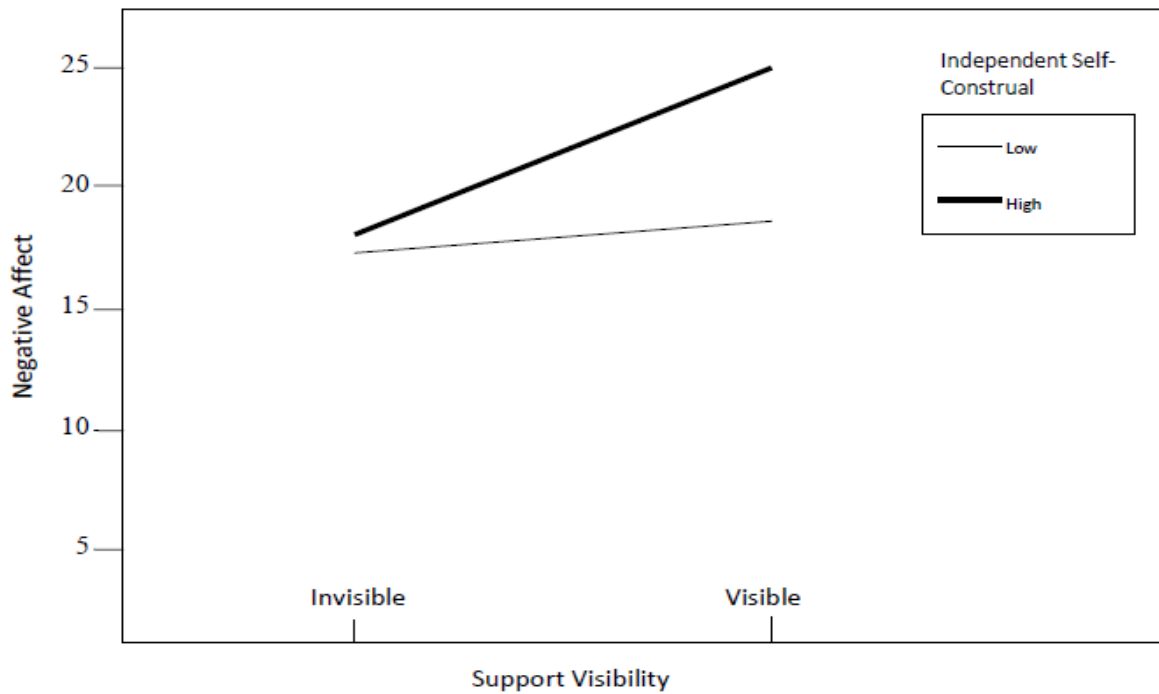
Figure 11. Graph of the three-way interaction between support visibility, independent self-construal, and sex on negative affect: females.

Using outcome measures from the POMS, there were no significant findings with elation and depressed mood. However, the three-way interaction with anxiety as the outcome was significant (b = 3.92, t(113) = 2.05, p = .042). Thus, the magnitude of the moderation by independent self-construal of the effect of support visibility on anxiety also depends on the sex of the recipient. The relationship between anxiety and support visibility was significant in the low independent self-construal group, but only for males, b = 4.35, t (114) = 2.52, p = .013 (see Figure 12). The simple regression equations and tests of simple slopes for support visibility in males revealed that for high independent self-construal, there was no relationship between support visibility and anxiety, b = -.56, t (114) = -.55, p = .584.

Figure 12. Graph of the three-way interaction between support visibility, independent self-construal, and sex on anxiety: males.

For low independent self-construal, decrease in independent self-construal was significantly predictive of increases in anxiety in males, b = 4.35, t (114) = 2.52, p = .013. Thus, males who are low in independent self-construal are more likely to experience anxiety after having received visible support and less likely to benefit from visible support receipt. Again, this supports the notion that males who are low in independent self-construal may be more vulnerable to the negative aspects of visible social support. For females, there was not a statistically significant interaction; however, there was a simple effect of support visibility on anxiety, b = 1.94, t (114) = 2.43, p = .02. Therefore, women in general are more likely to experience anxiety when receiving visible support than when receiving invisible support.

Exploratory Analyses

Individualism/collectivism was used as a moderator to see if results parallel those of independent/interdependent self-construal. There were no significant findings when using collectivism as the moderator, just as there were no significant findings with interdependence as the moderator. When examining the effects of individualism and support visibility on both negative affect and depressed mood, the moderation analyses were significant. When using negative affect as the dependent variable, the overall model was significant, F (3, 118) = 7.83, $p < .001$, R^2 = .11. There was a marginal main effect for support visibility, b = 2.50, t (118) = 1.71, p = .09 and a main effect for individualism, b = 3.02, t (118) = 3.46, $p < .001$, ΔR^2 = .062. Further, the interaction effect of individualism and support visibility was significant, b = -3.50, t (118) = -2.03, p = .045, ΔR^2 = .005 (see Table 7). The relationship between negative affect and support visibility was significant in the low individualism group, but not in the high individualism group (see Figure 13). The simple regression equations and tests of simple slopes for support visibility revealed that for high

Table 7
Regression Analyses of Individualism and Support Visibility on Negative Affect and Depressed Mood

	F	R²	ΔR²	df	b	t	p
Model 1. Outcome = Negative Affect	7.83	.11		3, 118			<.001**
1. Support Visibility				118	2.50	1.71	.09
2. Individualism			.062	118	3.02	3.46	<.001**
3. Support Visibility x Individualism			.005	118	-3.50	-2.03	.045*
Model 2. Outcome = Depressed Mood	3.52	.05		3, 117			.017*
1. Support Visibility				117	-1.26	-2.03	.71
2. Individualism			.022	117	.716	2.30	.023*
3. Support Visibility x Individualism			.005	117	-1.26	-2.03	.045*

Note. **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

individualism, there was no relationship between support visibility and negative affect, b = -.13, t (118) = -.06, p = .95. For low individualism, decrease in individualism was significantly predictive of increases in negative affect, b = 5.13, t (118) = 2.77, p = .007. By using the Johnson-Neyman technique, I was able to see that when individualism was low, support visibility and negative affect are significantly related, b = 2.89, t (118) = 1.98, p = .05. Further, as individualism decreases, the relationship between support visibility and negative affect becomes more positive with the lowest level of individualism, b = 8.91, t (118) = 2.67, p = .009. Thus, for those who are low in individualism, they are less likely to benefit from visible support and more likely to experience negative affect after receiving visible support.
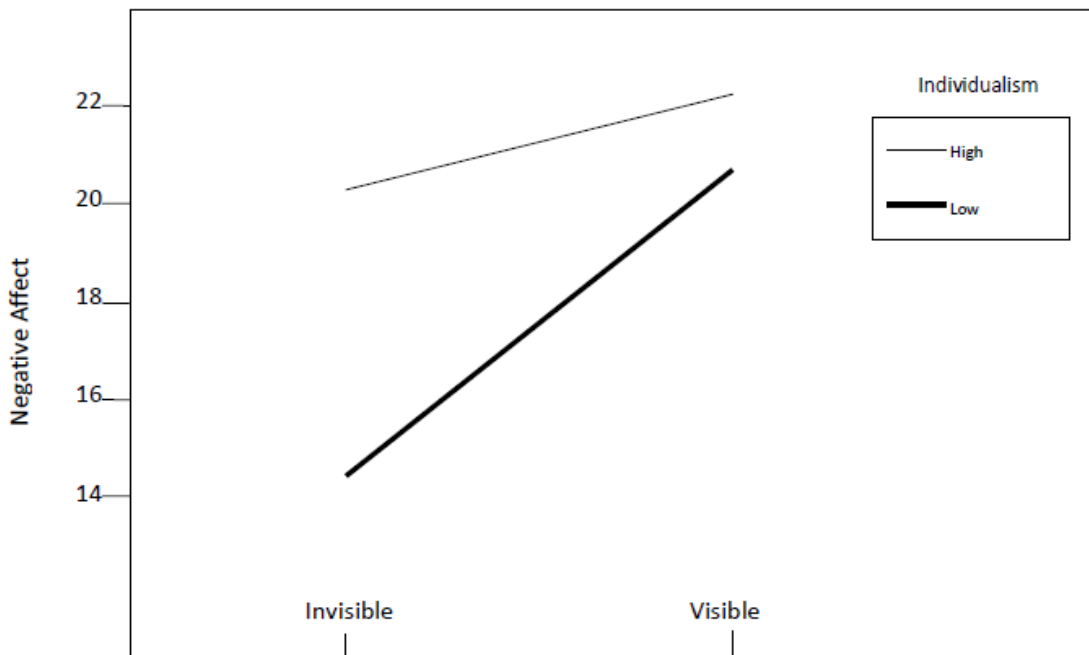
Figure 13. Graph of the interaction between individualism and support visibility on negative affect.

When analyzing the effect of individualism and support visibility on depressed

mood, the overall model was significant, F (3, 117) = 3.52, p = .017, R^2 = .05. There was not

a main effect for support visibility, b =-1.26, t (117) = -2.03, p =.71. There was a main effect

for individualism, b = .716, t (117) = 2.30, p = .023, ΔR^2 = .022. The interaction effect of

individualism and support visibility was significant, b = -1.26, t (117) = -2.03, p = .045, ΔR^2 =

.005 (see Table 7). The relationship between depressed mood and support visibility was

significant in the low individualism group, but not in the high individualism group (see

Figure 14).
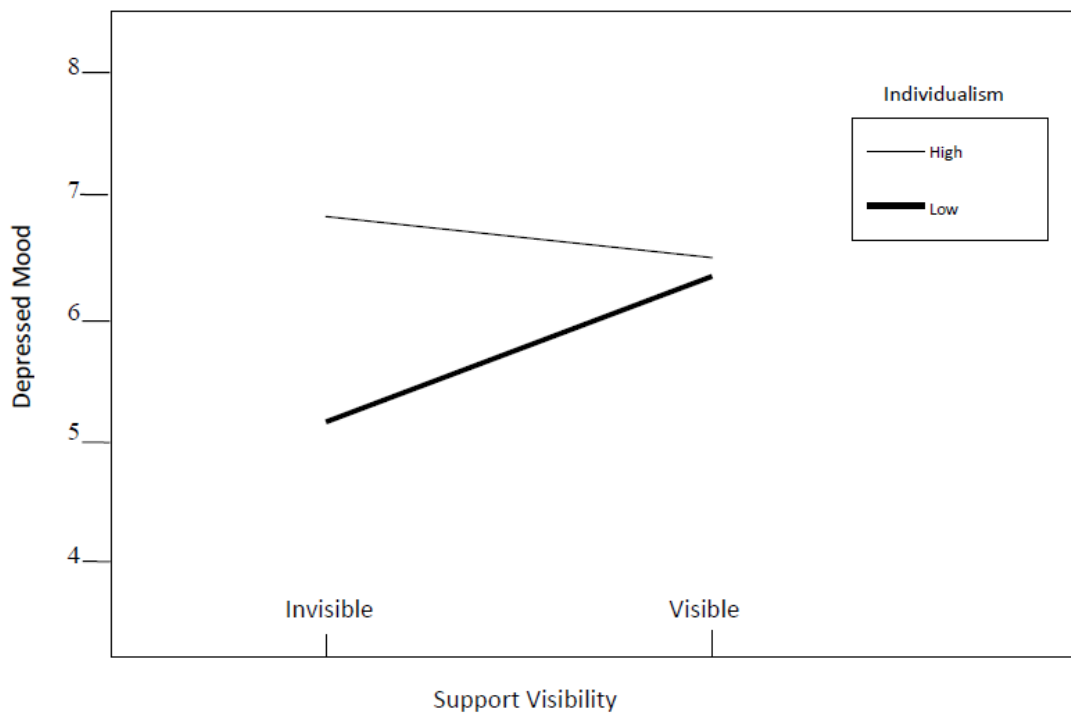
Figure 14. Graph of the interaction between individualism and support visibility on depressed mood

The simple regression equations and tests of simple slopes for support visibility revealed that for high individualism, there was no relationship between support visibility and depressed mood, b = -.75, t (117) = -.92, p = .36. For low individualism, decrease in individualism was significantly predictive of increases in depressed mood, b = 1.16, t (117) = 1.83, p = .07. By using the Johnson-Neyman technique, I was able to see that when individualism was low, support visibility and depressed mood are significantly related, b = -.92, t (117) = 1.98, p = .05. Further, as individualism decreases, the relationship between support visibility and depressed mood becomes more positive with the lowest level of individualism, b = 2.53, t (117) = 2.22, p = .0287. Thus, for those who are low in individualism, they are less likely to benefit from visible support and more likely to experience depressed mood after receiving visible support. These results are consistent with the findings regarding low independent self-construal and affect.

There were no significant findings for positive affect, elation, and anxiety as the outcomes.

General Discussion

Two studies provide insight into our understanding of the relationship between support receipt and well-being. These studies investigated the important role of self-construal in the social support process. Study 1 was intended to establish the framework of this research by analyzing the relationship between independent/interdependent self-construal and perceptions of social support receipt and tendencies to utilize instrumental social support (beliefs regarding visibility of support). Study 2 was intended to expand Study 1 by not only analyzing the direction in which self-construal influences beliefs

regarding support receipt but also by analyzing how these beliefs can influence well-being outcomes when support is enacted.

Social Support Visibility and Self-Construal

The current research has made a number of important contributions that I hope will lead to greater precision in research on social support receipt and well-being. The general finding that visible support is less beneficial than invisible support was replicated (Bolger et al., 2000). Yet, previous literature has also resulted in conflicting findings regarding the effectiveness of support and specifically the effectiveness of support visibility (Biehle & Mickelson, 2012; Bolger & Amarel, 2007; Girme, Overall, & Simpson, 2013; Gleason et al., 2003; Maisel & Gable, 2009; Shrout et al., 2006). The current research expanded the literature by showing when and how visible support and invisible support are effective and beneficial by linking self-construal to the social support process – further clarifying the discrepancies in the existing literature.

It was expected that those high in independent self-construal would be likely to prefer visible support and those high in interdependent self-construal would be likely to prefer invisible support. Study 1 demonstrated that self-construal is, in fact, related to a preference for support visibility. As expected, those who were high in independent self-construal were likely to prefer visible support. Further, those who were high in interdependent self-construal were more likely to prefer invisible support than those who were high in independent self-construal. These findings are consistent with established literature showing that European Americans are comfortable seeking instrumental support and prefer visible support, because support-seeking and visible support are validating to the

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self (Kim et al., 2006; Taylor et al., 2007). Further, previous literature has shown that Asians

and Asian Americans are less likely to seek support and are less likely to report that support

is helpful (Kim et al., 2006; Taylor et al., 2004).

Social Support Seeking and Self-Construal

It was expected that those high in independent self-construal would be more likely

to seek support than those high in interdependent self-construal. This finding was not

supported in the current research. Study 1 demonstrated that there is a relationship

between self-construal and support-seeking. Both independent self-construal and

interdependent self-construal were associated with support-seeking behaviors, and Study 1

showed that interdependent self-construal is more strongly associated with seeking social

support in stressful situations than independent self-construal. This contradiction suggests

that independent and interdependent self-construals are not opposites and that

interdependence might actually encourage support-seeking. Questions remain as to

whether those who are high in interdependence may become overwhelmed by stress in the

same way as those who are not high in interdependence and consequently may feel an

urgency to seek help from others so as to overcome a problem. Support-seeking and visible

support receipt may still be detrimental to one's general overall well-being; however, those

high in interdependence may seek support in instances in which they see no other way to

resolve the problem. Although it is contrary to existing literature linking independent

cultures (ethnicities) to self-disclosure and support-seeking, one possible suggestion is that

perhaps those high in interdependence seek to establish community and intimacy with

others by self-disclosing and by seeking support (Kim et al., 2006; Taylor et al., 2004).

Further, these analyses were limited to instrumental support. It is reasonable to conclude that asking for instrumental support is not the same as self-disclosing emotional problems. Further research should examine the role of self-construal, if any, in perceptions of instrumental and emotional support seeking.

Social Support Visibility, Self-Construal, and Affect

The current research replicated previous findings in the literature showing that visible support generally results in more negative outcomes (more negative affect, anxiety, and less elation) in support recipients than invisible support (Bolger et al., 2000; Bolger & Amarel, 2007; Gleason et al., 2008). In addition, the current research replicated previous findings showing that independent self-construal relates to more positive affect and elation (Duncan, Ornaghi, & Grazzani, 2013; Elliott & Coker, 2008).

The current research contributes to the literature by emphasizing the role of independent self-construal and interdependent self-construal in social support outcomes. To my knowledge, there is no existing research examining the relationship between social support visibility and self-construal. Study 2 uncovered a critical moderator to the link between support visibility and support outcomes (e.g., Bolger et al., 2000) and showed, unexpectedly, that when the self was lowest in independence, visible support resulted in greater depressed mood. For high independent self-construal, there was no relationship between support visibility and depressed mood. However, individuals who have a low independent self-construal were generally less likely to benefit from visible support and more likely to experience depressed mood after receiving visible support. Consequently,

there were no main effects for depressed mood as the two-way interaction showed that

visibility predicted depressed mood but for low independent self-construal only.

The independent self-construal subscale asks questions that seem to tap into one's

desire for uniqueness, independence, imagination, clarity, directness and clear

communication, consistency, personal health, self-interest, and identity (Singelis, 1994).

Those who are low in independent self-construal have been argued to not value

competition (Markus & Kitayama, 1991), and low independence has also been associated

with characteristics of those who score high in interdependence, e.g., a greater alignment

with group goals and a greater concern for cooperation (Täuber & Sassenberg, 2012).

Moreover, previous research has shown that independent self-construal is positively

correlated with self-esteem (Konrath, Bushman, & Grove, 2009), so it is likely that low

independent self-construal is related to low self-esteem or self-worth. One possible

suggestion is that those low in independent self-construal may have a weak sense for

independence, self-distinction, and identity and thus have a low sense of self-worth,

competence, and deservingness. Visible support receipt may accentuate one's feelings of

incompetency and bring additional attention that is unwanted or even evaluated as

undeserved. Those low in independent self-construal may prefer to manage one's

problems without the singling-out that comes with visible support. Exploratory analyses

helped support the findings as they were consistent with the two-way interactions for

independent self-construal. For high individualism, there was no relationship between

support visibility and negative affect/ depressed mood; however, those who were low in

individualism were less likely to benefit from visible support and more likely to experience

negative affect and depressed mood after receiving visible support. These hypotheses are

speculative, and the findings must be interpreted with caution as they were unexpected.

Moreover, the current research demonstrates that these two forms of the self may

have different implications for the different sexes. Further exploration into three-way

interactions of self-construal, support visibility, and sex in predicting affect were examined

in an effort to better understand the absence of the significant findings for the

hypothesized two-way interactions for negative affect and anxiety. For high independent

self-construal, there was no relationship between support visibility and negative affect and

anxiety in men. However, males who were low in independent self-construal were more

likely to experience negative affect and anxiety after having received visible support and

less likely to benefit from visible support receipt. For females, the relationship between

negative affect and support visibility was significant in the high independent self-construal

group.   For women, when independent self-construal was low, there was no relationship

between support visibility and negative affect. Yet, women who were high in independent

self-construal experienced more negative affect after visible support receipt and were less

likely to benefit from visible support. Thus, support visibility predicted negative affect and

anxiety for low independent men and negative affect for high independent women only.

Further, there was a simple effect of support visibility on anxiety for women showing that

women in general were more likely to experience anxiety when receiving visible support

than when receiving invisible support.

In conclusion, males who were low in independent self-construal and females who

were high in independent self-construal were both more likely to experience negative

outcomes after having received visible support and less likely to benefit from visible support receipt. Both groups may be more vulnerable to the negative aspects of visible social support. Recall that the current sample includes individuals within the United States where gender roles are specified. Both low independence in males and high independence in females contradict traditional American gender roles (Bem, 1974; Cross & Madson, 1997). It is arguable that the United States is still a masculine culture (Hofstede, 1998), and men are socialized to be independent and self-sufficient while women are socialized to be nurturing and place a greater emphasis on others. For males, the presence of low independence may spark a fear of being perceived as incapable or not self-sustaining. Further, there may even be a desire to be more independent and more conforming to traditional norms. Both of these aspects could lead to insecurity and a low sense of self-worth, competence, and deservingness (Cross, Gore & Morris, 2003). For females that are high in independence (atypical to the culture at large), there could perhaps be a greater need for appearing capable, independent, and self-sufficient than others. These women may feel that their high expectation of independence is threatened with visible support receipt. Suh (2000) showed that alignment of ones' perceived self and the valued social norms of the given culture context are generally correlated with well-being outcomes. Although these gender roles are becoming much more horizontal in American societies, these traditional views could still shape and influence beliefs regarding the self in males with low independence and females with high independence (Bem, 1974; Cross & Madson, 1997). However, these findings should be interpreted with caution as they were unexpected.

Social Support Visibility, Social Support Seeking, Self-Construal, and Ethnicity

Exploratory analyses examined ethnicity and its relation to the social support process. As expected, Asian Americans were more likely to prefer invisible support than Caucasians. Further, Hispanic and Latino preferences were similar to those of Caucasians. Because the analyses were exploratory, it is not clear whether these results reflect cultural values, acculturation levels, generational differences, or a chance finding due to sampling issues. Future research should examine the relationship between preferences for support visibility and Hispanics and Latinos. More importantly, the expectation that Asian Americans were more likely than Caucasians to prefer invisible support was supported. Although these were exploratory analyses, consistency with previous research (Markus & Kitayama, 1991; Taylor et al., 2004; Taylor et al., 2007) bolsters confidence in these findings.

With respect to whether preferred support receipt is visible or invisible, African Americans did not significantly differ from any other ethnic group. However, African Americans may be more likely to prefer seeking support than Caucasians and Asian Americans. Additionally, African Americans scored highest in independent self-construal of the four ethnic groups compared in this study. There is little existing research assessing independent/interdependent self-construal in African Americans (DeAndrea, Shaw, & Levine, 2010; Ting-Toomey, Oetzel, & Yee-Jung, 2001). More studies are needed to replicate this finding. However, this is an interesting result especially in tandem with the previous analyses. Because these analyses were exploratory, unexpected and some only marginal, instead of interpretation, recommendations are made for future research exploration of these comparisons.

Limitations and Future Directions

Study 2 did not show that the preferences established in Study 1 led to the expected support outcomes. This inconsistency could point to both a need for further clarification in the theory of the current research and limitations within the method. Further discussion regarding limitations and future directions follow.

Highlighting the Distinction between Self-Construal and Ethnicity

What we found suggests a need to clarify that independent/interdependent self-construal is a theoretically different concept than ethnicity. The interdependent self, defined by Markus & Kitayama (1991) as collectivism, is evident in many non-Western cultures, while the independent self, defined as individualism, is often evident in many Western cultures. Although self-construal is often seen as differing between cultures, self-construal has been shown to vary within cultures, as well. For example, Cross and Madson (1997) argue that in Western societies, women are more likely than men to develop an interdependent self-construal and that men are more likely than women to develop an independent self-construal, and other studies have found significant variability of self-construals within the United States. Because of this, self-construal as an individual difference variable within the United States was the focus of the current study. Examination of the four ethnic groups revealed that African Americans scored the highest in independence, counter to expectations, and Asian Americans scored the highest in interdependence as expected. In addition, gender was not significantly correlated with either independent self-construal, *r*=.013, *n*=1298, *p*=.642, nor interdependent self-construal, *r*=.026, *n*=1298, *p*=.340. In sum, Caucasians were not significantly more likely to

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be high in independent self-construal than Asian Americans, and women were not more

likely to high in interdependent self-construal than men. These findings challenge the trend

to form sweeping generalizations or overarching stereotypes regarding the

independence/interdependence of cultural groups. Thus, the current research emphasizes

the importance of analyzing individual difference variables such as self-construal in addition

to ethnicity (Matsumoto, 1999; Duncan et al., 2013).

Previous literature has mostly compared the differences in social support outcomes

between ethnic groups, specifically Asians and Asian Americans versus European Americans

(Kim et al., 2006; Taylor et al., 2004; Taylor et al., 2007; Uchida et al., 2008). However, this

research has not considered the role of self-construal within ethnicity. By examining self-

construal as a mediator in the social support process, future research could shed more light

on the complex relationship between social support and well-being. Although different

ethnicities might be shown to differ in responses to social support, examining types of

support and individual differences within ethnicities may help uncover when visible support

is beneficial and invisible support is beneficial.

Exploring Two Self-Construals: What are the Implications?

Contributions of the present research not only include analyzing self-construal in

addition to ethnicity – but also include analyzing both dimensions of self-construal as

continuous variables rather than a dichotomy (Duncan et al., 2013; Konrath et al., 2009;

Oyserman, 1993; Singelis, 1994; Singelis et al., 1995). As an emphasis on individual

difference variables (perhaps influenced by one's culture) appears to be lost in the current

literature addressing culture and social support outcomes, there is also a common

assumption that independent self-construal is the polar opposite of interdependent self-construal, and an individual is either one or the other. Asians and Asian Americans are typically grouped into an *interdependent* category, while European Americans (or Caucasians) are grouped into an *independent* category. However, it is clear from the current research that independence and interdependence are not necessarily mutually-exclusive. Conclusions are often drawn regarding social support behaviors and outcomes that are framed in terms of independence *versus* interdependence. Because Asian cultural groups are usually equated with interdependence and European-American cultural groups with independence, the existing literature could be misleading. There has been extensive debate over whether self-construal is one-dimensional (Hofstede 1990; Markus and Kitayama 1991) or two-dimensional (Oyserman, Coon, & Kemmelmeir, 2002); however, there is growing emphasis in psychological research to treat the two subscales as orthogonal separate factors rather than opposite poles of a single construct (Oyserman, 1993; Singelis, 1994; Singelis et al., 1995). The present study supports the notion of two dimensions.

Although often conceptualized as two orthogonal dimensions, the positive correlation found between independence and interdependence, $r=.326$, $n=1298$, $p<.0005$, challenges the assumption that the two constructs are orthogonal. Previous research has mirrored this relationship (Albert, Labs, & Trommsdorff, 2010) and thus supports the notion that both types of self-construal are inherently linked and can be present simultaneously within a person (Singelis, 1994). As was shown in Study 1, Asian Americans score both high in interdependence and low in independence, thus it is possible that the low independence

rather than the high interdependence is driving the social support process, e.g. Therefore,

it is important to distinguish between independent self-construal and interdependent self-

construal and not focus on one in neglect of the other. By examining the two construals as

separate dimensions we may falsely categorize or dichotomize an individual (or culture) as

either independent or interdependent. Future research should analyze self-construal as a

moderator within ethnic groups to test these hypotheses.

Perhaps it would be most informative to focus conceptually on a 2 X 2 definition of

self-construal and to examine four possible group identities – those who score high in both

independent and interdependent self-construal, those who score low in both independent

and interdependent self-construal, those who score high in independent self-construal and

low in interdependent self-construal (possibly Caucasians), and those who score low in

independent self-construal and high in interdependent self-construal (possibly Asians and

Asian Americans). There is evidence in existing literature of these four groups (see Figure

15) and some research has identified the four self-construal types as biconstrual,

independent, interdependent, and ambivalent (Konrath et al., 2009; Ting-Toomey, Oetzel, &

Yee-Jung, 2001). These studies have attempted to define each of the four groups (e.g., the

narcissistic tendencies of the high independent/low interdependent self (Konrath et al.,

2009).

Given previous research, I did not anticipate that independent self-construal would

play such a significant role in the social support process. Further, I did not expect that

interdependent self-construal would not moderate the social support process. Further

High self-focus
(independence; agency)

Atomized   Balanced
(high self, low other)   (high self, high other)

Low   High
other-focus   Detached   Dependent   other-focus
               (low self, low other) (low self, high other) (interdependence;
                                                    communion)

Low self-focus
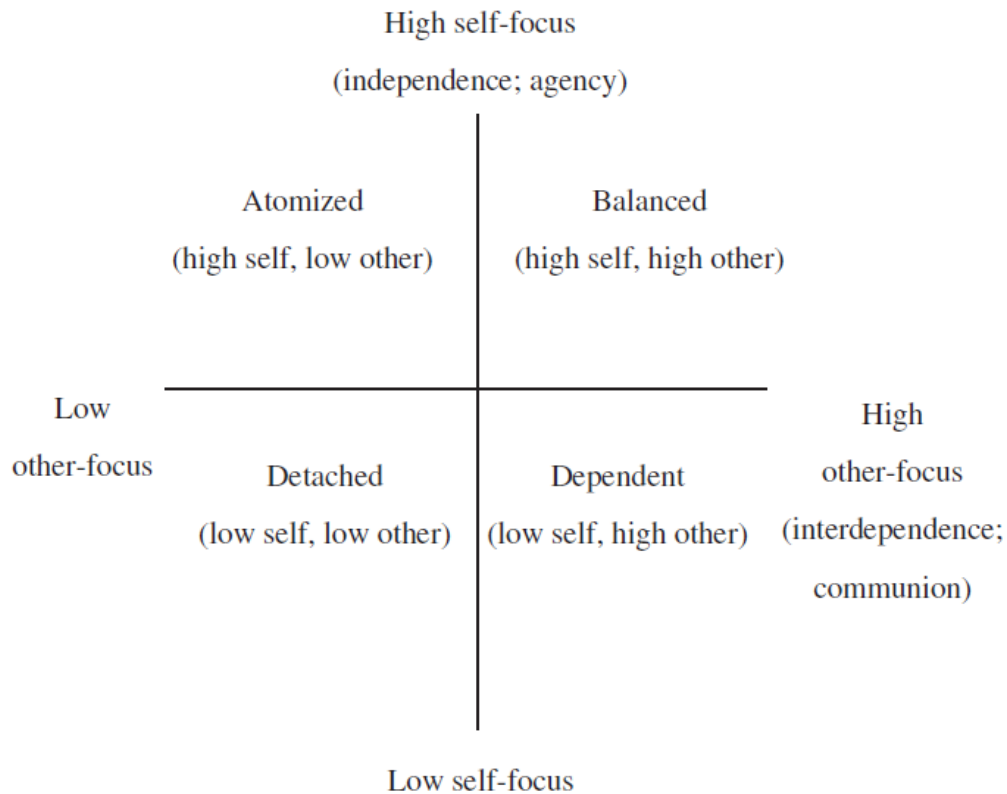
Figure 15. Quadrants of self-other focus (Konrath et al., 2009).

inspection into the inner-workings of individuals varying in independent self-construal is

needed to understand the significant effect of independent self-construal found in Study 2.

Questions to be considered include: what variables are associated with low independence?

What defines low independence? Further exploration of individuals who score low in

independent self-construal may help further clarify the social support process. In addition,

examination of these four quadrants may provide evidence of their role in the social

support process or it may present the need to address the possible role of the optimal

matching model.

The optimal matching model (Cohen & Wills, 1985; Cutrona, 1990; Cutrona et al.,

2007) may lend insight into these findings. If there are two distinct working forces –

independent self-construal and interdependent self-construal – perhaps different

supportive scenarios may activate different self- construals and subsequent beliefs

regarding support receipt. In other words, some situations may activate one's

independence and another one's interdependence such that there may be different times

in which visible support is more helpful or invisible support is more helpful. Further

inspection into the relationship between the optimal matching model, self-construal, and

support outcomes could prove insightful.

Discussion of limitations is necessary for interpreting the results of the current

research. One of the methodological limitations of the current research that could explain

the inconsistencies across the two studies is the experimental manipulation. Study 2

attempted to replicate and extend the research of Taylor et al., 2007; however, the strength

of the manipulation may be improved through also adopting the Trier Social Stress Task

(TSST; Kirschbaum, Pirke, & Hellhammer, 1993) used in Taylor et al., 2007. Invoking a

greater degree of stress could result in a stronger manipulation. Further, a future aim is to

test physiological responses, such as heart rate, blood pressure and cortisol levels, in

individuals following support receipt as was also done by Taylor et al. in 2007.

Although the analyses regarding ethnicity were exploratory, it is unclear whether

other cultural variables play a role in the relation between ethnicity and support

preferences and the tendency to seek support. These questions could have been answered

by measuring the degree of acculturation to U.S. society and ideals, generational

differences/influences, socio-economic status or social class, and familism. The unexpected

findings regarding Hispanics and Latinos deserve more attention and measuring these

variables may provide clarity. Future research should place a greater emphasis on examining the relationship between support visibility, individual difference variables, and well-being outcomes in Hispanics and Latinos. Further investigation into the existing data may also help explain the finding that African Americans were most likely to seek support than the other ethnic groups. There is little data examining Africans/African Americans and self-construal levels and further exploration of such may also prove helpful. Because this is outside the scope of this dissertation, this is a direction for future research; however, Study 1 has a large sample size that will allow for these mediation analyses. Future research should test the hypothesis that, for African Americans, independent self-construal may help explain the likelihood to prefer support-seeking.

Although it is somewhat outside the control of the experimenter, procedures should be put in place to encourage questionnaire completion by participants in future research. Many of the participants did not complete the entire survey by prematurely exiting the survey in Study 2. Feedback from participants included complaints of the length of the survey although the average time spent on the survey was 30 minutes. A more succinct online questionnaire may have allowed for higher completion rates. If it is not possible to retain a greater percentage of participants through the entirety of the survey, perhaps a larger sample size will provide a clearer image of the marginal findings in the current research.

In Study 1, the preference for visible support was a one-item measure as one of the scale items was eliminated due to a typographical error in the online questionnaire. This should be corrected in future research as reliability cannot be assessed. Further, it is

possible that this limitation could account for the null findings of this social support

outcome in Study 1. Future research should create a more comprehensive measure of

preference for both invisible and visible support. Perhaps a more detailed and precise

measure would allow for stronger support of the Study 1 hypotheses and a more clear

understanding of the social support process.

The sample composition may have skewed the results somewhat in that the

prevalence of young, college-enrolled students might account for the high independence in

African Americans and the finding that Latinos were no different from Caucasians in

independence. Thus, the current sample may reduce the generalizability. Further, Study 2

was comprised of 70% Caucasians and was much less ethnically diverse than the sample in

Study 1. This may reduce the generalizability of the findings in Study 2 and may also

account for the lack of significant findings regarding interdependent self-construal. Perhaps

there was not enough variation for interdependent self-construal in the sample. Future

research should emphasize collecting a more representative sample.

Implications

The current research could have important implications not only for social

relationships and individual well-being but in other applied settings such as healthcare and

global aid organizations, as well. Previous research has focused on studying the differences

within ethnic groups in beliefs and behaviors regarding healthcare, support-seeking during

illness, and treatment (e.g., Lu, Zheng, Young, Kagawa-Singer, & Loh, 2012). If there is a

greater understanding of support-seeking behaviors and the social support process in

individuals, healthcare providers may have the capacity to offer individually-appropriate

resources and treatment options. Further, if there is a greater understanding of regional

trends in social support outcomes and the forces behind those trends, global aid

organizations may be more apt to provide effective aid for those in target areas. There is

increasing evidence that relief work within many philanthropic and aid organizations is

often misguided (Corbett & Fikkert, 2009).

Conclusion

Nonetheless, the current research has examined the relationship between social

support visibility, self-construal, and well-being outcomes and more clearly defined the

social support process. Visible support does not intrinsically result in negative outcomes

but instead is dependent upon certain individual variables. In contrast, invisible support

does not always benefit others. Furthermore, these effects of social support appear to

stem from differences in self-construal and the sex of the individual. Previous literature has

studied the differences between cultural groups and support outcomes but has yet to more

intricately examine the individual variables within cultural groups that may influence the

support process.

My findings emphasize the need to address the influence of self-concept on the way

individuals evaluate the world around them. The same supportive event could evoke

different reactions and outcomes based on whether it is viewed through an independent or

an interdependent lens. The question of whether certain types of social support are more

appropriate for certain cultural groups may not be the right question. Rather, a better goal

may be, to examine individual difference variables within cultural groups to determine

which types of social support would be effective for which individuals, within the context of

their culture.

Appendix A
REQUEST FOR
WAIVER OF DOCUMENTATION OF CONSENT

Informed consent shall be documented by the use of a written consent form approved by the IRB and signed by the subject or the subject's legally authorized representative. (45 CFR 46.117)

A waiver of documentation of consent may be waived if either of the following conditions is true of the proposed research activity. An explanation must be provided.

_____ The only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality. Each subject must be asked whether the subject wants documentation linking the subject with the research, and the subject's wishes will govern; OR

__X__ The research presents no more than minimal risk of harm to subjects AND involves no procedures for which written consent is normally required outside of the research context.

Explanation:

Participants will be informed about the study and eligibility criteria in the cover letter. All participants will be debriefed at the end of the lab session. The cover letter can be found in Appendix B and the debriefing is provided in Appendix D.

NOTE: A cover letter, with the appropriate elements of consent, must be included.

Appendix B
UNIVERSITY OF HOUSTON
CONSENT TO PARTICIPATE IN RESEARCH

Principle Investigator: **Faculty Advisor:**
Katie D. Garner   **Dr. Linda K. Acitelli, Ph.D.**
Department of Psychology   **Department of Psychology**
713.743.8500   **713.743.8567**

PROJECT TITLE: Social Support and Attitudes

PARTICIPATION AND PROCEDURES

You are being invited to participate in a research project conducted by Katie D. Garner, graduate student in the Department of Psychology at the University of Houston. The faculty sponsor on this project is Dr. Linda K. Acitelli, Department of Psychology. This form describes the project and what you may expect if you decide to participate. You are encouraged to read this form carefully and to ask the person who presents it any further questions you may have before making a decision whether or not to participate.

PURPOSE OF THE STUDY

This is a study focusing on the effects of attitudes on the social support process. Specifically, we are attempting to find out if attitudes may affect one's feelings towards social support.

PROCEDURES

A total of 100 participants, 18 years of age or older will be asked to participate in this project. If you choose to participate in the study, you will be asked to complete an online questionnaire packet. The one-time session should last approximately 30 minutes.

NON-PARTICIPATION STATEMENT

Your participation is voluntary and you may refuse to participate or withdraw at any time without penalty or loss of benefits. You may also refuse to answer any question. If you are a student, a decision to participate or to withdraw your participation will have no effect on your standing with the University of Houston.

CONFIDENTIALITY

Every effort will be made to maintain the confidentiality of your participation in this project. Please DO NOT submit your name or any identifying information on any of the research materials. Therefore, your name will not be associated in any way with your responses.

In addition, any data you provide will be stored in a secure area for a minimum of 3 years, per guidelines by the American Psychological Association. Confidentiality will be maintained within legal limits.

RISKS/DISCOMFORTS

There are no anticipated risks, discomforts, or inconveniences to participating in this study. However, you may experience some discomfort in reviewing your personal feelings and reactions to the scenarios presented in the questionnaires. If you experience any adverse reaction, you may want to talk with someone about them. The counseling center in the Student Services Building offers free psychological counseling to UH students. The counseling center can be reached at 713.743.5454. You may also contact the Psychological Research and Services Center at 713.743.8600. The investigators and institution are not responsible for any cost incurred through psychological counseling obtained as a result of participation in the study.

BENEFITS

You will not benefit directly by participating in this study. However, your participation will help the investigators better understand the nature of the effect of attitudes on the social support process.

ALTERNATIVES

Participation in this project is voluntary and the only alternative to this project is non-participation.

INCENTIVES

Upon completion of the study, you may receive credit for participation if you are an enrolled University of Houston student which you may redeem with your instructor for extra credit according to his or her policy. Full completion of this study is worth one hour of research participation.

PUBLICATION STATEMENT

The results of this study may be published in professional and/or scientific journals. It may also be used for educational purposes or for professional presentations. However, no individual subject will be identified.

SUBJECT RIGHTS

1. I understand that informed consent is required of all persons participating in this project.

2. All procedures have been explained to me and all my questions have been answered to my satisfaction.

3. Any risks and/or discomforts have been explained to me.

4. Any benefits have been explained to me.

5. I understand that, if I have any questions, I may contact Katie Garner at 713-743-8500. I may also contact Dr. Linda K. Acitelli, faculty sponsor, at 713-743-8567.

6. I have been told that I may refuse to participate or to stop my participation in this project at any time before or during the project. I may also refuse to answer any question.

7. ANY QUESTIONS REGARDING MY RIGHTS AS A RESEARCH SUBJECT MAY BE ADDRESSED TO THE UNIVERSITY OF HOUSTON COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (713-743-9204). ALL RESEARCH PROJECTS THAT ARE CARRIED OUT BY INVESTIGATORS AT THE UNIVERSITY OF HOUSTON ARE GOVERNED BY REQUIREMENTS OF THE UNIVERSITY AND THE FEDERAL GOVERNMENT.

8. All information that is obtained in connection with this project and that can be identified with me will remain confidential as far as possible within legal limits. Information gained from this study that can be identified with me may be released to no one other than the principal investigator Dr. Acitelli. The results may be published in scientific journals, professional publications, or educational presentations without identifying me by name.

I HAVE READ (OR HAVE HAD READ TO ME) THE INFORMATION PROVIDED ABOVE AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

THERE WILL BE OPTIONS HERE INDICATING:

I AGREE

I DO NOT AGREE

Only selecting "I AGREE" will send the participant to the survey.

Appendix C
Recruitment Script

Hi! My name is _____ and I am here today to recruit for a study examining the influences of attitudes on the social support process. To be eligible for this study, you must be at least 18 years of age.

We expect that completion of the online questionnaire should take you about 30 minutes, and for your participation, you will receive one hour of extra credit to be awarded according to the policy of your instructor in your psychology class.

If you are eligible and interested in participating, you may take an instruction form detailing how to access the questionnaire through the Sona system. If you have any questions about the study, you may contact one of the investigators listed on the instruction form.

This project has been reviewed by the University of Houston Committee for the Protection of Human Subjects, and you can contact them at the phone number listed on the consent form. If you are interested in participating, please raise your hand and I will hand you an instruction form.

Appendix D
Debriefing Form

Social Support and Attitudes
Debriefing Information

The study in which you just participated is examining the effects of socio-cultural influences on one's perception of social support receipt. Specifically, we are interested in uncovering the effects of one's culturally-derived individual differences on one's perception of social support receipt. We are interested in uncovering perceptions of visible and invisible social support and implicit and explicit support. Invisible support is defined as support which is outside an individual's awareness. Implicit social support is defined as support provided without a recipient asking for the support or disclosing a limitation or stressor.

There are known benefits of receiving social support; however, support has also been shown to produce negative effects. Invisible support has been introduced (e.g., Bolger, Zuckerman, & Kessler, 2000) to resolve these conflicting findings. Invisible support is argued to be a buffer against negative effects of visible social support; however, recent research on the visibility of support and its positive and maladaptive effects is conflicting. The contradictions in the literature indicate that the same support may be perceived differently by different individuals and that some factors may influence the link between social support and outcomes (Acitelli & Antonucci, 1994; Barbee, Cunningham, Winstead, Derlega, Gulley, Yankeelov, & Druen, 1993; Gleason, et al., 2008; Kim, Sherman, Ko, & Taylor, 2006; Lakey, Lutz, & Scorbia, 2004; Lakey & Scorbia, 2005). Cultural views shape individual beliefs regarding role and motivations of the self (Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Kitayama, 1991) and norms and expectations in relationships (Adams & Plaut, 2003), and we hypothesize that these cultural views may also shape perceptions of support receipt. Our specific questions in this study were as follows: 1) Will interdependence be related to a preference for implicit and invisible support? 2) Will independence be related to a preference for explicit and visible support?

If our study supports our hypotheses, it suggests that culture shapes how individuals perceive and use social support. Previous research has provided evidence that support receipt may be interpreted differently by individuals with varying socio-cultural views (Acitelli & Antonucci, 1994; Antonucci & Akiyama, 1987; Barbee et al., 1993; Collins & Feeney, 2004; Cutrona, 1996; Gleason, et al., 2008; Uchida, Kitayama, Mesquita, Reyes, & Morling, 2008). Like all conclusions of individual studies, results do not tell us what individual members of that group may be like, they rather provide us with general tendencies of groups' responses.

If you have any further questions about this project, please feel free to contact me, Katie D. Garner (kdgarner@uh.edu).

Further Readings:

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Appendix E
Demographic Questionnaire

What is your gender?
○ Male (1)
○ Female (2)

What is your age? (please enter a number)

Please select the racial category with which you most closely identify.
○ Caucasian (A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.) (1)
○ Hispanic or Latino (A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.) (2)
○ American Indian or Alaska Native (A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.) (3)
○ Asian (A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.) (4)
○ African or African American (A person having origins in any of the black racial groups of Africa.) (5)
○ Native Hawaiian or Other Pacific Islander (A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.) (6)
○ Other (please specify) (7) _____

What is your current relationship status?
- ⭘ Single (1)
- ⭘ Casually dating (2)
- ⭘ In a serious relationship (3)
- ⭘ Engaged (4)
- ⭘ Married (5)

What is your religion?
- ⭘ Christian (1)
- ⭘ Rationalism (skepticism or no religion) (2)
- ⭘ Buddhism (3)
- ⭘ Confucianism (4)
- ⭘ Shintoism (5)
- ⭘ Hinduism (6)
- ⭘ Islam (7)
- ⭘ Judaism (8)
- ⭘ Other (please specify) (9) _____

What denomination do you consider yourself?
- ⭘ Catholic (1)
- ⭘ Methodist (2)
- ⭘ Baptist (3)
- ⭘ Lutheran (4)
- ⭘ Presbyterian (5)
- ⭘ Mormon (6)
- ⭘ Eastern Orthodox (7)
- ⭘ Jehovah's Witnesses (8)
- ⭘ Pentecostal (9)
- ⭘ Church of Christ (10)
- ⭘ Protestant (11)
- ⭘ Anglican (12)
- ⭘ Reformed (13)
- ⭘ Anabaptist (14)
- ⭘ Other (please specify) (15) _____

Where were you born?
- ○ United States of America (1)
- ○ Canada (2)
- ○ Central America (3)
- ○ Mexico (4)
- ○ South America (5)
- ○ Africa (6)
- ○ Europe (7)
- ○ Russia (8)
- ○ Asia (9)
- ○ Other (10) _____

What is the highest level of education you have achieved?
- ○ less than high school (1)
- ○ high school/GED (2)
- ○ some college (3)
- ○ 2-year college degree (Associates) (4)
- ○ 4-year college degree (BA, BS) (5)
- ○ Master's degree (6)
- ○ Doctoral degree (7)
- ○ Professional degree (MD, JD) (8)

What is your total household income?
- ○ less than $10,000 (1)
- ○ $10,000-19,999 (2)
- ○ $20,000-29,999 (3)
- ○ $30,000-39,999 (4)
- ○ $40,000-49,999 (5)
- ○ $50,000-59,999 (6)
- ○ $60,000-69,999 (7)
- ○ $70,000-79,999 (8)
- ○ $80,000-89,999 (9)
- ○ $90,000-99,999 (10)
- ○ $100,000-149,999 (11)
- ○ more than $150,000 (12)

In what city, state, and country do you live? (example: Houston, TX, USA)

Appendix F
Interpersonal Support Evaluation List

Instructions: This scale is made up of a list of statement each of which may or may not be true about you. For each statement circle "definitely true" if you are sure it is true about you and "probably true" if you think it is true but you are not absolutely certain. Similarly, you should circle "definitely false" if you are sure that the statement is false and "probably false" if you think it is false but are not absolutely certain.

Use the following scale to make your ratings:

1	2	3	4
Definitely false true	*Probably false*	*Probably true*	*Definitely*

1. If I wanted to go on a trip for a day (for example, to the country or mountains), I would have a hard time finding someone to go with me.   1 2 3 4
2. I feel that there is no one I can share my most private worries and fears with.   1 2 3 4
3. If I were sick, I could easily find someone to help me with my daily chores.   1 2 3 4
4. There is someone I can turn to for advice about handling problems with my family.   1 2 3 4
5. If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.   1 2 3 4
6. When I need suggestions on how to deal with a personal problem, I know someone I can turn to.   1 2 3 4
7. I don't often get invited to do things with others.   1 2 3 4
8. If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (plants, pets, garden, etc.).   1 2 3 4
9. If I wanted to have lunch with someone, I could easily find someone to join me.   1 2 3 4
10. If I was stranded 10 miles from home, there is someone I could call who could come and get me.   1 2 3 4
11. If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.   1 2 3 4
12. If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.   1 2 3 4

Appendix G
Inventory of Social Supportive Behaviors

Instructions: Below you will find a list of activities that you might have done for other people or with them in the past four weeks. Please read each item carefully and indicate how often you performed these activities **during the past four weeks**. Please circle the number that stands for the answer. For example, if your answer to a question is "not at all", circle "1".

Use the following scale to make your ratings:

1	2	3	4	5
Not at all	*Once or twice*	*About once a week*	*Several times a week*	

About every day

1. Looked after a family member of theirs when they were away   1 2 3 4 5

2. Was right there (physically) in a stressful situation   1 2 3 4 5

3. Provide them with a place where they could get away for a while   1 2 3 4 5

4. Watched after their possessions when they were away

    (pets, plants, home, apartment, etc)   1 2 3 4 5

5. Told them what you did in a situation was similar to theirs   1 2 3 4 5

6. Did some activity with them to help them get your mind off things   1 2 3 4 5

7. Talked with them about some interests of theirs   1 2 3 4 5

8. Let them know that they did something well   1 2 3 4 5

9. Went with them to someone who could take action   1 2 3 4 5

10. Told them that they are OK just the way they are   1 2 3 4 5

11. Told them you would keep the things that you talked about

    private – just between the two of you   1 2 3 4 5

12. Assisted them in setting a goal for themselves   1 2 3 4 5

13. Made it clear what was expected of them   1 2 3 4 5

14. Expressed esteem or respect for a competency or personal quality of theirs   1 2 3 4 5

15. Gave them some information on how to do something   1 2 3 4 5

16. Suggested some action that they should take   1 2 3 4 5

17. Gave them over $25   1 2 3 4 5

18. Comforted them by showing them physical affection   1 2 3 4 5

19. Gave them some information to help them understand a situation they were in 1 2 3 4 5

20. Provided them with some transportation   1 2 3 4 5

21. Checked back with them to see if they followed the advice they were given   1 2 3 4 5

22. Gave them under $25   1 2 3 4 5

23. Helped them understand why they didn't do something well   1 2 3 4 5

24. Listened to them talk about their private feelings   1 2 3 4 5

25. Loaned or gave them something (a physical object other than money) that

    they needed   1 2 3 4 5

26. Agreed that what they wanted to do was right   1 2 3 4 5

27. Said things that made their situation clearer and easier to understand   1 2 3 4 5

28. Told them what you felt in a situation that was similar to theirs   1 2 3 4 5

29. Let them know that you will always be around if they need assistance   1 2 3 4 5

30. Expressed interest and concern about their well-being   1 2 3 4 5

31. Told them that you feel very close to them   1 2 3 4 5

32. Told them who they should see for assistance   1 2 3 4 5

33. Told them what to expect in a situation that was about to happen   1 2 3 4 5

34. Loaned them over $25   1 2 3 4 5

35. Taught them how to do something   1 2 3 4 5

36. Gave them feedback on how they were doing without saying it was good or bad 1 2 3 4 5

37. Joked or kidded to try to cheer them up   1 2 3 4 5

38. Provided them with a place to stay   1 2 3 4 5

39. Pitched in to help them do something that needed to get done   1 2 3 4 5

40. Loaned them under $25   1 2 3 4 5

Appendix H
Medical Outcomes Survey

People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it? Circle one number on each line.

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Emotional/informational support					
Someone you can count on to listen to you when you need to talk	1	2	3	4	5
Someone to give you information to help you understand a situation	1	2	3	4	5
Someone to give you good advice about a crisis	1	2	3	4	5
Someone to confide in or talk to about yourself or your problems	1	2	3	4	5
Someone whose advice you really want	1	2	3	4	5
Someone to share your most private worries and fears with	1	2	3	4	5
Someone to turn to for suggestions about how to deal with a personal problem	1	2	3	4	5
Someone who understands your problems	1	2	3	4	5
Tangible support					
Someone to help you if you were confined to bed	1	2	3	4	5
Someone to take you to the doctor if you needed it	1	2	3	4	5
Someone to prepare your meals if you were unable to do it yourself	1	2	3	4	5
Someone to help with daily chores if you were sick	1	2	3	4	5
Affectionate support					
Someone who shows you love and affection	1	2	3	4	5
Someone to love and make you feel wanted	1	2	3	4	5
Someone who hugs you	1	2	3	4	5
Positive social interaction					
Someone to have a good time with	1	2	3	4	5
Someone to get together with for relaxation	1	2	3	4	5
Someone to do something enjoyable with	1	2	3	4	5
Additional item					
Someone to do things with to help you get your mind off things	1	2	3	4	5

Appendix I
Relational Identity Scale

Please indicate how well each of the following describes the way you think of yourself.

	extremely well (1)	very well (2)	somewhat well (3)	not very well (4)	not at all well (5)
cooperative (1)	○	○	○	○	○
mature (2)	○	○	○	○	○
friendly (3)	○	○	○	○	○
hard working (4)	○	○	○	○	○
caring about others (5)	○	○	○	○	○
contented (6)	○	○	○	○	○
involved in hobbies or leisure activities (7)	○	○	○	○	○
a part of a couple (8)	○	○	○	○	○
involved in your job (9)	○	○	○	○	○
involved in working around the house (10)	○	○	○	○	○
a (son/daughter) (11)	○	○	○	○	○
a (man/woman) (12)	○	○	○	○	○
a friend (13)	○	○	○	○	○

	extremely well (1)	very well (2)	somewhat well (3)	not very well (4)	not at all well (5)
being cooperative (1)	❍	❍	❍	❍	❍
being mature (2)	❍	❍	❍	❍	❍
being friendly (3)	❍	❍	❍	❍	❍
being hard working (4)	❍	❍	❍	❍	❍
caring about others (5)	❍	❍	❍	❍	❍
being contented (6)	❍	❍	❍	❍	❍
being involved in hobbies or leisure activities (7)	❍	❍	❍	❍	❍
being part of a couple (8)	❍	❍	❍	❍	❍
your job (9)	❍	❍	❍	❍	❍
working around the house (10)	❍	❍	❍	❍	❍
being a (son/daughter) (11)	❍	❍	❍	❍	❍
being a (man/woman) (12)	❍	❍	❍	❍	❍
being a friend (13)	❍	❍	❍	❍	❍

Appendix J
Relational-Interdependent Self-Construal Scale

Indicate the extent to which you agree or disagree with each of these statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
My close relationships are an important reflection of who I am. (1)	○	○	○	○	○	○
When I feel very close to someone, it often feels to me like that person is an important part of who I am. (2)	○	○	○	○	○	○
I usually feel a strong sense of pride when someone close to me has an important accomplishment. (3)	○	○	○	○	○	○
I think one of the most important parts of who I am can be captured by looking at my close friends and understanding who they are. (4)	○	○	○	○	○	○
When I think of myself, I often think of my close friends or family also. (5)	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
If a person hurts someone close to me, I feel personally hurt as well. (1)	○	○	○	○	○
In general, my close relationships are an important part of my self-image. (2)	○	○	○	○	○
Overall, my close relationships have very little to do with how I feel about myself. (3)	○	○	○	○	○
My close relationships are unimportant to my sense of what kind of person I am. (4)	○	○	○	○	○
My sense of pride comes from knowing who I have as close friends. (5)	○	○	○	○	○
When I	○	○	○	○	○

establish a close friendship with someone, I usually develop a strong sense of identification with that person. (6)					

Appendix K
Independent/Interdependent Self-Construal Scale

Indicate the extent to which you agree or disagree with each of these statements.

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
I enjoy being unique and different from others in many respects. (1)	○	○	○	○	○
I feel comfortable using someone's first name soon after I meet them. (2)	○	○	○	○	○
Even when I strongly disagree with group members, I avoid an argument. (3)	○	○	○	○	○
I have respect for authority figures with whom I interact. (4)	○	○	○	○	○
I do my own thing, regardless of what others think. (5)	○	○	○	○	○

I respect people who are modest about themselves. (6)	○	○	○	○	○
I feel it is important for me to act as an independent person. (7)	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I will sacrifice my self-interest for the benefit of the group I am in. (1)	○	○	○	○	○	○	○
I'd rather say "no" directly than risk being misunderstood. (2)	○	○	○	○	○	○	○
Having a lively imagination is important to me. (3)	○	○	○	○	○	○	○
I should consider my parents'	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
advice when making education/career plans. (4)							
I feel my fate is intertwined with the fate of those around me. (5)	○	○	○	○	○	○	○
I prefer to be direct and forthright when dealing with people I've just met. (6)	○	○	○	○	○	○	○
I feel good when I cooperate with others. (7)	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am comfortable being singled out for praise or rewards. (1)	○	○	○	○	○	○	○
If my brother or sister fails, I feel responsible. (2)	○	○	○	○	○	○	○
My relationships are more important to me than my own accomplishments.	○	○	○	○	○	○	○

(3)							
Speaking up during a class (or a meeting) is not a problem for me. (4)	○	○	○	○	○	○	○
I would offer my seat in a bus to my professor (or my boss). (5)	○	○	○	○	○	○	○
I act the same way no matter who I am with. (6)	○	○	○	○	○	○	○
My happiness depends on the happiness of those around me. (7)	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I value being in good health above everything. (1)	○	○	○	○	○	○	○
I will stay in a group if they need me, even when I am not happy with the group. (2)	○	○	○	○	○	○	○
I try to do	○	○	○	○	○	○	○

what is best for me, regardless of how that might affect others. (3)							
Being able to take care of myself is a primary concern for me. (4)	○	○	○	○	○	○	○
It is important to me to respect decisions made by the group. (5)	○	○	○	○	○	○	○
My personal identity, independent of others, is very important to me. (6)	○	○	○	○	○	○	○
It is important to me to maintain harmony within my group. (7)	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I act the same way at home that I do at school (or work). (1)	❍	❍	❍	❍	❍	❍	❍
I go along with what others want even when I would rather do something different. (2)	❍	❍	❍	❍	❍	❍	❍

Appendix L
Individualism/Collectivism Orientation Scale

Indicate the extent to which you agree or disagree with each of these statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I often do "my own thing". (1)	○	○	○	○	○	○	○
One should live one's life independently of others. (2)	○	○	○	○	○	○	○
I like my privacy. (3)	○	○	○	○	○	○	○
I prefer to be direct and forthright when discussing with people. (4)	○	○	○	○	○	○	○
I am a unique individual. (5)	○	○	○	○	○	○	○
What happens to me is my own doing. (6)	○	○	○	○	○	○	○
When I succeed, it is usually because of my abilities. (7)	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I enjoy being unique and different from others in many ways. (1)	○	○	○	○	○	○	○
It annoys me when other people perform better than I do. (2)	○	○	○	○	○	○	○
Competition is the law of nature. (3)	○	○	○	○	○	○	○
When another person does better than I do, I get tense and aroused. (4)	○	○	○	○	○	○	○
Without competition, it is not possible to have a good society. (5)	○	○	○	○	○	○	○
Winning is everything. (6)	○	○	○	○	○	○	○
It is important that I do my job better	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
than others. (7)							

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I enjoy working in situations involving competition with others. (1)	○	○	○	○	○	○	○
Some people emphasize winning; I'm not one of them. (2)	○	○	○	○	○	○	○
The well-being of my co-workers is important to me. (3)	○	○	○	○	○	○	○
If a co-worker gets a prize, I would feel proud. (4)	○	○	○	○	○	○	○
If a relative were in financial difficulty, I would help within my means. (5)	○	○	○	○	○	○	○
It is important to maintain	○	○	○	○	○	○	○

	harmony within my group. (6)						
I like sharing little things with my neighbors. (7)	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I feel good when I cooperate with others. (1)	○	○	○	○	○	○	○
My happiness depends very much on the happiness of those around me. (2)	○	○	○	○	○	○	○
To me, pleasure is spending time with others. (3)	○	○	○	○	○	○	○
I would sacrifice an activity that I enjoy very	○	○	○	○	○	○	○

much if my family did not approve of it. (4)							
I would do what would please my family, even if I detested that activity. (5)	○	○	○	○	○	○	○
Before taking a major trip, I consult with most members of my family and many friends. (6)	○	○	○	○	○	○	○
I usually sacrifice my self-interest for the benefit of my group. (7)	○	○	○	○	○	○	○

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
Children should be taught to place duty before pleasure. (1)	❍	❍	❍	❍	❍	❍	❍
I hate to disagree with others in my group. (2)	❍	❍	❍	❍	❍	❍	❍
We should keep our aging parents with us at home. (3)	❍	❍	❍	❍	❍	❍	❍
Children should feel honored if their parents receive a distinguished award. (4)	❍	❍	❍	❍	❍	❍	❍

Appendix M
COPE Inventory

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses but think about what you usually do when you are under a lot of stress.

	I usually don't do this at all. (1)	I usually do this a little bit. (2)	I usually do this a medium amount. (3)	I usually do this a lot. (4)
I concentrate my efforts on doing something about the situation I'm in. (1)	○	○	○	○
I take action to try to make the situation better. (2)	○	○	○	○
I try to come up with a strategy about what to do. (3)	○	○	○	○
I think hard about what steps to take. (4)	○	○	○	○
I try to see it in a different light, to make it seem more positive. (5)	○	○	○	○
I look for something good in what is happening. (6)	○	○	○	○
I accept the reality of the fact that it has happened. (7)	○	○	○	○

	I usually don't do this at all. (1)	I usually do this a little bit. (2)	I usually do this a medium amount. (3)	I usually do this a lot. (4)
I learn to live with it. (1)	○	○	○	○
I make jokes about it. (2)	○	○	○	○
I make fun of the situation. (3)	○	○	○	○
I try to find comfort in my religion or spiritual beliefs. (4)	○	○	○	○
I pray or meditate. (5)	○	○	○	○
I seek emotional support from others. (6)	○	○	○	○
I seek comfort and understanding from someone. (7)	○	○	○	○

	I usually don't do this at all. (1)	I usually do this a little bit. (2)	I usually do this a medium amount. (3)	I usually do this a lot. (4)
I try to get advice or help from other people about what to do. (1)	○	○	○	○
I get help and advice from other people. (2)	○	○	○	○
I turn to work or other activities to take my mind off things. (3)	○	○	○	○
I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. (4)	○	○	○	○
I say to myself "this isn't real". (5)	○	○	○	○
I refuse to believe that it has happened. (6)	○	○	○	○
I say things to let my unpleasant feelings escape. (7)	○	○	○	○

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	I usually don't do this at all. (1)	I usually do this a little bit. (2)	I usually do this a medium amount. (3)	I usually do this a lot. (4)
I express my negative feelings. (1)	○	○	○	○
I use alcohol or other drugs to make myself feel better. (2)	○	○	○	○
I use alcohol or other drugs to help me get through it. (3)	○	○	○	○
I give up trying to deal with it. (4)	○	○	○	○
I give up attempting to cope. (5)	○	○	○	○
I criticize myself. (6)	○	○	○	○
I blame myself for things that have happened. (7)	○	○	○	○

Appendix N
Social Support Attitudes

Indicate the extent to which you agree or disagree with each of these statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I feel that I benefit most from social support that happens "behind the scenes". (1)	❍	❍	❍	❍	❍	❍	❍
I prefer to receive social support that I have specifically asked for. (2)	❍	❍	❍	❍	❍	❍	❍
I would rather close others give me social support with me having to ask for it. (3)	❍	❍	❍	❍	❍	❍	❍
When I know that someone close to me is giving me social support, I feel better. (4)	❍	❍	❍	❍	❍	❍	❍
When I know that someone close to me is giving me social support, I feel worse. (5)	❍	❍	❍	❍	❍	❍	❍

Appendix O
Positive and Negative Affect Scale

This scale consists of a number of words and phrases that describe different feelings and

emotions. Read each item and then mark the appropriate answer in the space next to that

word.   Indicate <u>to what extent you feel this way right now </u>in response to the scenario that

you just imagined. Use the following scale to record your answers:

1	2	3	4	5
very slightly	a little	moderately	quite a bit	extremely
or not at all				

_____ active
_____ guilty
_____ enthusiastic
_____ attentive
_____ afraid
_____ nervous
_____ distressed
_____ excited
_____ determined
_____ strong
_____ hostile
_____ proud
_____ alert
_____ jittery
_____ interested
_____ irritable
_____ upset
_____ ashamed
_____ inspired
_____ scared

Appendix P
Profile of Mood States

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate <u>to what extent you feel this way right now</u> in response to the scenario that you just imagined. Use the following scale to record your answers:

1	2	3	4

5
Not at all
Extremely

1. Pleased _____
2. Sad _____
3. Blue _____
4. Happy _____
5. Nervous _____
6. Tense _____
7. Unhappy _____
8. Satisfied _____
9. Gloomy _____
10. Anxious _____
11. On edge _____
12. Elated _____

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